

MICHIGAN FARMER

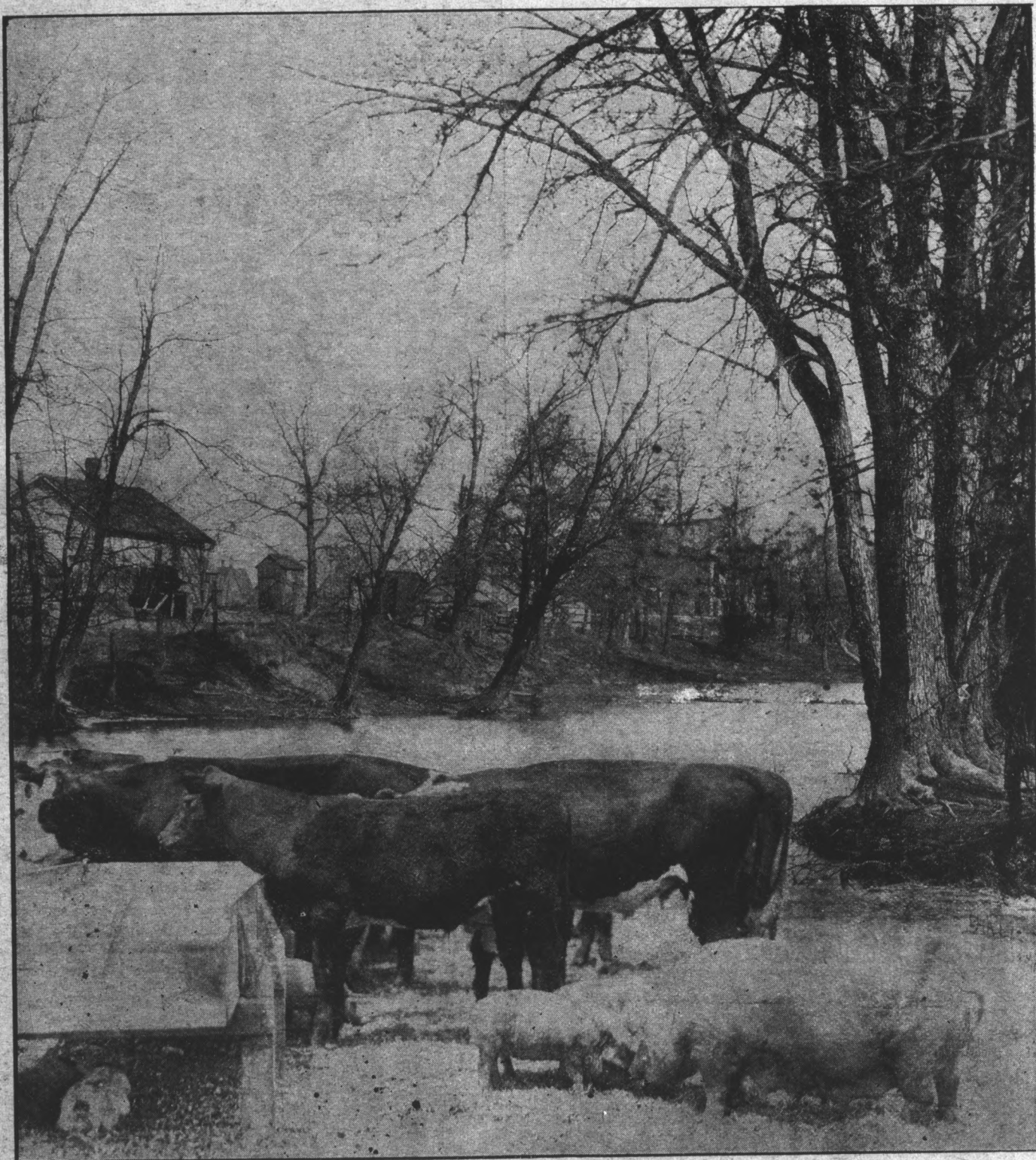
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ONE YEAR \$1.00
FIVE YEARS \$5.00





10 Shaves
FREE
See Coupon

We Tried 130 Times Before we perfected a Shaving Cream like this

By V. K. Cassady, Chief Chemist

GENTLEMEN:

You were all using other Shaving Soaps. Some of you were wedded to them. Our problem was to create a Shaving Cream so vastly better that a test would make you change.

We studied all the shaving soaps then made. We learned well their virtues and their shortcomings.

We interviewed 1,000 typical men to learn their desires in a shaving cream—their ideals.

Then we set out to meet those ideals better than others had done.

Masters of soap making

We were masters of soap making. We chemists have spent our lifetimes in it. For sixty years this laboratory has been improving soap.

We have been amazingly successful. One of our creations—Palmolive Soap—is the leading toilet soap of the world.

But we spent 18 months on this Shaving Cream problem. We made up and tested 130 separate formulas before we attained our ideal.

Then came a surprise

We did more than we expected—vastly more. We had no idea when we started out that shaving creams could be so improved.

Users by the millions were surprised when they asked for our ten-shave test. The demand for this cream became a business sensation. Tens of thousands wrote us letters of thanks.

Now we ask you to make that test, in courtesy to us, in fairness to yourself. You will be well rewarded. Cut out the coupon now.

5 Reasons Why

- 1 Multiplies itself in lather 250 times.
- 2 Softens the beard in one minute.
- 3 Maintains its creamy fullness for 10 minutes on the face.
- 4 Strong bubbles hold the hairs erect for cutting.
- 5 Palm and olive oils bring one fine after-effects.

The Old-Fashioned Shaving Mug

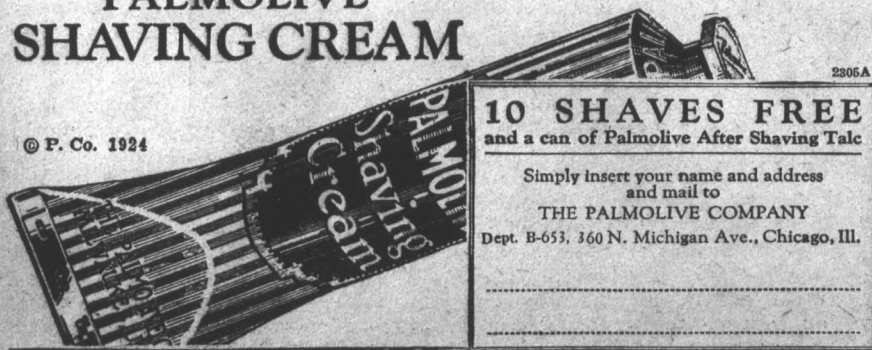
Modern men have abandoned the wasteful, germ-collecting shaving mug. The up-to-date way to shave is with clean, cool, quick Palmolive Shaving Cream in a tube. Throw away that old-fashioned mug!

To add the final touch to shaving luxury, we have created Palmolive After Shaving Talc—especially for men. Doesn't show. Leaves the skin smooth and fresh, and gives that well-groomed look. Try the sample we are sending free with the tube of Shaving Cream.

There are new delights here for every man who shaves. Please let us prove them to you. Clip coupon now.

PALMOLIVE SHAVING CREAM

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10 SHAVES FREE
and a can of Palmolive After Shaving Talc

Simply insert your name and address
and mail to
THE PALMOLIVE COMPANY
Dept. B-653, 360 N. Michigan Ave., Chicago, Ill.



AGRICULTURE VS. COMMERCE DEPARTMENTS.

THE clash between Secretary of Agriculture Wallace and Secretary of Commerce Hoover as to whose department shall have charge of the larger development of the departmental agencies having to do with the marketing of agricultural products abroad is becoming intensely interesting. It is developing several new angles.

Both the Ketcham bill enlarging the powers of the department of agriculture, and the Winslow bill placing all foreign service under the department of Commerce have been reported out by the house committees, and it is a close race as to which one will win out.

The Winslow bill, however, not only has the opposition of the department of agriculture and the farm organizations, but in his desire to have all the foreign business turned over to his department, Secretary Hoover has roused the ire of Secretary of the Treasury Mellon who is lined up against the Winslow bill.

TRUTH-IN-FABRICS BILL GETTING ATTENTION.

HEARINGS on pending truth-in-fabrics legislation have been reopened before a sub-committee of the senate interstate commerce committee. There are two bills now before the committee, the Capper-French bill, which is favored by all the farm organizations, and several associations of consumers, and the Lodge bill which nobody seems to want except the manufacturers of shoddy materials.

Representatives of the farm organizations have presented their arguments for the Capper-French bill, and the experts representing the manufacturers of shoddy have appeared for the Lodge bill.

Senator Fess, of Ohio, chairman of the sub-committee, says it hopes to be able to make a report to the whole committee at an early date. The American Farm Bureau Federation is receiving many letters from the middle west, asking for the enactment of truth-in-fabric legislation.

IMMIGRATION BILL OPPOSED.

THE Johnson restrictive immigration bill is being vigorously opposed by senators and congressmen representing constituencies that are made up largely of foreign voters. They say the 1890 basis would be unfair to the countries of southern Europe and might offend the foreigners from that part of the continent.

Speaking in favor of the Johnson bill in the house, Representative Cable of Ohio, urged the formation of an American bloc to combat the foreign bloc that is working against immigration restrictions. "Partisan politics have no place in this patriotic question. It is a non-partisan proposition, and it is a serious matter of determining who shall come to the United States and who may become American citizens. Congress must not be dictated to by a foreign bloc in framing the law."

Congressmen are receiving letters from organizations of foreigners threatening them with defeat next fall if they allow the Johnson bill to pass.

The changes proposed in the immigration law are summarized by Representative Cable as follows:

The weaklings are weeded out abroad by means of a certificate plan and the granting to American consuls

the discretion to refuse visas to those in their opinion undesirable. No families will be separated because of excess quotas, as no one can start without a certificate, which must be used within two months from the date of issue. By means of this certificate plan a steady flow of foreign-born through Ellis Island will be possible, resulting in a more thorough and more intensive examination.

The quota is reduced from three to two per cent, so that new arrivals may be limited to our capacity to absorb them. The census of 1890 instead of that of 1910 is proposed.

No discrimination against any country can be claimed, because fathers and mothers over fifty-five years of age, husbands and wives of citizens of the United States, as well as their unmarried minor children under eighteen years of age, are admitted as non-quota immigrants, and such persons will come chiefly from countries whose quotas will be cut.

Those who are not eligible for citizenship are not admissible because "we have no room in this land for those who can not assume the duties and obligations of citizenship."

FARMERS ARE UNFAVORABLE TO CHILD LABOR AMENDMENT.

IN his testimony before the house judiciary committee, in opposition to the proposal to amend the federal constitution giving congress power to prohibit the labor of persons under the age of eighteen years, and to prescribe the conditions of such labor, Gray Silver, speaking for the American Farm Bureau Federation, said the proposal did not find a favorable response among the farmers, although they were adverse to child labor which seriously interferes with the growth and education of children.

The committee was told that the farmers would deeply resent a constitutional amendment which would permit congress to enact legislation authorizing the Children's Bureau of the Department of Labor to issue regulations which would make it illegal for boys and girls reared on farms to be anything but loafers.

REPORT OUT EXPORT CORPORATION BILL.

THE McNary-Haugen export corporation bill has been reported out in both branches of congress, but is evidently far from enactment. Senator Norris announces that he will make a minority report, which will be his Norris-Sinclair "farmers' and consumers' financing corporation act." The big interests are said to be backing the Williams' Federal cooperative marketing system bill.

While strongly supporting the McNary-Haugen bill, the American Farm Bureau Federation is going to advocate a supplementary loan or the utilization of a fund for strengthening business between this country and Europe, and it may include the \$73,000,000 alien property fund as a basis.

REDUCE AUTOMOBILE TAXES.

THE tax revision bill as it passed the house contains substantial reductions in automobile taxes. All trucks costing less than \$1,000 chassis value are to be exempted from taxation. The taxes on automobile trucks, tires, repairs and accessories are reduced from five to two and one-half per cent. The Farm Bureau and National Grange made a strong fight to have these taxes reduced.

DEVOTED
TO
MICHIGAN

VOLUME CLXII

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY
ESTABLISHED 1843.

A Practical Journal for the Rural Family

MICHIGAN SECTION THE CAPPER FARM PRESS

QUALITY
RELIABILITY
SERVICE

NUMBER ELEVEN

Good Possibilities In Early Potatoes

Satisfactory Yields Depend Upon Good Seed, Fertile Soil and Thorough Spraying

By H. C. Moore

OVER ninety per cent of the potato crop of Michigan consists of late varieties which are placed on the markets from late September until the following June. During these months Wisconsin, Minnesota, New York, Maine and other late producing states are shipping large quantities of potatoes and in years of over-production prices may be very low.

From the middle of June until the middle of September, Michigan must depend largely upon other states for its supply of potatoes. Every year a thousand or more cars of Early potatoes are imported from New Jersey, Long Island and other potato growing sections.

During the summer months the price of early potatoes are generally very good, ranging from \$1.50 to \$2.00 a bushel. Michigan growers who are located within trucking distance of city markets or summer resorts should find the growing of early potatoes a profitable business.

For those growers who are located in the more northern sections of the state remote from good table stock markets the growing of early varieties for certified seed offers good possibilities. Most of the certified seed grown in Michigan last season was of late varieties. The limited quantity of early certified seed produced will not go far in filling the demand for it by growers in Southern Michigan, Ohio, Indiana and truck sections of the east.

Satisfactory yields of good quality early potatoes are so dependent upon good soil, good seed and thorough spraying. The average yield for early potatoes in Michigan is approximately sixty-five bushels per acre. Low yield is no doubt the main reason why larger acreages are not planted by early potatoes.

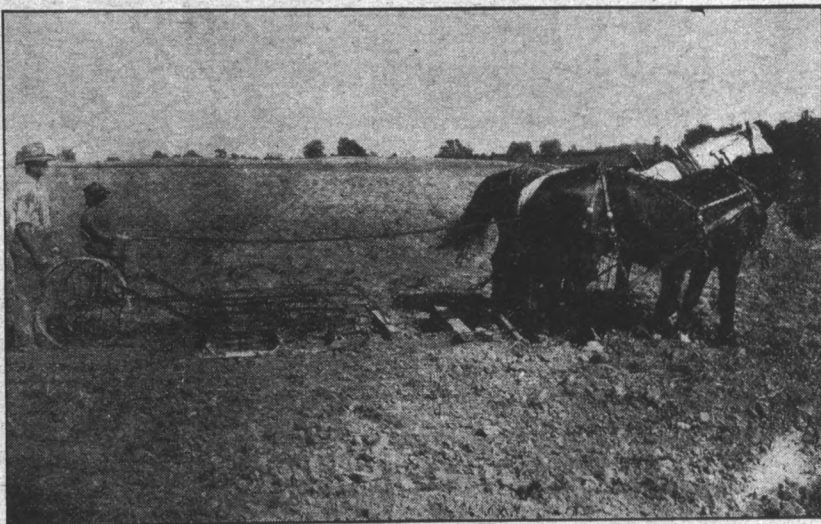
Growers last season, however, who planted high-quality seed in fertile, well-prepared soil and who protected their fields from the ravages of leaf hoppers, flea beetles, blights, etc., with Bordeaux mixture secured very satisfactory yields with early potatoes. When the proper methods of culture

are used, early varieties should average 125 to 250 bushels per acre.

Sandy or gravelly loam soils that are well drained and have plenty of organic matter in them, should prove suitable for the early crop. The soil should be fall plowed or plowed as early in the spring as the ground can be worked. Stable manure at the rate of ten to twenty tons per acre should preferably be applied in the summer or fall previous to planting so that it

soils depleted of fertility and lacking in humus cannot be expected to give good results.

The planting of inferior seed has been largely responsible for the average low yields secured. Seed of low vitality and infected with disease cannot be expected to produce the yields desired. For better yields and better quality, plant certified seed. Tests made last season in Michigan on 530 farms where certified seed was com-



Growers Who Planted High-Quality Seed in Fertile, Well Prepared Soil and Sprayed, Secured Good Returns from Early Potatoes.

will rot before planting time and will not be as liable to promote the growth of scab in the soil. Large quantities of fresh manure applied shortly before planting may increase the percentage of scabby potatoes.

Commercial fertilizers analyzing approximately three per cent nitrogen, twelve per cent phosphoric acid, and five per cent potash applied at the rate of 400 to 1,000 pounds per acre will generally prove profitable. On fertile, well-prepared soil the crop will make a continuous, uniform growth favoring good yields of good quality tubers. Planting early potatoes on

pared with common seed showed an average increase per acre in favor of the certified stock of sixty-three bushels of marketable potatoes.

Special efforts are being made by the Michigan Agricultural College co-operating with the Michigan Potato Growers' Exchange, Cadillac, to procure a sufficient quantity of high-quality certified early varieties to meet the demands of Michigan growers. This certified stock consists of the Early Ohio and Irish Cobbler varieties. The growers who contemplate planting early potatoes this season, either for table stock or seed purposes, should

plan now for their requirement of certified seed.

High yields from early potatoes cannot be expected when the plants die prematurely. Every season it is a common sight to see patches of early potatoes showing the leaves riddled with flea beetle holes, and the edges of the leaves rolled and dried up from the injury of leaf hoppers. In many cases the plants are entirely dead before the tubers are half grown.

Spraying the plants with Bordeaux mixture and calcium arsenate will protect them from flea beetle, Colorado potato beetle and leaf hoppers. It will also prevent serious injury from early and late blights. To be thoroughly effective the spray material must cover the entire plant. Both the lower and upper surfaces of the leaves must be covered with Bordeaux and arsenic.

A spray machine equipped with three nozzles to the row, and capable of maintaining a pressure of 180 pounds or more should be used. In some sections where the acreage planted by individual growers is very small, "potato spray rings" have proven very popular. Several growers in a neighborhood combine their forces in buying a high pressure sprayer and use it on a cooperative basis. The results secured in the "spray rings" have been more than satisfactory. It is estimated that high pressure spraying with Bordeaux mixture increased the acre yield last year in Michigan by forty per cent.

The first spray application should be made at the first appearance of the insect pests, or when the plants are about four inches high. Other applications should be made at ten-day or two-week intervals, depending upon weather conditions and the prevalence of insects and foliage diseases.

By observing conditions in the field the grower can spray in time to prevent serious injury from disease and insects. Spray materials, including arsenicals, copper sulphate, lime, etc., should be procured well in advance of the spraying season, so that the growers will be prepared to wage effective combat at the first attack of pests.

Poultry Suggestions for Spring

By R. G. Kirby

AS soon as the young stock are on range they need fine scratch grain, which is also just the right size for sparrow feed. Farmers' Bulletin 493 can be obtained free by addressing the Division of Publications, Washington, D. C., and it contains drawings and full instructions for making sparrow traps. Continued operation of one of these traps may save several dollars' worth of feed per year if much poultry is raised.

Getting Rid of Rats.

If rats have access to poultry houses they may often be poisoned by placing the bait in a box near their holes with the entrance to the box so small the poultry cannot enter. I think rats cause more losses among chickens than farm flock owners realize. An inventory of chicks in the spring seldom tallies with the fall count, even after deducting losses from known causes. Rats may be the cause of many of the

missing which are apparently "sunk without a trace." Farmers' Bulletin 896 is also free and contains thorough instructions for fighting rats and mice successfully on the farm.

Planting for Poultry.

When making the spring seed order do not forget that hens lay the most eggs and retain their vigor when they have plenty of green feed at all seasons of the year. In dry summers the range grass may be tough and unappetizing, and chicken lettuce or Swiss Chard will be useful in the ration. Mangels and cabbages are the most common source of succulent vegetable feed for winter. Mammoth White Belgian carrots and Giant poultry radishes are also used. The Giant poultry radish is called the Sakurijima radish in Japan, where it is said to be exten-

sively grown as a poultry feed and can be held throughout the winter. As a usual thing, sudden changes in a ration are not advised in feeding poultry but I find a variety of green feed and different succulent vegetables seem to be more appetizing to the hens than the constant use of one vegetable. My hens like carrots as a change from beets and cabbage leaves and I think carrots are a very healthful winter feed for hens.

Breeding Stock Need Range.

Poultry keepers usually note an increase in the fertility of hatching eggs as soon as the breeders are on free range. For this reason they should be turned out as early as possible. Pullets that are forced for eggs need not be turned out until the weather is very favorable as the cold ground may re-

duce egg production. With breeding stock the quality and fertility of the eggs is of greater importance than the quantity. The cost of reproducing flocks of pullets is much greater when eggs lack in fertility and many weak chicks are produced.

I think the double range is a great help in raising poultry, even on the general farm. The birds are confined on a limited area while the remainder of the range is planted to corn. When the corn is about six inches high the hens can be allowed to range in the shady field and the corn will usually grow so fast that it receives little injury of the hens. Then they have a shady range produced by a crop that helps to feed them through the winter. Shade on the range helps to keep up summer egg production and makes the hens more vigorous. It is said to help in retarding early moulting. It also

Continued on page 412.

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Editors and Proprietors

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CHICAGO OFFICE 608 So. Dearborn St.

CLEVELAND OFFICE 1011-1013 Oregon Ave., N. E.

PHILADELPHIA OFFICE 261-263 South Third St.

 ARTHUR CAPPER President
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DETROIT, MARCH 15, 1924

CURRENT COMMENT

Get acquainted with your banker; a check book will help you to check up on your business activities.

Someone said that there is no pain without its pleasure. The payin' of taxes undoubtedly brings the pleasure of good roads, good schools, etc.

"Hogs like to roll around in the mud," some opponents of sanitation for hogs say. So would children if parents did not turn that natural inclination.

Statistics show that the clothing dollar is worth only \$.516 today, compared with the 1913 dollar taken as a standard. But the automobile dollar today buys \$1.11 as compared with ten years ago.

The Tendency of Tenantry

AT different times in the past, occasions have arisen for the discussion of farm tenantry. There are many who see in farm tenantry a menace to our rural civilization and through it a danger to our country.

We have not shared fully in this view of the situation; but, from time to time, have taken the position that farm tenantry was largely made up of those who were migrating from the farm labor class to that of farm ownership.

Deductions recently made by the federal department of agriculture appear to confirm our position. It is only in a few of the cotton-growing states, so the department intimates, that tenantry is seemingly abused through a system of exploitation.

In Michigan, during the past thirty years, the number of tenants to owners of farms has ranged from sixteen to eighteen per cent. In the New England and eastern states, tenantry is on the decline. It is increasing in the central west where land values are high, or other conditions exist which make it difficult for the person with little capital to buy. The lack of farm labor is another factor delaying the day when a person finds himself able to step from tenantry to ownership, since that lack of labor makes necessary for farming a larger amount of equipment and working capital.

The whole matter would seem to hinge on the credit situation. Better financial service would stimulate farm ownership. In this respect, the changing attitude of our bankers toward the agricultural industry and the service of the federal land bank are making it easier for men to become farm owners. In a general way, farm tenantry

will tend to decrease when capital is seeking investment in farm property and increase when such capital is lacking.

It would seem, therefore, that we need not view changes in the tenant system of farming with undue apprehension. We perhaps should rather be more concerned about working out systems whereby the tenant and the landlord can both realize a better income from their investments of labor and capital.

Oust Noxious Billboards

IN the little community of Glen Falls, New York, a group of women, offended at the increasing number of huge billboards which was rapidly changing a beautiful country wayside into a scene of ugliness, inaugurated a campaign to protect their neighborhood against these unsightly structures.

The campaign not only went over locally, but was caught up by the people of other communities, spreading hither and yon, until now it has become almost nation-wide in scope.

So effective were the results from the sentiment developed against these huge signs that large companies who were using them for advertising purposes in such localities found them a detriment rather than a help to their business.

Thirty-six organizations, twelve of which are national in scope, are now cooperating to make the highways of the country more fair to look upon, and to this end one of their chief objectives is the ousting of this destroyer of rural beauty, the too common billboard.

Michigan has hundreds of natural landscapes of commanding beauty which are being changed to ugliness by these mammoth sign boards. Not many years ago, the state and subordinate Granges of Michigan were instrumental in developing real sentiment against the painting of huge advertisements on the farm buildings. This disposition on the part of the Grange and other farm organizations to take up arms on behalf of the home and the fireside is likely to result in a wide spread antipathy toward promiscuous billboard planting along the public highways of the state.

Pusillanimity of Politics

THE cartoonists like to picture a politician as a coarse, big-bellied, cigar-chewing male of the human family. He does this because he knows we like to gloat over such a picture of pretense, foreflush, and everything that is base in human living. And thus we firmly agree that politics is rotten; in fact, that everything is rotten, present company excepted, of course.

For ages we have taken considerable pleasure in congregating about the corner store stove, and, while we were engaged in becoming more efficient in our expectorating markmanship by trying to hit the sawdust box over yonder, we have commented with fiery indignation upon those whose grafting has been successful in producing political plums. Yes, even such as this has even occurred in the days when they wore togas in Rome. It is a human thing to do; it does not belong to any age.

The fact is, that the kind of politics we like to gloat over is pusillanimous; it is timid. A politician of this kind is constantly gum-shoeing around to feel the pulse of public opinion. But, often, very often, he makes loud noises in one place to detract attention from another; noise is his means of defense. And sometimes such a pusillanimous politician allows his pusillanimity to get the best of him in that he is too timid to combat the strong offensives made by the enticing allurements presented by ambitious, money-seeking factors of the business world. A strong politician never succumbs

to graft, because he knows that that would be a politician's greatest weakness. It is dishonest, and dishonesty is always a weakness. A strong politician endeavors to give service to the people because that is what he is paid by the people to do. But very often the political pusillanimity of others prevents good results from his work.

But how are we going to get pusillanimity out of politics? Well, if we, as the people, could get our enthusiasm aroused through our sane judgment and common sense instead of through the emotional appeals of political word-slingers, we would make some progress in that direction. Much noise confuses good judgment, so it behooves us to beware of noise, at least to see what is behind it.

It seems a human fact that the strongest men are usually the quietest, so the strongest politicians are usually the quietest. In this respect, we believe that the country is particularly fortunate at this time of much noise, for we have a quiet man at the head of our government.

Following the Crowd

IN all probability there will be the usual chasing of elusive price advantages by farmers in their planting and planning this coming spring. Corn will likely receive more attention and hogs less. Fruit will give way to poultry, and sheep to cattle. Potatoes will go on the bad list, while dairy products will get a better hearing.

It is natural that we move to better pastures, but when all who make the change arrive, will we be better or worse off for the moving? The chances are that the branches of farming now in least favor will be the money-makers next fall and winter.

It is not the man who is constantly shifting from one thing to another that gets anywhere in farming, any more than the same man would make good in other lines of endeavor. A farmer has better assurance of success if he works out a sane program suited to his soil and market conditions and sticks to it, than he does where he keeps following a will-o'-the-wisp crowd.

Our Immigration Problem

ON the last day of next June, the present immigration law automatically expires. Of necessity, then, congress faces the task of enacting legislation dealing with immigration, and by reason of the fact that we are now six years from the great war, it may be assumed that what our federal law making body does will be accepted in world courts as the American policy relative to this question.

Domestically, we are not a unit on this matter. Labor and its leaders want restriction to keep up wages. Many industries petition for the open door policy that we might have cheap labor. In the interest of what it calls 100 percent Americanism, the Ku Klux Klan wants the door to foreigners closed. Each racial group is particularly anxious for measures that will admit its type, but restrict others. And, so it goes.

Farmers also appear to be more or less divided on the subject. Some would increase immigration for the purpose of cheapening labor and thereby bring down costs. They hold an increased population would mean a greater consumption of farm products, which, with lower cost of other commodities, would bring about the much needed adjustment between farm and manufactured products.

But studies made by our Department of Commerce and Harvard University give an entirely different slant on the subject. Foreign born persons in this country sent \$400,000,000 abroad during the last fiscal year. This sum together with out gifts for relief, the amount spent in other countries by

our tourists, and other items not only wipe out our balance of trade but give Europe the better of us in the year's transactions of about \$500,000,000.

The situation is further complicated by the fact that since a rehabilitation of Europe should, and no doubt would, prove a real aid to American industry and our agriculture in particular, and, since a reasonable migration from countries in distress to countries relatively prosperous would tend to encourage such rehabilitation, we can hardly be consistent without planning for a normal shifting of desirable people from Europe's shores to our own.

Out of these conflicting views and interests, it will be necessary for our lawmakers to find a way. That we might include in the law the best thought of the land to the end that American interests may be protected and, at the same time, our relations to other countries kept friendly, this subject should be given our most sober thought. The question should be discussed at our farm organization meetings and the conclusions communicated to our representatives at Washington.

Calf's Brains

SINCE I see what pigs' feet done to me, I've been studying' about diet, what ain't got nothin' to do with dyin' but a whole lot with livin'.

Now, these diet fellows says that you get to be like what you eat. For inst., if you eat pork you get kinda piggish, and if you eat mutton you act kinda sheepish and go wool gatherin'. If you eat hot dogs you put on a lotta dog, which, with women is puttin' on dresses about as tight as a hot dog's casin'. And, fer inst., if you eat onions, you smell like a onion, and if you eat a lotta potatoes, you get kinda spuddy.

I kin bet Oscar Smith eats lots a bull meat the way he storms around.



And I would advise Geo. Wheeler to eat a lotta baked heart, 'cause he ain't got no heart at all. An' I understand Mrs. Johnson is feedin' Joe, her matrimonial liability, a lotta lamb, so wherever she will go he will follow.

Now, I et calf's brains ta keep my promise last week. And I guess they is havin' effect. Fer inst. I ain't got the piggish desire ta lay down and sleep after eatin', like I did last week. Them calf's brains is affectin' mine alright. It just goes ta show that when two things what is in harmony with each other get together, the results is satisfactory. I'm really feelin' quite calfish. Fer inst., there ain't nothin' I would like ta do better than to frisk around upon the green, like the poets' says. I just would like ta kick up my heels an' do lots o' other calfish things you know about. I just kinda wish spring was here so I could bounce around on it.

I tell you this calf feelin' is what the professors calls one of them grand and glorious feelin's. If you don't believe it, just try it yourself.

I'm goin' to tell folks all about this, 'cause if you eat what you oughta you kin be just what you wanta be, and it's a easy way to be it. Fer inst., there is Miss Josie Smith who ain't been successful in makin' matrimonial connecshuns and is fadin' a little. If she would just eat a lotta chicken, I bet she would get ta be quite chick-enish, and could hatch some matrimonial possibilities. And I'm goin' to advise Ila Ruggles ta eat feathers, so her food won't add none to her weight. I bet it will help her reduce about as quick as anything.

Now, I'm goin' to be very careful about advisin' Sophie on eatin', 'cause I always suffer the consequences of what she eats.

HY SYCKLE

The Beginnings of Cooperation

How the Cooperative Idea Started, and the Two General Lines of Development

By J. T. Horner, M. A. C.

BACK in the days of 1844 when California, that great seat of agricultural cooperation, was still a part of Mexico, when Texas was an independent republic, and there were only three states in the Union west of the Mississippi River, modern cooperation had its birth.

America was a very sparsely settled pioneer country. The effects of the industrial revolution, which brought about a division of labor, were not being greatly felt in this new country. Our people were still principally self-sufficing. They made the things they needed to satisfy their wants. There were not the problems of foreign markets, international relations, of falling prices of the present day. In those days people worked to make the things they needed. Now, we work to get the money with which to buy the things we need. Most people in America were not bothered about selling things in 1844.

It was not so with the pioneers of cooperation as they worked at their weaving in the little English town of Rochdale. These men were already specialists. They were weavers of flannel but they needed food to eat. They had already reached the stage where the commodities they needed were not the ones they produced themselves. Division of labor always causes the producers of a commodity to be a different group than the consumers of it. Just as soon as division of labor develops there arises the problem of selling the things we produce and buying the things we do not make.

These weavers were having difficulties in supporting their families. They believed the incentive to make profit, adulteration, and the credit system of the private shop-keeper were causes of high costs of living. They wanted to be free from these abuses. Little by little, they saved what money they could until they had one pound each, (an English pound normally equals about \$4.86), twenty-eight pounds in all. This was the original capital of the present system of consumers' cooperation in England, which is now doing an annual business of something like one billion dollars.

The principles on which this original association was organized are called the Rochdale Principles of Cooperation. They are as follows:

1. One-man-one-vote. Each member to have one vote regardless of the amount of capital invested.

2. Value of capital stock shares to be small and amount of shares each individual can hold to be limited, and membership open to anyone who wants to join.

3. A moderate rate of interest to be paid on capital investment.

4. Profits—or savings—to be returned to members on basis of amount of purchases.

These principles have been considered by many as essential for successful cooperation. In some instances agricultural marketing associations have been organized according to the Rochdale principles and have failed to bring the expected results. While, in general, the Rochdale principles have stood the test of time for consumers' cooperation, their adoption, without modification, will not assure success to cooperative attempts in agriculture.

Early attempts at agricultural cooperation were not guided always in the proper manner. The difference between consumers' and agricultural producers' cooperation were not recognized. It was thought that all cooperation was alike and the principles which made for success in one instance would also apply in all others. Before there was a real development of cooperation came a study of the underlying conditions in agriculture and a realization that all cooperative enterprises could not be conducted in the same manner.

As our present economic society is

organized, goods are now produced to be sold and not produced to be used as in the former days of self-sufficing period. Things are made to be sold now so that a profit will result. Profit is the impelling force back of industry whether that industry be agriculture, manufacturing, transportation or trading.

The pioneers of cooperation were consumers. They wanted cooperation so that the things which they purchased could be obtained as cheaply as possible. The spirit which moved these pioneers was to take industry entirely out of the hands of private profit-maker and the total elimination of profits. The prime motive in industry, to these men, should be production for use instead of production for sale. Industry should be carried on so that it would render to the consumer the greatest value instead of giving the shop-keeper the greatest possible profit.

The advocates of consumers' cooperation think all industry—including agriculture, when possible—should be conducted for and by the consumers on a cooperative basis. In England, the cooperative societies own wholesale houses, steamships, warehouses, factories, tea plantations and some few farms.

Agricultural cooperation is not for the purpose of eliminating profit; but for the main purpose of increasing the profit of the individual farmer. This

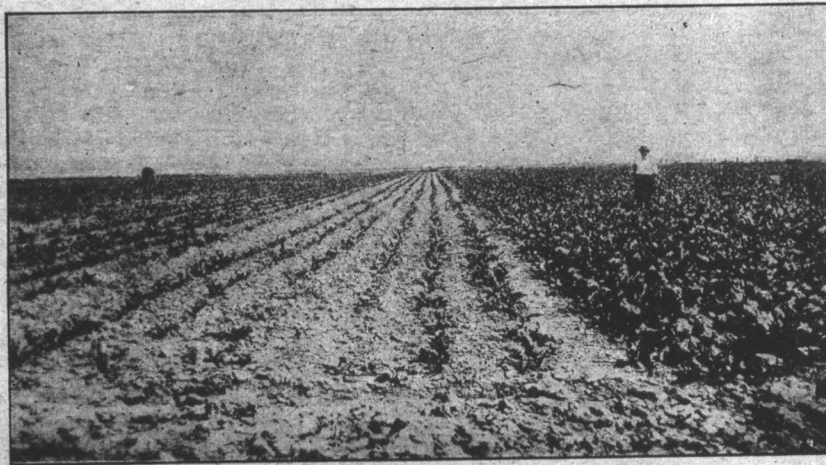
is the main difference between the primary purposes of agricultural (or any form of producers) cooperation and consumers' cooperation. The pure consumers' cooperator cannot enthusiastically favor agricultural cooperation as he thinks the consumers' societies should eventually take over the business of agriculture. He sees a marked difference in the motives of agricultural and consumers' cooperation, the one being to increase profit and the other to eliminate all private profit from trading.

Another fundamental distinction which the consumer cooperator makes between these two forms of cooperation is that the consumers' organization is always anxious to increase its membership, while the producer is not. The producer, according to this reasoning, is interested in keeping down the production of the product he has to sell, and therefore attempts to limit expansion of the industry. The most important of these differences as seen from the consumers' side is that producers' cooperation aims at production for sale and an increase in profits, while the consumers' society desires to eliminate all profits and produce things for use rather than for sale.

The ideas which some persons have about the differences between the motives of consumers' and producers' cooperation have been dealt with at some length so the reader may understand that there is in some respects a vital difference between the two forms. There is no reason for thinking that cooperation of all types is the same and has the same motives. However, it is very probable that time will prove that the motives which prompt these different groups to cooperate are not adverse. The purpose of the farmer in attempting to increase his profit is fundamentally the same as the flannel weaver in his attempt to eliminate the profit on the things he buys. That purpose or aim is to secure more for his efforts, and improve his living conditions.

The two main types of cooperation are (1) consumers' cooperation, and (2) producers' cooperation. If we are to understand agricultural cooperation, it is important that we know something about the efforts of consumers along these lines.

The next article will be a short story about consumers' cooperation. Following this, agricultural cooperation will be dealt with more directly.



Tests were made relative to the value of abundant plant food in growing sugar beets on a farm near Essexville, Mich. The rows on the left had no fertilizer while those at the right received a liberal application of plant food.

He Performs as Well as Talks

Mr. Eckard Tells How and Also Delivers the Goods

By B. J. Halstead

HISTORY proves that the number of people who are able to give excellent advice is almost unlimited, but that a comparatively small proportion of them are unable to follow that advice themselves.

That W. C. Eckard, Van Buren county agricultural agent, belongs among the rarer group of individuals is proved by the fact that his name has been listed every week as the owner of the leading pen of White Leghorn hens in the summary of the standings of the International Egg Laying Contest, which has been in operation for over four months under the direction of Michigan Agricultural College poultry experts.

Mr. Eckard for a long time has followed poultry raising as a hobby, and has accumulated an extensive knowledge during this time of the methods of developing flocks capable of very high egg production. This knowledge he has imparted to the best of his

ability to the farmers with whom he comes in contact. That he himself "practices what he preaches" is shown by his standing in the contest, in which his pen holds the record for the highest egg production of all breeds in the contest, besides leading in the White Leghorn division.

Up to about four years ago, Mr. Eckard handled several varieties of hens, including White Rocks, White Wyandottes and Rhode Island Whites. About that time, however, he bought his first pen of White Leghorns, securing the birds from Dave Woodman, who was then county agent of Cass county.

The new hens produced an average of 180 eggs before moulting nine months after their purchase, which is considered a good production. Shortly after their acquisition, however, Mr.

Eckard decided that successful poultry practices include the development of a strain of birds from a pure-bred sire of proven reproduction qualities, and moreover the development of prominent family characteristics within the strain.

Accordingly he purchased a male bird of the well-known Tancred strain from the owners at Camp Kent, Washington, paying \$50 for the single bird. The value of the sire was backed by a pedigree extending back a period of five years, with a record of 250 eggs for each hen during that period.

This expensive sire proved its worth by exhibiting a remarkable prepotence, sixty per cent of his offspring laying over 200 eggs. Last year Mr. Eckard purchased another sitting of eggs from the Tancred strain, using the males from this sitting for breeding

the cross pullets which had been developed from the original Tancred sire, so that his present stock has three-quarters Tancred blood.

That stock includes the pens of birds which are now leading the International Egg Laying Contest, and have held this position since the start of the present contest.

Mr. Eckard follows a number of methods and practices which account to a considerable extent for his remarkable record. In keeping up his flocks, he follows a definite pedigreed system. All male birds used in breeding pens must be sons of hens with records of over 240 eggs, and these eggs must weigh at least twenty-four ounces to the dozen. It may be seen from this practice that the weight and quality of the eggs are not being sacrificed merely to secure record egg production.

Artificial "morning" lights are also

Continued on page 418.

LATE AGRICULTURAL NEWS

WOULD CURTAIL COOPERATIVE LIVE STOCK MARKETING.

SEVERAL bills are being considered by the house committee on agriculture, to amend the packers' and stockyards' act. Some of them seek to define the cooperative live stock marketing associations in such way as to practically shut them out of stockyards trading. One of the bills would require that everybody connected with the cooperative live stock marketing organization, manager, clerks and other employees, must actually be engaged in live stock production.

The buying and selling of the live stock of non-members on a commission basis, as a market agency by a cooperative association of live stock producers would be a violation of the bill introduced by Congressman Williams, of Illinois.

FAVORS SPECULATION.

REPRESENTATIVE of the Chicago Board of Trade, who has been in Washington, opposing the various government grain marketing corporation bills, declares that the troubles of the wheat farmers are in part due to the grain futures act; that speculative marketing is effective in maintaining higher price levels; that speculative profits are usually made on a rising market.

DISAGREE ON WHEAT PRODUCTION COST.

THE Federal Tariff Commission has made another display of its incompetency and the futility of its efforts by failing to agree on the cost of wheat production and as to whether the commission's report on its wheat tariff findings should carry a recommendation fixing the amount of the tariff.

The one redeeming feature about the commission's tendency to disagree, from the protectionist's standpoint, is that it gives assurance that no immediate reduction in the present tariff schedules need be expected.

USE GOOD RADIO SETS.

THE farmers are not only extensive users of radio, but the survey made by the Bureau of Agricultural Economics shows that they are installing more expensive sets than are needed in the city. The average cost of the manufactured sets for the 1168 farmers interviewed was \$172.60, and more three-tube sets were used by the farmers than any other.

In Illinois when the survey was made six months ago, there were some 6,000 radio sets on farms. Now more than 20,000 Illinois farmers have radio installed in their homes. The use of radio is rapidly expanding and opens up an almost unlimited field for the sale of radio equipment providing the dealers sell the farmers equipment which will meet their requirements.

A THREE-IN-ONE TYPE OF CO-OPERATIVE ORGANIZATION.

CABBAGE and Potato growers of Western New York are organizing the Empire Potato-Cabbage Cooperative Association. A three-in-one form of organization is planned. County locals will be made up of cabbage and potato growers. District warehousing corporations will be formed to own and operate the needed warehouses. A central organization will federate all the county locals.

The purpose of the association is to set up the machinery for grading potatoes and cabbage, storing the products until needed for consumption, selling the products, returning to each grower a uniform price for the same

variety, quality and size, and developing new markets.

The marketing agreement provides for selling of the commodities to the organization for five years beginning with 1924. The penalty for breach of contract is fixed at 20 per cent of the market value the product sold for outside the association.

SHOWS AGRICULTURE IMPROVING

THE index figure of the exchange value of farm products with other commodities, on the 1913 basis, is steadily gaining, according to Department of Agriculture estimates. The average last year was 72 compared with 69 in 1922 and 67 in 1921. In January this year the index figure reached 74 which is higher than last year's average.

Some products are in better condition as regards price values than others, for instance, corn stood at 82, wheat 81, potatoes 89, hay 82, cotton 174, butter 110, eggs 121 and wool 145, while beef cattle stood at 60 and swine 58.

FEDERAL INSPECTION SERVICE WINS.

BUTTER handled by the Philadelphia Produce Exchange hereafter will be inspected by the Federal Bureau of Agricultural Economics. The butter inspection service which the Federal Bureau has maintained on the Philadelphia market for the past five years has been so satisfactory that the Exchange has decided to discontinue its own inspection service.

WILL REPORT ON AGRICULTURAL OUTLOOK FOR 1924.

ON March 18 the Department of Agriculture will issue a report on the outlook for agricultural production in 1924, which will be similar to the one issued last year by the committee on the agricultural situation, but will be prepared this year entirely by the department staff.

The report will cover the present statistical position of all major crops except cotton and of all classes of live-

stock. In the discussion of the situation the interpretation will be made on the basis of such factors as the farm labor and farm wage situation, the current situation with respect to domestic price and domestic demand, the situation as affected by foreign production, foreign demand, and competition, and the farm credit situation in the United States.

HOLDING FUNDS IMPAIRS EXTENSION WORK.

THE refusal of the auditor-general and state administrative board to release the Michigan Agricultural College funds for its extension work until further legal proceedings have been carried out, has thrown a monkeywrench into the plans of the Upper Peninsula Development Bureau in cooperation with the college for the appointment of a dairy specialist for the Upper Peninsula.

This project has been under consideration for some time and it is understood the specialist had virtually decided upon, but the inability of the extension department of the college to secure its funds prevents the assignment of an expert to this territory.

The lack of the dairy specialist will also be felt in connection with the dairy train that will be run throughout the peninsula next month for the purpose of promoting the better dairy movement here. Plans for this train are now being developed. It is expected, however, that the train will start on April 12 and will be out for two or three weeks. The schedule of stops is now being worked out.

HOOTMAN MADE HORTICULTURAL SPECIALIST.

Mr. H. D. Hootman, who has been in charge of the Graham Experiment Station, has been appointed to the extension staff of the horticultural department at M. A. C. He takes the place left vacant by the death of Mr. T. A. Farrand and will do extension work similar to that Mr. Farrand had carried on.

At the recent Horticultural Society meeting, Mr. Hootman was elected sec-

retary of the society. In this position he also succeeds Mr. Farrand.

In Mr. Hootman's place at the Graham Station, Mr. H. H. Wells, who has been assisting Mr. Dutton in spraying experimental work, has been assigned.

In these changes, men of know ability have been promoted, so that the horticultural interests of the state can feel assured of the continuance of the high standard of work from the college which they have received in the past.

AGRICULTURAL PRODUCTS UP \$960,000,000 LAST YEAR.

THE aggregate value of crops and livestock products, including animals raised, produced in the United States last year is estimated at \$12,204,000,000 by the United States Department of Agriculture. This was \$960,000,000 more than the estimate for 1922.

The total includes \$9,953,000,000 for crops, and \$6,111,000,000 for animal products, less an allowance of \$3,860,000,000 which is the estimated value of crops fed to livestock.

The crop value last year was larger than for any year prior to 1917, the year the United States entered the World War, and was larger than for 1921 and 1922.

WORLD'S 1923 PRODUCTION OF WOOL.

THE world production of wool has been charted under two heads, the first containing the commercially important producing countries because it is possible to obtain from those countries fairly accurate figures based on actual production surveys, sheep censuses, or other statistics such as estimates made by local governments, while the second contains those countries in which nothing in the way of statistics is available but unofficial local estimate which have been obtained from the most reliable factors in the various countries. The sum of these two tables will indicate the total world production during the years noted.

The grand total of 2,604,911,000 pounds smaller than 1922 and appears to be principally attributed to the reduction in the Australian clip which although only trade estimates are available in that country as yet, is placed at 130,000,000 pounds less than that of 1922.

GETTING OUT THOSE FENCE POSTS.

IN a recent issue of the Michigan Farmer was a cut of a device for pulling fence posts. Why use the wagon? Just hitch the team to the chain and save the strain on the wagon. You will also save time. You will also save time.

Instead of using a single piece of scantling, I use three pieces bolted together in the form of a triangle. The chain is then placed in the crotch and will never fall off, and the triangle will never slip or fall over.

Never drive the team at right-angles to the fence, but in line with the fence facing the next post to be taken out. This saves time in turning around for the pulling of the next post.

In making the triangle, bolt the bottom cross piece three or four inches from the ends of the other pieces. This keeps the triangle from sinking too far into soft ground.—Isaac Mills.

GET'S STATE SUPPORT.

IN appropriation of \$3,000 has been allotted to the Upper Peninsula Development Bureau by the State Department of Agriculture in promoting its agricultural work.



Servant of the Millions

FOUNDED on the principle that a business earns the right to exist only as it serves, the Ford organization has grown to be more than a business.

It is an institution that serves its millions.

Through 29,000 service stations in America its stewardship reaches out to every one of the Ford Cars, Ford Trucks and Fordson Tractors on every street, highway and farm the length and breadth of the land.

The nearest service to every farm is Ford service—a very potent reason for standardizing on Ford equipment.

Ford Motor Company

CARS · TRUCKS · TRACTORS

Ask Any Ford Dealer

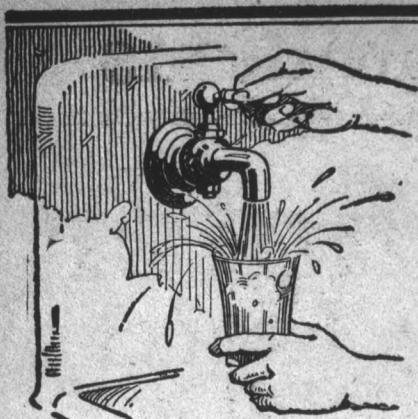
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THE UNIVERSAL CAR



Part of Woodward Avenue frontage of the mammoth Highland Park plant of the Ford Motor Company, largest automobile factory in the world

State Fruit Growers Meet

Discuss Many Problems at Benton Harbor Meeting



Is Your Drinking Water Fresh?

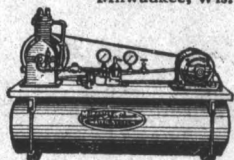
Before buying any water system be sure to find out just the sort of water it will supply. For water to be healthful must be fresh and naturally pure.

The Milwaukee Air Power Water System supplies this fresh water, pumps any distance direct from the source—well, spring, lake or all of them. There is no water storage tank with the Milwaukee Air Power. The water is never stale, never flat and luke warm, as it would come from a water storage tank.

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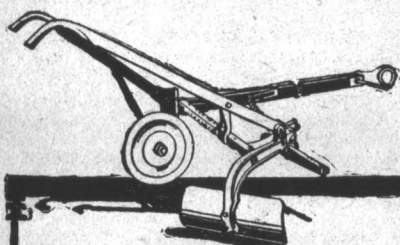
DON'T WEAR A TRUSS

BE COMFORTABLE—

Wear the Brooks Appliance, the modern scientific invention which gives rupture sufferers immediate relief. It has no obnoxious springs or pads. Automatic Air Cushions bind and draw together the broken parts. No salves or plasters. Durable, Cheap. Sent on trial to prove its worth. Beware of imitations. Look for trade-mark bearing portrait and signature of C. E. Brooks which appears on every Appliance. None other genuine. Full information and booklet sent free in plain, sealed envelope. BROOKS APPLIANCE CO., 323 State St., Marshall, Mich



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Should be Used in Every Vineyard

A wonderful labor-saver in the culture of grapes and berries. Using it, you hoe with horse power. You do quickly and thoroughly work that otherwise would be slow and tedious.

JOHN DEERE-SYRACUSE Grape and Berry Hoe

Kills grass and weeds; stirs the soil; prevents mildew; its use means better quality and bigger quantity grapes and berries. Blade can be adjusted to cut deep or shallow and to throw soil towards or away from vines. Easily guided in and out around posts and vines. Horse hitched to one side of the pole, giving plenty of room for hoe to work under vines and bushes without injury to them from horse or whiffletree, even when foliage is at full growth. Cultivator attachment extra.

Get increased profits from your vineyard from now on by using this hoe. Sold by John Deere dealers. Write today for folder describing it, address John Deere, Moline, Ill., and ask for free Booklet GD-722

JOHN DEERE

WHEN it comes to holding fruit growers' meetings, Benton Harbor has the reputation of having nothing but the "best ever." It surpassed its past records at the recent midwinter meeting of the State Horticultural society, in which, during the two days, March 4-5, it filled the Opera House to standing room limits.

The weather cooperated to make this a big meeting. The ground was in unfit condition to work on, but the roads were open so that fruit growers from fifty miles, or more, could go and come to these meetings.

The program was worthy of all the attention it received for it was filled with worthwhile things. During the first morning session, the problems of the pear grower were discussed, and during the afternoon, peach and grape production prevailed. Wednesday morning was devoted to a scientific and practical discussion of nutrition and fertilization and the final session was given over to spraying and small fruit production.

An unscheduled event was the banquet given by the agricultural class of the Benton Harbor High School on Tuesday evening. This is an annual event of a real wide awake agricultural club and they made it opportune for the visiting fruit-growers to join in. The gastronomic feast served by the high school girls was enjoyed by over 250. Prof. V. R. Gardner, of M. A. C., was the principal speaker.

Pear Production

As Berrien county grows about fifty per cent of the pears in this state, this subject was of considerable local interest.

H. A. Cardinell, of M. A. C. opened the subject by discussing that bugbear of fruit-growers, pear blight. This disease means full conviction on the part of the fruit-growers that radical measures must be resorted to in order to control it. It is Mr. Cardinell's chief duty to convince the fruit grower of this and then show him how to do it. The cutting out method is the only satisfactory one and when the pear men of a vicinity can be persuaded to cut and continue to cut results are invariably accomplished.

Prof. Roy E. Marshall commented on the peculiar pruning methods used in Berrien County. That county is way behind in modern pruning methods as far as the pear pruning is concerned. It continues the old method of topping off the tree each year, thus dwarfing it and cutting down its bearing capacity. Prof. Marshall showed conclusively that thinning out instead of cutting back brought by far the best results and he urged as little pruning as was necessary. The pear growers in the counties north of Berrien get much better production because they follow the latter method.

Mr. L. F. Strickland, inspector of the N. Y. Dept. of Farms and Markets, gave some very practical hints on pear psylla control. He says that in the past, the methods of control were directed against the three stages, the adult, the nymph and the egg but lately it has been found unfeasible to spray for the adults or to endeavor to kill the eggs by winter strength of lime-sulphur. The main attacks advocated are against the soft shelled nymph, the hard shelled nymphs and the adults of the first and second generations.

In New York the best spray was found to be made of two pounds of copper-sulphate, forty of hydrated lime, one pint of 40% nicotine sulphur and 100 gallons of water. The first application is made three days after the petals drop, and for the second generation, another is made five weeks later.

Dusting is also practical. A lime dust impregnated with nicotine is the best. One hundred pounds of hydrated lime with 2.2% of nicotine in the form of Black Leaf 40 or pure nicotine is the effective formula. The first dusting is made about two weeks after the blossoms drop and another between the fifteenth and thirtieth of July.

It is very necessary to dust thoroughly from both sides of the tree so that the under side of the leaves get dust coatings. The dust should not be allowed to float into untreated trees because it just stirs up the adults without killing them. Neither should dusting be done when the temperature is below 65 degrees, nor at night or early in the morning.

Peach & Grape Growing

The dead arm disease of the grape is known by most grape growers. According to C. W. Bennett, of M. A. C., it is a very slow working fungus trouble which does not show its destructive work until two to four years after infection.

Spraying is of little value in its control. But cutting out persistently over a period of years will eliminate the trouble. Each year following cutting less of the disease will show up, until it will practically be extinct.

N. L. Partridge, also of M. A. C., gave a very practical talk on grape pruning. He said that the old spur system of pruning was passe from every standpoint. The four arm Knif-fen system was the best one adapted to efficient production in grapes.

The number of buds to be left on a vine depend upon its condition. The fibrous vine can support more buds than the weak one. The best bearing wood is that which measures one-quarter inch or more in diameter between the fifth and sixth buds. On such canes ten buds can be left. With proper pruning the vines will bear maximum quantities of well bunched grapes and produce enough of the one-quarter inch wood to make good arms the next season. The highest producing arms are those which come from another arm. Arms which originate from the trunk or from a spur are not usually productive.

Mr. W. S. Perrins, a well-known orchardist from Centralia, Illinois gave an interesting review of peach culture as he practices it. He seems to prefer a clayey soil and his favorite varieties are Elberta and Hale. The Hale does very well but is not the all around peach the Elberta is. He sprays with dry lime-sulphur in summer but has lately used the New Jersey dry mixed sulphur-lime as an efficient substitute.

Mr. C. W. Bennett finished the afternoon's program by giving a history of the yellows situation. He doubted that this disease would ever be as serious as it was twenty-five or more years ago, but urged that it be given prompt treatment when it did appear.

Feed Habits of Trees

Under the heading the mineral nutrients of the tree were discussed in detail by Prof. F. G. Gustafson, of the University of Michigan. The carbohydrate utilization was explained by H. D. Hooker, Jr. of the University of Missouri. The relation of nutrient conditions on bud formation was handled by our own professor of horticulture, V. R. Gardner, of M. A. C. And F. C. Bradford, also of M. A. C., discussed the relation of bearing habits and nutrition.

The explanation of how the mineral nutrients were selected by the tree from the ground water in accordance

to its needs, was interesting. The carbohydrate activities of the tree were practically in the leaves and these constituted the major part of the tree's nutritive activities.

The intake of carbon dioxide by the leaves and the expiration of oxygen by them is exactly equal in amounts. The carbon is converted into grape sugar which is easily digested and turned to starch according to the needs of the tree. In order that a tree be well nourished the leaf surface should be kept in good condition as the action of the sunlight on the leaves was an important factor in the tree's digestive process. In fact, it is said that the grape sugar into which the carbon is turned is composed of carbon, hydrogen and sunlight.

The time of the formation of these food products is important. If there is not readily available food at the time of fruit bud formation, there will be few fruit buds formed. It has been found that the application of nitrogenous fertilizer disturbs temporarily this carbohydrate digestion and investigators show that the use of nitrogenous fertilizers in spring prevents usually the storage of carbohydrates. The use of the nitrogenous fertilizer in fall gives the tree the opportunity to store it up for immediate use in spring and does not interfere with the carbohydrate storing later on when fruit buds form.

The untimely use of nitrogenous fertilizers has its effect on the fruit. It often causes ill-colored and ill-tasting fruit because the nitrogen interferes with the carbon digestion.

These nutritive findings are comparatively recent and no practical suggestions have been made from them. Without a doubt these investigations will in due time result in changes in our orchard practices which will result in much greater orchard efficiency.

Sprays & Spraying

In the discussion of this subject, the use of the new oil emulsions took the leading part. Prof. A. M. Burroughs, who has done considerable work with these emulsions in Missouri, said that the chief advantage of the oil emulsions was their cheapness. The home-made engine oil emulsion can be made for about 60 cents per hundred gallons of diluted spray whereas lime-sulphur costs over two dollars.

They are also more pleasant to apply and do very effective work in the control of scale but they lack the fungicidal value of the lime-sulphur. There is also danger of not getting the emulsion properly made and obtaining foliage injury on that account.

The oil to be used for this purpose should be of a paraffin or asphalt base and should emulsify easily. The standard Government formula requires two gallons of oil, one gallon of water and two pounds of potash fish oil soap. These ingredients should be heated and then emulsified by pumping and churning. A common bucket pump, with a Bordeaux nozzle costing six dollars, is suitable for emulsifying purposes.

To prevent free oil in the emulsion, Mr. Burroughs recommends the use of a weak Bordeaux at the strength of one-half pound copper sulphate and three quarters pound of lime to one hundred gallons. Bordeaux is a good emulsifying agent as are also casine products, such as Kayso.

Bordeaux and Kayso are used in the making of cold emulsions which the Missouri Experiment Station has tried out during the past year. They look promising but need further trial before they are recommended.

(Continued on page 400).

SOY-BEANS FOR LAMB FEEDING.

SHELLED corn and soy-bean hay proved almost as good a fattening ration in lamb-feeding tests at the Illinois Experiment Station as did shelled corn and alfalfa hay. Six lots of lambs were included in the experiment.

The lambs in Lot 1 were fed shelled corn and alfalfa hay, and returned \$2.06 per head above feed cost. Those in Lot 2 were fed shelled corn and soy-bean hay and returned \$2.03 per head above feed cost. Those in Lot 3 received shelled corn, whole soy-beans and soy-bean straw and returned \$1.48 per head above feed cost. Those in Lot 4 were fed shelled corn, soy-bean oil meal and oat straw and returned ninety-one cents above feed cost. Those in Lot 5 received shelled corn, soy-bean oil meal and soy-bean hay and returned \$1.50 per head above the feed cost. Those in Lot 6 were fed shelled corn, linseed oil meal and soy-bea straw and returned \$1.29 per head above feed cost.

The lambs receiving shelled corn and alfalfa hay made the biggest gains, being 26.8 pounds each, or just under a third of a pound a day. On the other hand, the lambs fed shelled corn and soy-bean hay were a close second, averaging 25.7 pounds, or almost a third of a pound a day during the period of the experiment.

BOILED NEWS.

A fast but healthy growth is noted in the demand from Pennsylvania, Ohio, Indiana and southern Michigan points for certified seed potatoes from Northern Michigan.

Lack of support and co-operation is given as the reason for the National Dairy Show going to Milwaukee for the 1924 exhibition instead of selecting Detroit.

An unusually large number of Montcalm county farmers are cutting down their potato acreage and making dairying their major farm activity. These farmers have adopted the slogan, "Raise less potatoes and more good dairy cows."

Experience in marketing as well as observation on production has led the officials of the Michigan Potato Growers' exchange to state that one dollar spent in treating an acre of potato seed will return to the grower from \$20 to \$50.

Edmore now leads in the amount of potatoes shipped from any shipping point now connected with the Exchange at Cadillac, her shipments totaling 125 cars; Greenville is second with 121 cars, and McBain third with 100 cars.

James Hain and his two sons of Cassopolis, without doubt can justly claim the title of "Michigan's Alfalfa Kings." Last year they cut 320 acres of this crop and during the 1923 season planted additional acreage which brought their alfalfa plantings up to the 500-acre mark.

Arthur Shepard of East Jordan claims high herd and cow in the Charlevoix cow testing association, he having a Holstein herd that averaged 1,390 pounds milk for the past month and 49.2 pounds of butterfat. One cow gave 64.85 pounds butterfat.

Dusty hay and ill-smelling feeds are kept from the cows just before the milking period by dairymen who are attempting to satisfy a quality market.



The Superior Corn Planter

Gives Every Kernel "the Right Start in Life!"



No farmer can afford to slight—in any degree whatever—the vitally important work of planting. When prices are high a bumper crop means bumper profits. When prices are low, more reason than ever to make every acre produce its utmost.

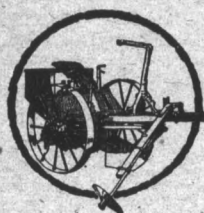
Play safe on the seeding job! Start right—or you cannot possibly realize full profits on your long days of preparation, cultivation and harvest. A worn-out grain drill—an inefficient planter of any kind—robs you of bushels—and dollars—which you cannot afford to lose.

SIMPLICITY, strength and remarkable accuracy—these are the outstanding features of Superior Corn Planters just as they are the qualities that have made Superior Grain Drills world-famous.

If you want your corn so planted that it can be worked easily and made to produce the greatest number of bushels per acre, then by all means see the Superior Corn Planter at your dealer's.

Like all Superior machines, this planter is ruggedly well built. There is a noticeable absence of springs and complicated parts. For example, there are no clutches on the feed rod to get out of order.

Either flat drop or edge drop plates can be used without changing hoppers—and as plates are moving steadily at all times almost perfect filling of cells is assured. Row adjustment 28 to 48 inches—two-inch spacings. Double marker. Instantly adjusted for drilling. Special plates can be furnished for planting Beans, Peas, Peanuts, Kaffir Corn, Beet Seed, etc. A fertilizer attachment can be placed on the plain planter at any time. This is a Corn Planter of truly Superior quality. Write for full details today.

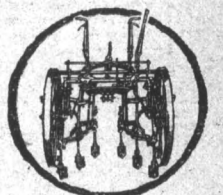


Superior Potato Planter

What the Superior Drill is to the grain farmer, this planter is to the potato grower. Sturdily built for long hard service—and does a clean, efficient planting job. It is a one-man picker-planter and because both ground wheels drive the feed, steady, continuous planting is assured under all conditions. Works perfectly on hillsides.

The Superior will plant from five to eight acres per day—dropping seed from 10 to 36 inches apart. Steel hopper. Steel bottom with agitator to insure even seed-flow. Steel wheels with wide-face tires. Hyatt bearings. Write for descriptive folder.

Buckeye Cultivators



Plant with Superior—and cultivate with Buckeye. It's the direct route to better crops and bigger profits. Buckeye cultivation means easier work and best possible results—always. These highest-quality implements are remarkable for simplicity of operation, lightness of draft, balance and flexibility. And like all products of the Superior plant, they are sturdily built of finest materials—to give long years of dependable service.

The Buckeye line is unusually complete. It includes both Riding and Walking Cultivators, One and Two-Row—and horse and tractor drawn machines. Write for the Buckeye facts in full.

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Agricultural Lime High Calcium. Either lump or hydrated. Also spraying lime in wooden or steel barrels or paper sacks. Price mailed on request. NORTHERN LIME & STONE Co., Petoskey, Mich.

Secure TOP PRICES by planting our Giant Roots

Plant our Giant Washington Roots. Cut giant asparagus in 1925. Save 2 to 3 years and \$300 per acre by planting our Roots.

Washington Asparagus is a rust resistant strain originated by the U. S. Dept. of Agriculture. Our Giant Roots are big producers of giant green stalks 1" to 2" thick and of a most pleasing nut-like flavor.

These Giant Roots are grown only at Riverview Farms.

Write to-day for valuable free booklet and prices on seeds and roots.

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Standard varieties. Shade, ornamental and fruit trees, shrubs, plants, flowers, seeds. CHERRY, 2 year old trees, 2 to 3 ft., 40c each, 30 for \$3.50. Montmorency and Early Richmond All sizes and kinds listed in catalog. APPLE—a fine clean stock of apple trees, all varieties, 100 trees, \$15.00. See complete list in catalog. SEEDS—25 packets vegetable seeds, \$1.00. Enough for a complete garden. Flower seed bargains listed in catalog. Every customer must be satisfied. Write today for the big free book of bargains.
10 Apple Trees \$2.50 3 to 4 ft. year old
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SWEET CLOVER SEED and honey direct from producer. Prices and circulars on request. JOHN A. SHEEHAN, R. 4, Falmouth, Ky.

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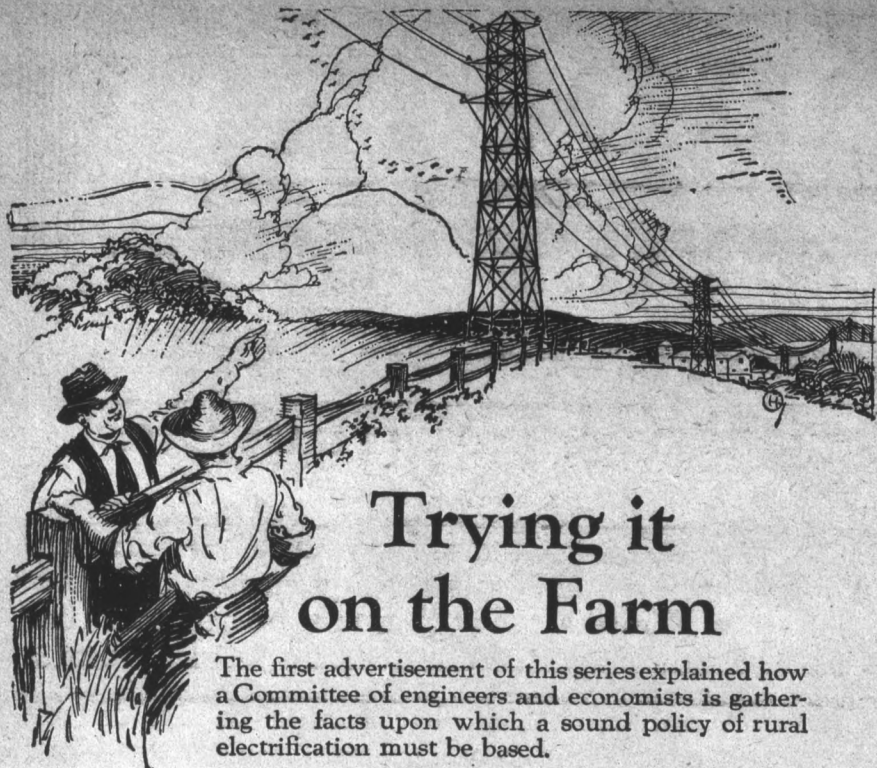
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Isbell's Bell Brand Garden Seeds are Michigan-grown—hardiness and early maturity are bred into them through 45 years of selection and development. Planting Isbell's seeds is the first step toward a big profitable garden.

Catalog Free Isbell's 1924 Seed Annual—giving valuable information about seeds and gardening, and quoting direct-from-grower prices, sent free on request.

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Trying it on the Farm

The first advertisement of this series explained how a Committee of engineers and economists is gathering the facts upon which a sound policy of rural electrification must be based.

In three states—Minnesota, South Dakota and Alabama—diversified farms are now being experimentally supplied with electricity. Similar lines are planned in ten additional states.

Wherever electricity is thus experimentally distributed a group of editors of farm publications, professors in agricultural colleges, farmers and engineers assume charge. They light houses and lighten housework electrically and grind feed, churn butter and pump water electrically. They keep accurate records of costs, power consumption, time and labor.

When the electrical facts are thus gathered from many states and from farms of widely varying size and type, farmers and power companies will know just what electricity can do in agriculture, what kind of service should be rendered, and what rate is fair to the farmer and to the electric light and power company.

The Committee in charge of the work is composed of economists and engineers representing the Department of Agriculture, Department of the Interior, Department of Commerce, the Power Farming Association of America, the American Society of Agricultural Engineers, the American Farm Bureau Federation, and the National Electric Light Association.

A booklet has been published by the Committee. It will be sent on request free of charge. Read it and pass it on to your neighbor. Write for it either to Dr. E. A. White, American Farm Bureau Federation, 58 East Washington Street, Chicago, Ill., or to the National Electric Light Association, at 29 West 39th Street, New York City.

NATIONAL ELECTRIC LIGHT ASSOCIATION

BLACK HAWK PLANTER

WHEN you plant corn with a Black Hawk you can always be sure

—that every hill is planted—there are no misses

—that the right number of kernels are in each hill

—that all hills are the same distance apart.

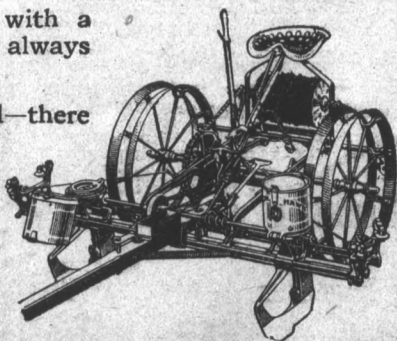
The Black Hawk Planter gives you an even stand, a full yield and makes your crop easier to cultivate and harvest.

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Large stock of repairs at convenient transfer points,

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The Ohio Cultivator Company, Bellevue, Ohio



Alfalfa Has Insect Enemies

Some Experience in Southwestern Michigan

By Jason Woodman

THE first field of young alfalfa destroyed by insects that came under my observation was in 1913. A seeding of several acres was made the latter part of July. Weather conditions were favorable and in ten days there was a beautiful stand of little plants half an inch high. Two days later the new seeding was nearly all gone, eaten into the earth by an army of little worms.

Some of the worms were sent to Professor Pettit, head of the Entomology Department at the Agricultural College. We were told that our new insect enemy was the "garden web worm" with the further information that it was native, that it had lived on common garden weeds, especially the pig weed, but finding alfalfa more to its liking had transferred its affections to the latter plant and, breeding on older seedings near by, had multiplied sufficiently to become for the time being a pest.

This worm spins a web around the base of the alfalfa plant or over it if it is not more than one or two inches high, and then eats the leaves and smaller stems that are under the web. Small plants covered by the web as a rule are killed, plants two or more inches in height lose only the lower leaves and suffer little injury. The worms soon disappear, to be followed by another brood a month or so later, unless held in check by parasitic enemies.

I have never seen June seedings seriously injured by the web worm for it has not appeared in sufficient numbers to be destructive until some time in July, after alfalfa sown in June had become too large to be seriously injured. In 1913 I saw a number of mid-summer seedings more or less crippled by this worm. Generally it is held in check by parasites but in occasional years there has been considerable damage caused by it to alfalfa sown the middle or later part of the summer.

During the latter part of the season of 1921 the Army worm invaded many portions of southwestern Michigan. It also found our alfalfa especially palatable. Aside from eating off the third crop it did no harm to established alfalfa meadows, and new seedings put in during the early summer on properly prepared land suffered little injury. Many of the later seedings were materially damaged. This was not the first nor will it be the last visitation of this worm with the military title. Its name suggests the wisdom of "preparedness" when new alfalfa seedings are being made by sowing in June on well prepared land.

The grasshopper is the worst enemy we encounter in starting alfalfa on our lighter lands. The web worm and the army worms come and go. The grasshopper when he appears generally stays the rest of the summer. If he comes in large numbers early in the season young alfalfa sown in June or earlier goes with later seedings down his avaricious throat. While early seedings are less certain to be destroyed than those made in July or August, still there are years when all share the same fate.

What then? Sow the field again the next year. Do not plow it and turn the surface layer of limed soil to the bottom of the furrow. I have seen this done and the second seeding died in the acid soil turned to the surface. Disc the field the next spring, work down and re-seed. Fortunately in this part of the state two years in succession when grasshoppers are destructive are not common and the second seeding generally is successful.

Why not get a running start, by plowing and liming in the fall and sowing the alfalfa early in the spring? I have seen this done with good re-

sults, but last year we had a "new one." About the middle of May multitudes of plant lice invaded many alfalfa fields in southwestern Michigan. After injuring, and in some cases destroying, the first growth of alfalfa they disappeared as suddenly as they came. Professor Pettit informed us that the "new one" was the "pea louse" well known in the pea canning districts of the state, and that they will appear again in occasional years. Most of our injurious plant lice are kept in check by parasite enemies that breed in hot weather more rapidly than the lice and soon put them out of business. The first brood of the pea louse last year and the one that did the damage was killed by a fungous disease. A second brood showed up June first, but parasites destroyed them before they did any harm. No young seedings of alfalfa in this locality were damaged by these lice for they were all sown after the lice had disappeared. While we do not know from experience, it would seem that harm to new seedings from future visitations can be avoided by not seeding till after June first.

This article is written with special reference to this part of Michigan. What has been said is based partly on personal observation and partly on information furnished by Professor Pettit.

FLOORS FOR HOT HOUSES.

WHAT is the best floor for a hog house? This is a question that many a farmer is asking himself. Since it is essential that swine be protected from cold and wet, they certainly need a tight roof over them and walls around them. And just as certainly they need a warm dry floor under them. In sleeping and farrowing pens, especially, there can be no question that cold, damp floors occasion much loss.

Hollow clay tile has been used a great many times in floors for hog houses and is found to be giving very good results. Talking with the owners we find that they are very much in favor of this material for floors as well as the walls.

Back in 1913 a new hog house with hollow tile floor was nearly ready. A cold fall storm was approaching and a number of the well tended Mrs. Porkers were about ready to have numerous increases in the families. The partitions were not yet in, but a shelter was imperative. A tile floor had been laid on one side of an 8x5x12 building, tile laid flat without a top coat. The other side was floored with a solid concrete to compare results in the same house. The concrete was heavily bedded down, and thinking that surley Mrs. Porker would not lie on the bare tile, the curtain was raised for her entrance.

Mrs. Porker slowly ambled into the cozy palace. She sniffed at the bedding and felt of the concrete, but it felt cold. The tile looked to be nice and warm so she shuffles across and laid down upon it with a sign of contentment.—H. M. Ward.

Dairy investigators of the Michigan experiment station have started a five-year test to determine what foods and combinations will favor the development of the best dairy cow. Thirty cows will go into the test, these being divided into six groups each to be fed certain rations.

Ionian farmers were urged by Prof. O. E. Reed of the M. A. C. to extend their dairy operations. The first step in this direction, he held to be greater dairy efficiency through the weeding out of low producing cows.

DR. HEDRICK ADVISES ON ROADSIDE MARKETS.

TO make the most of the roadside market," says Dr. U. P. Hedrick, horticulturist of the New York Experiment Station, and formerly of the Michigan Agricultural College, "the fruit grower must cater to it. He must plant several kinds of fruits and several varieties of each. Fruit must be on hand from the beginning to the end of the season, which will require a succession of varieties, ripening one after the other. Sorts of different colors, flavors and textures, and for different purposes must be grown to meet the tastes of consumers.

"Fruit may be offered in a number of different ways. It may be packed in a large variety of packages in different quantities and for various purposes. Jellies, jams and canned fruits are found on many roadside stands. All this means that special varieties and more varieties will have to be grown to meet the varied demands of this new market."

ANOTHER WINDOW OPENS.

SCIENCE opens another window for human thought and advancement. Agricultural experts have found in corn a disease that parallels in some respects rickets in children. This corn disease is due to faulty nutrition, according to Purdue University experts. It might be called corn rheumatism, since the trouble is located in the joints of the plant. Lack of potash appears to be the element needed where the trouble is observed. An increased amount of potash is said to overcome the difficulty.

DISTRIBUTE BLACK WALNUT SEEDLINGS.

OVER forty thousand black walnut seedlings have been distributed by the Agricultural Department of the Central Michigan Normal School at Mt. Pleasant. These trees have been sent to all parts of Michigan, many to the Upper Peninsula. The trees are distributed around Arbor Day, the original plan being to furnish trees to school children for spring planting. Usually only the early orders can be cared for, since the supply is limited.

FARM BOOK-KEEPING TAUGHT IN RURAL SCHOOLS.

TO improve the ability of the next generation in the matter of keeping farm accounts, book-keeping has been introduced in a number of rural schools. This study is apparently taking well and promises that, in another generation, the farmers and farmers' wives will be more efficient in farm management through the aid of simple but accurate farm records.

PIG LOSS AMOUNTS TO ONE-THIRD.

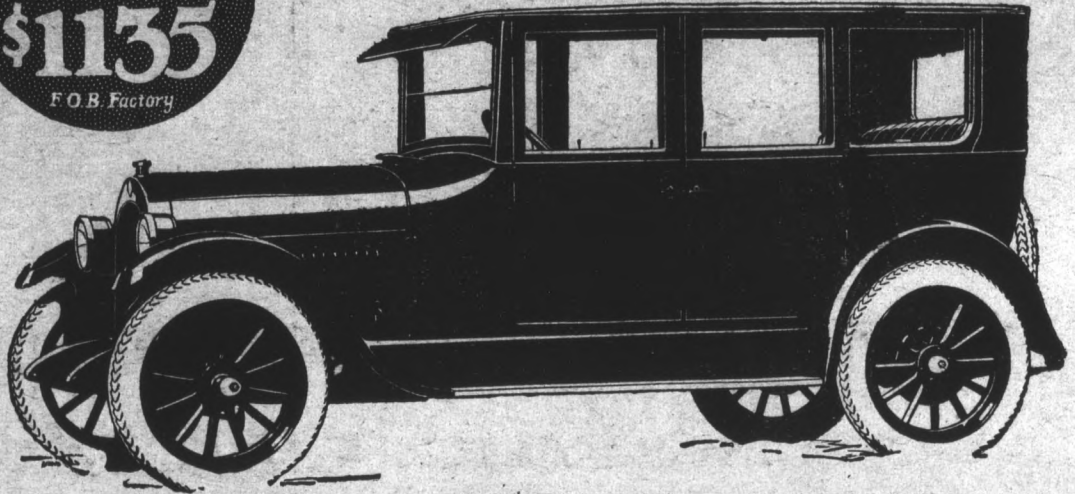
OUT of every three pigs born, one dies before weaning time, is the sad conclusion following investigations made by the federal department of agriculture. Those having losses below this percentage are the men who are realizing best from their pig crops.

Some of the reasons for the high mortality is chilling at farrowing time, being crushed under the mother for lack of proper guard rails around the pen, and farrowing of weak pigs due to lack of vigorous breeding stock or proper care and feeding.



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Sedan at
\$1135
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Why spend around \$1200 for an open car when you can buy this Oldsmobile Six Sedan at the same cost?

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The G. M. A. C. extended payment plan makes buying easy. All prices f. o. b. Lansing. Tax and spare tire extra.

Genuine Oldsmobile parts can be purchased from any Oldsmobile dealer in any part of the United States, at a standard price established by the factory without the addition of any war tax, handling, or transportation charges. Every Oldsmobile dealer has a master parts price list issued by the factory, which is always open for owners' inspection.

This fine car gives you a sturdy body by Fisher, with wide deep seats, durable upholstery, heater, transmission, lock, cowl ventilator and many other items of practical equipment. It gives you a 40 Horse Power "six" engine and high-grade chassis features, such as Delco ignition, Borg & Beck clutch, Alemite lubrication, oversize cord tires, etc.

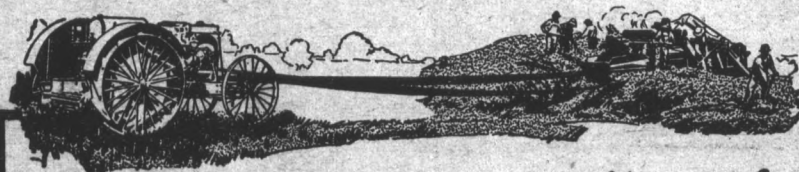
All this for \$1135—thanks to Oldsmobile's manufacturing experience and General Motors' contributions through its staff of experts, great engineering laboratories and vast purchasing power.

Put your farm on a sedan basis at the cost of an average touring car.

OLDS MOTOR WORKS, LANSING, MICHIGAN
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OLDSMOBILE SIX

PRODUCT OF GENERAL MOTORS



A money making outfit

THE most profitable threshing outfit consists of a Huber Super Four Tractor and a Huber Supreme Thresher. It travels farther and faster, and threshes more wheat at less expenditure for labor, fuel, and operating expense. The tractor, with more than 40 horse-power at the belt will do big work in threshing.

It is light enough to travel on plowed ground and do all kinds of field and belt work. It is kept busy the year around. Pulls three plows and turns an acre an hour in any soil.

For the large individual farmer or neighborhood threshing association, the Huber Light Four and Huber Jr. Thresher is the ideal equipment.

Write for printed matter and prices.

The Huber Manufacturing Co., 114 Center St., Marion, Ohio

TRACTORS **HUBER** THRESHERS
SINCE 1898 SINCE 1879

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Spring Days



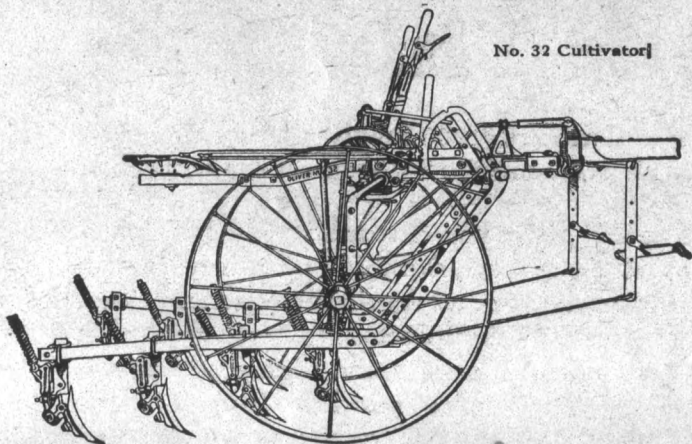
are Busy Days

The chickens aren't the only ones that have to make the dirt fly if the important early season tasks are to be done on time.

There's a lot of satisfaction in knowing that the farm tools are fit for their task. For excellent work under the many varying crop and soil conditions, the Oliver No. 32 Cultivator has proved itself a remarkable implement.

The combined pivot pole and axle make its work unusually good for practically all row crops on level or hilly land, in straight and crooked rows.

For full information and name of your Oliver dealer address your nearest Oliver branch.



No. 32 Cultivator

OLIVER

OLIVER CHILLED PLOW WORKS
COLUMBUS, OHIO HARRISBURG, PA.

Complete Milker \$123!

Nothing to Install No Expense No Bother



Comes complete and ready to use; no installation. Simple, easy to clean. Costs less and works better just because it is so very simple. Tremendous improvement in machine milking. Only \$123—think of it. Special Offer—rock-bottom price direct. 30 Days Free Trial.

A special offer good until we have a salesman or agent in the territory. No C.O.D.—no deposit. Easy Monthly Payments. We'll make that milker pay for itself every day as it goes along.

SEND FREE BOOK

Send for our free book on milking. Tell us how many cows you have. Write today, while this offer lasts. Burton Page Co., 1201 Cortland St., Dept. 8703 Chicago, Ill.

Send No Money

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No deposits—No notes to sign—No obligation to buy! You try the famous Imported Harp Separator entirely at my risk. You alone are the judge and if not thoroughly satisfied return it at my expense.

The Standard in Europe For More Than 22 Years

You get the closest skimming, easiest turning, quickest to clean separator ever built. Has replaced hundreds of thousands of machines in England, France, Germany, Belgium and Denmark.

Quantity at Bargain Prices! Why? Because European labor and materials are cheaper, we build in tremendous quantities, and sell direct to you. From \$28.50 up. Also on easy monthly payments. Write today for prices and descriptive folder.

W. C. MULLER, Pres.
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A SIZE FOR EVERY DAIRY

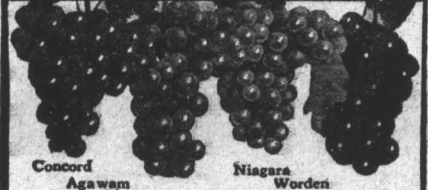
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Hardiest kinds. Once planted and growing you won't part with them for ten times their cost.

Agawam Large amber-red berries on big bunches. Very sweet. Each 20c; 12, \$1.75; 100, \$12.

Concord Best known grape. Sure to succeed. Fine for grape juice. 16c; 12, \$1.50; 100, \$10.

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Worden Large black berries. Bunches big. Extra early, hardy, sweet. 20c; 12, \$1.75; 100, \$12.

Strong, well-rooted vines ONLY 65c

Set of four best varieties

Postpaid and Satisfaction Guaranteed



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THE BIG SECRET OF SUCCESS in the fox raising business is getting the right foundation stock from reliable breeders. We have the finest stock in the country—animals with show records—Don't take chances—get your foundation stock from us and be on the safe side. Let us start you right. Write today for full particulars.

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ALFALFA IS THIN.

I have a field of alfalfa that is becoming thin in spots. I would like to sow some grass that would increase the hay crop for this coming summer. What would you advise? Would Sudan grass do?—A. A. Z.

Sudan grass is one of the best crops for the purpose you suggest. By harrowing the thin spots in your field and drilling in Sudan grass, at the rate of twenty pounds per acre during early May, the second cutting of alfalfa will be considerably increased. Owing to the fact that alfalfa is cut two or three times, there are no annual crops which give very good results in increasing the yields. It is better to break up such a field, plant to a cultivated crop, reseeding another field this spring. If you are short of hay you can probably get better results by planting Sudan grass, soybeans or millet in another field, making the most of your alfalfa field this season, and breaking for corn or other cultivated crop this fall or next spring.

J. F. Cox.

TO KEEP CROWS FROM CORN.

I should like a formula for the treatment of corn to prevent crows from pulling it up.—E. G. S.

The coal tar treatment is the most effective in protecting seed corn from injury by crows. This treatment is as follows:

Wet one bushel of shelled corn by allowing to stand in lukewarm water for ten minutes, drain, and stir in one tablespoonful of coal tar, stirring until each kernel is covered with a thin brown film of coal tar. Spread out thinly on floor and allow to dry.

The coal tar is apparently distasteful to crows and greatly lessens the injury frequently done by crows and bluebirds.

Wires or strings strung across the field at intervals of ten or fifteen rods, at a height of eight or ten feet, with occasional strips of tin or white rags, hung so as to turn in the wind, will aid in making the crows wary of fields so protected.—J. F. Cox.

NEEDS MORE PASTURE FOR COWS.

I shall not have much pasture for cows this coming summer. What would be advisable to sow for green feed? Also what would be suitable as pasture for geese to be sown in the poultry yard?—O. W. N.

Sudan grass makes one of the most dependable summer pasture crops. It should be sown about the middle of May at the rate of twenty-five pounds of seed per acre. An ordinary grain drill set to sow two pecks of wheat will sow approximately twenty-five pounds of Sudan grass seed. Sudan grass should produce pasturage under ordinary conditions about a month after the date of sowing, and should provide pasture until killed by frost during the late fall.

Oats and rye would produce considerable late spring and early summer pasture for the geese. However, these crops would soon mature and become too coarse and dry. Would recommend sowing Sudan also for the summer and fall pasture for geese.—C. R. Megee.

WANTS A PERMANENT PASTURE.

I have a clean corn field that I wish to get into permanent pasture. How would sand vetch do? Or, would clover and timothy be better?—L. H. S.

Sand vetch is a valuable crop for improving the fertility of the soil, and is also a valuable seed crop, but is not well adapted as a permanent pasture. Would recommend the following mixture where a permanent pasture is de-

sired: Timothy, three pounds per acre; alsike, three pounds; red clover, four pounds; Kentucky bluegrass, four pounds.

Vetch could be included in the above mixture but it is not likely that the return in pasturage will pay for the cost of the seed. If the vetch is to be sown alone, it should be sown as early in the spring as possible, at the rate of twenty pounds of seed per acre. The seed should be inoculated.

Material for the inoculation of vetch may be secured from the Department of Bacteriology of the Michigan Agricultural College, East Lansing. The price is twenty-five cents per bottle and one bottle contains sufficient material to inoculate a bushel of seed. Direction for application accompany the material.

Vetch gives best results on soils that are not acid. However, it is not as sensitive to soil acidity as alfalfa and sweet clover.—C. R. Megee.

WANTS A HAY CROP FOR THIS SUMMER.

I have ten acres of light sandy loam new ground on which I wish to grow hay for this coming summer. Would soybeans, alsike, and red clover make a good combination for this purpose? Would alsike be better than the clover? Or, could oats be substituted to advantage? How much seed should one sow? When should soybeans be harvested?—C. H. M.

The mixture of soybeans, alsike, and red clover is not likely to prove a profitable summer hay crop. The soybeans make quite a dense growth; consequently, the clover seeding will very likely be killed out. Only under very favorable conditions will the red or alsike clover make a crop of hay the first season.

If your soil is fairly fertile, would recommend a mixture of oats and peas. At the Upper Peninsula Experiment Station at Chatham, oats and peas have proved quite profitable as a summer hay crop and has out-yielded most other annual crops. In the extreme southern part of Menominee county, however, soybeans may be grown fairly successful. An early variety, such as the Wisconsin Black or Ito San should be planted in twenty-eight-inch rows, at the rate of thirty-five pounds of seed per acre. Would recommend sowing at corn planting time. Soybeans should be cut for hay when the pods are fairly well formed and before the lower leaves turn yellow and drop off.—C. R. Megee.

ENSILAGE FOR SHEEP.

I am wondering if you could tell me the effect of the feeding of ensilage would have upon sheep, and the amount one should feed for the best results.—Subscriber.

A proper amount of ensilage in a ration is good for any animal. Ensilage is a succulent, carbonaceous roughage and should always be fed in connection with some form of dry roughage food and with some concentrate (grain) to furnish extra protein sufficient to make a balanced ration. It would be quite improper to feed ensilage alone as a full ration. Some have tried this and then condemned ensilage. It will lead to digestive troubles. But if fed in proper amounts and in combination with other foods it is splendid.

Thirty pounds of silage is considered about the proper amount of silage for a one-thousand-pound cow per day. Now, if your sheep average 100 pounds apiece, you should feed thirty pounds of silage per day to ten sheep, or three pounds per day per sheep. If you feed ensilage in such quantities you will get only good results.

HOW HE GETS BY.

AN up-state farmer informs us that he is making ends meet in his farming business largely by reason of his producing a properly balanced live stock ration on his farm, and, also, by making his farm practically self-sufficient in the matter of growing food to meet the family needs.

IN THE FOOTSTEPS OF HIS FATHER.

HAVING sprung from ancestry who were firm believers in a garden, and having been trained in early childhood to tend the plants and flowers (for no garden is complete without flowers), and to love the fruits thereof and revel in their beauty, it is small wonder that I, too, consider the garden one of the farm's biggest assets. And that for three reasons, an economic, a physical and a mental benefit.

If vegetables and flowers are to appear upon the farmer's table, certainly they can be produced at home more economically than elsewhere, and, at the same time, may be of better quality if proper care is given, and certainly they will be fresher than most that can be bought. Further, there is little cash outlay except perhaps for a few seeds, and some early plants. Fresh vegetables, as well as canned goods, if purchased, require a cash expenditure.

What farmer would feel like buying tomatoes at twenty to twenty-five cents per pound around the middle of July? Yet, by planting a few pot-grown plants, he can pick the luscious and healthful fruit from his own vines when others are paying high prices to satisfy their appetites. What farmer does not like new potatoes as early as possible, yet would hesitate to pay \$3.00 per bushel for them on the market.

Many vegetables may be kept in the cellar during the winter months and thus displace, at least, most of the boughten canned articles and their accompanying cost. Of course, the good wife may can the surplus from the garden, if she has time, and thus avoid buying any canned vegetables whatever.

Further, an abundance of vegetables may take the place of the greater part of the meat dish, which is usually the most expensive portion of the daily meal.

It goes without saying that almost every farmer has enough exercise to keep his muscles in trim without tending a garden, but, in speaking of the physical benefits of a garden, I refer, rather, to the effect of the consumption of vegetables upon the human body. It is a well-known fact that meat foods, taken in excess, tend to clog the system and make many activities sluggish and tardy, resulting in a generally tired feeling. Vegetables, on the other hand, are almost exactly opposite, stimulating various organs and glands, keeping the body fine and fit.

Then, too, the much mooted and talked of vitamins are nowhere more plentiful and palatable than in vegetables which can be cheaply and abundantly grown in the farm garden. Now, last but not least, a garden with all its plants and gorgeous flowers may change one's mental attitude and lift his soul to heights untold. He who beholds a row of downy asters just bursting into bloom, or holds in his hand a magnificent spike of gladiolus from his own garden, or views a bouquet of those ever-charming flowers, the sweet peas, that person cannot but have his mind lifted above the sordid things of life. He who plants the apparently lifeless seed expecting it to burst forth from the soil, to grow, to bloom and bring forth fruit, cannot but have faith in something greater, nobler than himself and, if he thinks at all, as it seems he must, behind it all he must see some omniscient mind planning, executing, creating.—W. H. Collar.



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Scene at Palm Beach painted by John Newton Howitt

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There wasn't a tire anywhere that forecast the possibility of the Usco Cord.

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If it hadn't been for the new methods developed in the manufacture of U. S. Royal Cords, Usco Cords would not be here now to set a new standard for low-priced tire equipment.

Usco Cords are made in 30 x 3 inch and 30 x 3½ inch clincher for light cars, and in straight-side in all standard passenger car sizes from 30 x 3½ inch up.



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Guaranteed 15 Years

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Don't confuse this full-weight 85-pound roofing with cheaper, lighter roofing sold at the same price.

Lay it over old roofs. There is enough in one roll to cover 100 square feet—yet a roll costs only \$1.85, with nails and cement.

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Crop very short.
Buy before advance and save money. Get our special low prices and free samples of our pure Iowa grown, New Crop, Redheaded **Tested Clover** and **Timothy Seed.** Also Alfalfa, Alsike, Sweet Clover. All kinds grass seed. 116-page catalog free, quoting all field seeds. Save money by writing at once. Can ship eastern orders from eastern warehouse.
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Highest quality, scarified hulled seeds at amazingly low prices.
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Isn't it a fact that your boy likes to think of himself as a man, likes to wear clothes like dad's or big brother's? Most boys do. Van Wert Excelsior Overalls are made with this in mind and are cut along the same generous lines as the men's. This gives your boy a garment that looks like a man's and that will stand the rough and tumble wear any healthy robust boy will give it.

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Beta and Alpha Grapes—absolutely hardy. Stand on trellis thru winter months.
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Deal with Minnesota's oldest nursery—57 years successful growing of nursery stock that bears big in the Northwest.
Free Catalog—Tells all about Brand's Wonder Bearing Fruit Trees.

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Box 16 Faribault, Minn.

Will Use Ohio Wool Facilities

Arrangements completed by Michigan Representatives

SIX Michigan Farm bureau and wool pool boosters spent March 5 in Columbus investigating the possibilities for use of the Ohio wool marketing facilities for Michigan wool. A contract, including an arrangement similar to that under which Indiana wool is marketed, resulted. The contract runs from the Michigan Farm Bureau Federation to the Ohio Wool Growers Cooperative Association.

The delegates were impressed with the facilities available at the warehouse for handling a large volume of wool. They were also impressed with the low handling charge made for handing through the Ohio pool. They were even more impressed when they found, on comparison, that the Ohio pool prices averaged a little over five cents a pound more for the same grade than prices paid through the Michigan pool.

The Michigan delegation was made up of F. C. Firrell of Charlotte, H. E. Powell of Iona, Jay Smith of Dexter, representing wool producers, Don Williams, who has been in charge of wool marketing for the Michigan Farm Bureau Federation, C. L. Brody, secretary and M. L. Noon, president of the Michigan Farm Bureau Federation. These

men expect to circulate an individual marketing contract to cover the wool marketed from that state through the pool.

The delegation took time to look over the offices of the Ohio Farm Bureau, and learn of the work being done. —Frank C. Dean.

GRAIN PRODUCTION IN CHINA.

PROBABLY a considerable proportion of the people of the Western World are not aware of the fact that China produces and consumes an enormous amount of wheat, as it is a mistaken idea among a large part of the American population that the Chinese are all rice-eating people. There are tens of millions of people in China who do not eat rice and probably have never seen rice. The population of North China is for the most part a non-rice eating population. Wheat products, millet, Indian corn, Kafir corn, beans and sweet potatoes constitute the principal articles of diet among the population of North China, including Manchuria. China proper is also a heavy producer of Indian corn, millet and kafir corn, not to mention beans and other field crops.

Defends McNary-Haugen Bill

By James N. McBride

ONE of the resolutions adopted at late meeting of the Michigan Farm Bureau is evidently a misunderstanding, or possibly unfortunate, in its inference. The resolution read as follows: "Resolved, that we are not in favor of any plan to export wheat and charge the loss back against the growers the next year."

The McNary-Haugen bill, which is probably referred to, applies to practically all farm products, especially grain and meat. The failure to comprehend this larger viewpoint and make it appear as a measure for wheat alone may be excusable to the average person, but should not attach to agricultural leadership. The final clause of the resolution regarding charging back the losses against the growers next year is also a misunderstanding, or possibly a hasty assumption.

The plan of payment for products on the general average commodity prices of 1905-1914 is intended to raise the general price level of agricultural products to those of other commodities. This ratio is made a part of the measure. For example, wheat at Chicago is about 100% of pre-war prices or a parity with general commodities which the farmer has to buy at 164% above the pre-war. Hogs are about 90% pre-war prices, while railroad rates are about 150%. Oats are 95% of pre-war, while farm labor is 145%. Corn is 22%, while iron is 158%. Cement 158% and lumber 186%.

The best industrial, financial and economic talent of the U. S. has considered every feasible plan for the restoration of farm products to a parity with the compensation paid to to others and have settled on this method in collaboration with some of the best agricultural students of the U. S.

The measure in question proposes to rehabilitate the farm in its economic relations, as was done for the railroads. Under the war strain, the railroads broke down and were taken over by the U. S., placed on a stable basis and given an opportunity to rate advances to regain their competency.

Agriculture was effective, and while individualistic during the war, broke down when financial chaos overtook Europe with depreciated currencies. After every great war there is always a scramble to see which industry can escape the burdens and debts incident

to wars' destruction of property. This has been the case ever since the Napoleonic wars, and agriculture, with its lack of organization, has borne the major portion of the burdens.

Manufacturers who have found themselves over-stocked, have disposed of their surplus abroad and maintained prices at home. Local dealers have cut their prices to reduce a surplus, and maintained or advanced prices on the remainder, and a plan similar is now urged for farm distress.

The plan for a corporation to export our surplus products of the farm was first proposed by a large manufacturer. The merits of the plan takes into consideration (1) that the profits of the export trade are excessive as disclosed by the Federal Trade Commission. (2) That exporters receive orders from abroad at low prices and that futures are bought on boards of trade which finally fixes the price of all wheat consumed locally. (3) The conversion of foreign exchanges into the payment of wheat also lowers the price. There is a demand for wheat abroad, but other conditions dislocates the price.

The U. S. wheat grower is very much like a big hearted man who makes concession to those in need of charity and every other customer demands the same consideration. The export corporation would release the American farmer from the heavy toll of the exporter and, from the price fixing he makes on the board of trade and the demand of the local consumer to be fed at the same price, of the impoverished European.

The bill provides for an advance of \$200,000,000 by the U. S. to be used as a revolving fund, and to be repaid by the corporation and at the current rate of interest. The expenses of operation are to be taken out of the exported products.

The difference between the exported price and the home price of wheat will not be taken out of next year's crop, but the payments will be paid in part with script. For example, the export ratio is about 1 to 5. If the loss on one bushel exported was 25c and the home sales were made at \$1.50, the grower would receive, say, \$8.00 in cash and script for six bushels of wheat (five sold at home and one aboard) against which a loss of 25c must be charged. This script would

be redeemed at \$1.25. In other words, the loss on one bushel would be charged against the five, or a total price deduction of 5c on that end at home.

If this law were in effect for the crop of 1924, based on Michigan's wheat, oats, rye and pork, these products with exportable surpluses, the farmer could safely add 50% to present prices. Competent authorities estimate Michigan's prospective gains at \$25,000,000 for farmers in 1924. The preceding resolution of the Michigan Farm Bureau commends the Department of Agriculture for its work in marketing in foreign fields, and urge that this work be continued and enlarged.

The proposition for an export corporation is distinctly the work of Secretary H. A. Wallace, who has labored with all his power to place the farmer on a parity with others in industrial life, even staked his political future in this effort, and should have the support of every farmer.

These resolutions are incompatible, approving and disapproving. The McNary-Haugen bill has had the approval of the Farm Bureau of Illinois, Iowa and Minnesota. The legislature of Iowa has unanimously endorsed the measure. The Corn Belt Meat Producers have approved the bill and sent their president, Mr. Sykes, to Washington to work for the measure. Mention is made of this in evidence that it is not entirely a wheat matter. The heading economists of the mid-west, like Watson of Illinois and Wallace of Iowa, are for this measure.

In opposition is the Chicago Board of Trade, whose former president, Gates, appeared before the commission in Washington to urge disapproval. The Wall Street Journal, with strong support from exporters like Livernon are opposed to Secretary Wallace's plan. Pickell's organ of the speculative element, the "Round up," formerly Rosenbaum's Review, one of the largest grain commission houses in the world, calls the plan Bolshevik.

To the man on the farm, who pays high taxes and sells farm products at present prices, when a real constructive plan comes up, he is inclined to its favor, when he notes the opposition cited above. The farmer who wants to inform himself should write his member of Congress for a copy of this bill, and when he has studied the plan, write his own views to his representative and senator at Washington.

EGG TRADE FACES NEW SITUATION.

AN unfortunate situation has developed in the egg trade, according to market specialists of the Bureau of Agricultural Economics. A year ago last August the cold storage people found themselves with an unusually large stock of eggs on hand, and becoming alarmed at the situation, they started a "eat more eggs" advertising campaign. The movement was successful and later in the season they had not only eliminated the surplus but a shortage was created.

This year in August the peak holdings were 500,000 cases above any previous year, 10,500,000 cases in all. The cold storage men, however, did not consider another advertising campaign necessary. As a consequence their eggs did not sell. On January 1 this year, they had a tremendous surplus, nearly 615,000 cases more than the preceding January. They were confronted with the problem of getting rid of about 2,000,000 cases in two months.

The holdings were cut to 500,000 cases on February 1, but this was 300,000 cases more than they had in storage on the same date last year. A number of cold storage firms have failed as a result of the egg deal.

It is predicted that next year will see a greater expansion in egg production than this year, which will require an extensive advertising campaign if all the eggs are sold.

HOW MUCH LIMESTONE TO USE.

A HIGH cost per acre for lime used for agricultural purposes is being caused at present by erroneous statements being circulated as to the value of the lime, which are now born out by results of experimental work at various Michigan Agricultural College test stations, is the opinion of Dr. M. M. McCool, head of the M. A. C. soils department.

These claims take the form of assertions that a few hundred pounds of hydrated lime are as good as a ton or more of limestone for agricultural purposes. A number of experiments on the relative efficiency of hydrated lime, finely ground limestone, and medium ground limestone have been carried on by the college at the Cass County farm and other experimental plots, which throw interesting light on this important question. The conclusions reached are supported by work in other states.

"As a result of these and many other experiments," says Dr. McCool, "we have steadfastly maintained that under most conditions it is doubtless more practicable for a farmer to use limestone, preferably the finer material, such as the finely pulverized stone or the medium finely ground limestone, than it is for him to use the hydrate.

"We have adopted the following figures for a working basis: 500 pounds of hydrated lime, 800 pounds of finely pulverized lime, or 100 pounds of medium finely ground material should be considered to give the same results the first year of application, provided they are well incorporated with the soil and there is a sufficient amount of rainfall."—B. V. H.

MICHIGAN'S FUTURE FORESTS.

MICHIGAN presents excellent opportunities for timber raising, and, with a little care, will come back as a leading timber producing state, is the assertion of Prof. A. K. Chittenden, head of the forestry division at Michigan Agricultural College.

"While the forest area of the country has been decreasing, the need for timber has not fallen off, and with the coming exhaustion of the large tracts of virgin timber, we must depend upon second growth for our future supply," says the M. A. C. expert.

"Michigan has about ten million acres of idle land, some of which will not be used for crop production for many years, and some of which is not suited for crop production at all. In order to keep this land working, it should be used for timber production. Michigan industries are largely dependent upon timber, and this timber should be produced as near to the consuming centers as possible."

Essential matters to a well-balanced state policy as outlined by Prof. Chittenden are:

1. Adequate appropriations for the prevention and suppression of forest fires.
2. An equitable system of taxation of forest lands so as to make practicable the growing of timber as a private enterprise. This could probably best be accomplished by taxing land and timber separately, the tax on the timber to come when it is cut.
3. Utilization for timber production of idle land and land too poor for farming.
4. Extension of state forests by exchange of tax lands and enlargement of the Michigan national forests.
5. A gradual increase in the area of land planted to trees each year on the state forests and on the Michigan national forests.
6. Federal aid in fire protection, in reforestation and in forest extension and experimental work on a fifty-fifty basis with the state.
7. Proper care and handling of farm woodlands.
8. Care and planting of roadside trees, the development of city forests, and the employment of county foresters to look after such work.—B.V.H.

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SUPPOSE you had Aladdin for a hired man, and his wonderful lamp to do your bidding. One of the first jobs you would want done would be to make your farm more productive.

Yet today du Pont explosives are helping farmers do this very thing—without the use of magic, but with little labor and at small expense.

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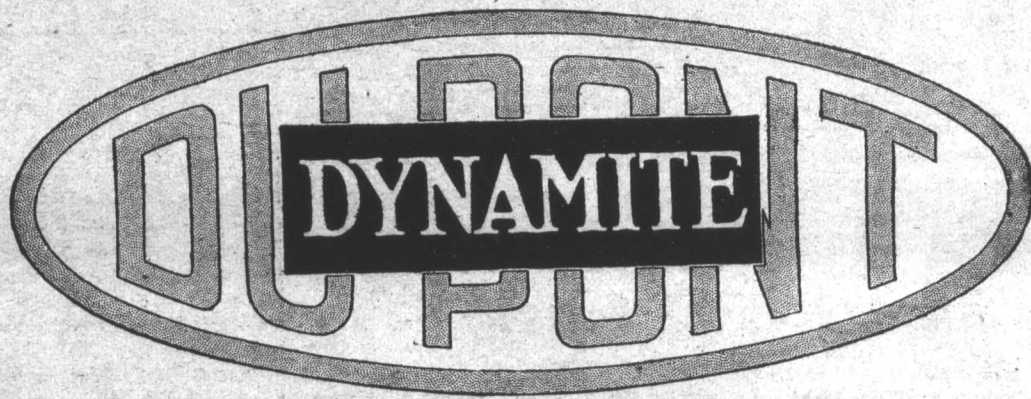


Write us for free 110-page Farmers' Handbook of Explosives, which tells you how to save time, labor and money with dynamite.

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The Auto-oiled Aermotor has behind it 9 years of wonderful success. It is not an experiment.

The Auto-oiled Aermotor is the Genuine Self-Oiling Windmill, with every moving part fully and constantly oiled.

Oil an Aermotor once a year and it is always oiled. It never makes a squeak.

The double gears run in oil in a tightly enclosed gear case. They are always flooded with oil and are protected from dust and sleet. The Auto-oiled Aermotor is so thoroughly oiled that it runs in the slightest breeze. It gives more service for the money invested than any other piece of machinery on the farm.

You do not have to experiment to get a windmill that will run a year with one oiling. The Auto-oiled Aermotor is a tried and perfected machine.

Our large factory and our superior equipment enable us to produce economically and accurately. Every purchaser of an Aermotor gets the benefit from quantity production. The Aermotor is made by a responsible company which has specialized in steel windmills for 36 years.

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Strawberries 25% Off

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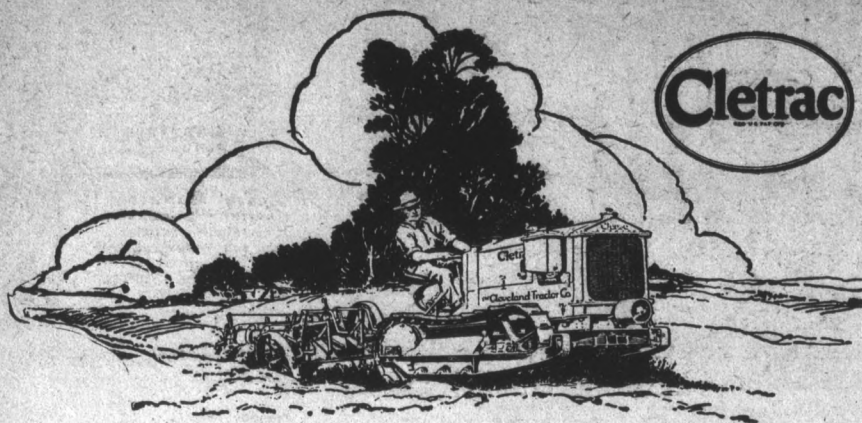
Choice Strawberry Plants \$3.75 per 1,000. All standard varieties. Guaranteed first-class or money refunded. Catalog. MRS. FILENA WOOLF, Dept. 6, Allegan, Mich.

NEW GROUND STRAWBERRY PLANTS

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The 1924 Berry Plant Sales Book is now ready. Contains valuable information for berry raisers. Send for your copy today. A gift of a packet of choice Fanny Seed for the lady of the home goes with it without cost.

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Cletrac—More Than a Plow Tractor

Having a tractor enables a farmer to plow deeper, better and far quicker than with teams. Turning over the land is one of the biggest jobs of the whole year. The 12-20 Cletrac turns over the evenly cut furrows at the rate of eight to ten acres a day. But the farmer's tractor, to be a real investment, must do more than plow well. It must be able to go right onto the freshly plowed ground and quickly work it down to a perfect seed-bed. Here is where the Cletrac owner's foresight is rewarded. His tractor is admirably suited for ground fitting.

A Better Seed Bed Insures a Bigger Crop

Where the soil is loose—perhaps even wet in spots—the broad tracks carry Cletrac smoothly along without slip; full speed and load is maintained, the ground is mellowed and made fine and ready for planting without any packing down, and in the quickest possible time. When work is pressing and weather uncertain, to be able to fit and plant quickly and perfectly is the farmer's best assurance of a bigger yield and a better product. It often means the difference between profit and loss on the crop. No tractor is so well suited for seed-bed preparation and planting as the Cletrac.

Write for catalog and let us tell you more about the use of Cletracs.

THE CLEVELAND TRACTOR COMPANY Cleveland, Ohio

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We want one auto owner in each locality to use and advertise Armour Tires. You can make big money and get your own tires free by simply sending us orders from friends and neighbors. No Capital or Experience needed. We deliver and collect direct. Pay you daily. Most Liberal Tire Guarantee Ever Written.

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Don't Speculate With Doubtful Seed

Your insistence on Blackfoot Brand Grimm Alfalfa Seed in sealed and labeled sacks takes the uncertainty out of buying alfalfa seed. A substitute "just-as-good" seed may look all right when you are buying it, but at harvest time your tonnage and profits are considerably less.

The Idaho Grimm Alfalfa Seed Growers Association guarantees every sack with the Blackfoot label and seal. The seal assures you of genuine Grimm, certified as such by the State Pure Seed Commissioner of Idaho. The strain of Blackfoot Grimm is kept as pure as the strain of the finest pedigreed stock.

To be sure of your results look for the sack with the Blackfoot Brand label and seal. Ask your seedsman for Blackfoot Brand. If he cannot supply you write to

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Big Gain in Crop Values

ESTIMATES of thousands of federal reporters over the country places the value of crops grown on farms in the United States at over a billion dollars more for 1923 than for the preceding year. The total for the past season was the prodigious sum of \$9,953,000,000, as compared with \$8,945,000,000 for the preceding year.

The item making up the total estimated value of crops are as follows:

total, the child population on the farms is more than 35 per cent of the whole.

The average retail price of all automobiles in 1923 was \$811; that of a truck \$1,080.

"Rim cutting" is largely caused by dented or even slightly bent rims. Make sure your wheels are in good

	1923	1922
Cereals	\$3,793,000,000	\$3,571,000,000
Cotton lint and seed	1,769,000,000	1,306,000,000
Hay and forage	1,480,000,000	1,399,000,000
Vegetables	1,089,000,000	894,000,000
Fruits and fruit products	681,000,000	692,000,000
Farm Forest products	318,000,000	305,000,000
Tobacco	299,000,000	289,000,000
Legume seeds	175,000,000	165,000,000
Sugar and syrup crop	142,000,000	128,000,000
Seeds for planting clover, etc.	38,000,000	48,000,000
Flax fiber and seed	37,000,000	22,000,000
Other crops	132,000,000	126,000,000
Total	\$9,953,000,000	\$8,945,000,000

The distress of wheat growers is strikingly shown by the estimate of the 1923 crop which is \$726,000,000 compared with \$874,000,000 in 1922, and with 2,080,000,000 in 1919. Corn was the largest single item of value, being \$2,222,000,000 compared with \$1,912,000,000 in 1922. Other important items in the cereal group were oats, of an estimated value of \$539,000,000 compared with \$479,000,000 in 1922, and barley \$107,000,000 compared with \$96,000,000 in 1922.

Apples stand out in fruit group with an estimated value of \$201,000,000 compared with \$206,000,000 in 1922. Grapes, raisins, and grape juice were valued at \$140,000,000 compared with \$143,000,000 in 1922. Potatoes led the vegetable group with an estimated value of \$340,000,000 compared with \$264,000,000 in 1922. Truck crops were valued at \$246,000,000 compared with \$209,000,000.

The groups making up the total estimated value of livestock products, including animals raised were as follows:

	1923	1922
Animals raised	\$2,397,000,000	\$2,574,000,000
Dairy products	2,566,000,000	2,085,000,000
Poultry products	1,047,000,000	818,000,000
Wool	87,000,000	69,000,000
Bee products	11,000,000	11,000,000
Other animal products	3,000,000	2,000,000
Total	\$6,111,000,000	\$5,659,000,000

Swine was the outstanding item of value among animals raised, being estimated at \$1,145,000,000 compared with \$1,273,000,000 in 1922. Cattle had an estimated value of \$924,000,000 compared with \$975,000,000 the preceding year.

The value of milk sold was the largest item in the dairy products group being \$911,000,000 compared with \$722,000,000 the preceding year. Milk consumed on farms had an estimated value of \$785,000,000 compared with \$635,000,000 in 1922; butterfat sold was estimated at \$379,000,000 compared with \$324,000,000, and butter made on farms \$246,000,000 compared with \$220,000,000.

Eggs produced were valued at \$602,000,000 in the poultry group, compared with \$512,000,000 the preceding year. Poultry raised was valued at \$445,000,000 compared with \$406,000,000.

THE AUTO TRAIL.

Experts say valves of an engine should be ground after 1,500 miles of running.

Carry a piece of tough canvas in your tool box. In an emergency it makes an excellent patch when doubled twice and caught and held by the rim.

Although the farm population of the nation is less than 30 per cent of the

shape and you will lengthen the life of your tires.

According to statistics compiled by a prominent dealer in used cars this class of business lost more than \$57,000,000 in 1923. This is said to include regular car dealers who handled their own trade-ins.

Government experts have decided that the total cost for running a car averages seven cents per mile. This keep. Look at your speedometer total includes original cost as well as upkeep. Look at your speedometer total figures and see if you are in the running.

STATE FRUIT GROWERS' MEET.

(Continued from page 392).

Mr. Burroughs' recommendations are to stick to lime-sulphur unless cheapness is desired and then if the oil spray is desired he suggested that one buy the government formula already emulsified as that is usually well emul-

sified and all that is necessary is to mix it with water. Its cost is very little more than the home emulsified oil.

Mr. Dutton urged the growers to stick to lime-sulphur except where there is a serious infestation of scale. He thinks that the oil emulsions are still in the experimental stage and should be used with caution.

The program concluded with a talk by Mr. Stanley Johnson, of the South Haven Experiment Station, on pruning raspberries. We have recently run articles by Mr. Stanley Johnson on this subject so repetition is unnecessary.

Resolutions.

At the Wednesday afternoon session, the society passed a resolution favoring a law requiring the licensing of fruit dealers and brokers. It also asked in resolution for a law on standard pear grades.

The society put itself behind a request for shipping point inspection when a grower, or cooperative society, wanted it. It also asked the cooperation of the federal and state authorities on this matter.

An appreciation of the work of the late T. A. Farrand, in his capacity as secretary of the society and as a state horticulturist was expressed in resolution. For what Mr. Farrand has done for Michigan horticulture, the society resolved to inscribe his name on the society's Lyon Memorial cup.

ROPY MILK NOT DANGEROUS.

DURING early spring and late autumn, ropy or stringy milk is of common occurrence. This is a type of fermentation which is due to the activity of bacteria. While the appearance of such milk is anything but appetizing, it is not dangerous to the health. However, the milk which comes from the udder of the cow in a stringy condition is of a different sort and should not be confused with the ropyness that develops on standing. Stringy milk from diseased udders should be discarded and not used for human food.

ANOTHER WORLD'S CHAMPION COW FOR MICHIGAN.

THE recently completed record of 15,684.7 pounds of milk and 821.70 pounds of butter-fat entitles Rilma of Bay Cliffs to first place in Class DD, and also fourth place in Class D in the Guernsey records. She is owned by J. B. Deutsch, of Big Bay, Michigan. She is a cow of great strength and productive ability, having had a previous record in Class G, consisting of 9,348.9 pounds of milk and 490.16 of butter-fat.

WINTER RATIONS FOR DAIRY HEIFERS.

CORN silage and alfalfa hay have been found to be a most economical feed for carrying dairy heifers through the winter, according to tests, in progress at the Ohio Experiment Station.

Four heifers averaging 706 pounds at the start were placed in Lot 1 and received a daily ration of sixteen pounds of alfalfa hay, 1.3 pounds of corn cob meal, and the same amount of linseed oil meal. These heifers made an average gain of 1.05 pounds per day, or eighty-five pounds for a period of eighty-three days. The daily ration cost 14.5 cents per head, or 13.8 cents per pound gained.

The heifers in Lot 2 averaged 556 pounds at the start and made a gain of 1.16 pounds per head each day, or ninety-four pounds for the period. The feed cost averaged 15.6 cents per head, with the gains costing 13.4 cents per pound. This lot received 17.2 pounds of corn silage, five pounds of timothy hay, 2.25 pounds each of corn cob meal and linseed oil meal.

The heifers in Lot 3 weighed 774 pounds each at the start. Their gains were made at a daily feed cost of 14.25 cents a piece and a cost per pound of only 11.1 cents. This lot gained 1.28 pounds a day, or 104 pounds for the period. The ration was twenty-five pounds of corn silage and 9.25 pounds of alfalfa hay.

SOME FARM MANAGEMENT PROBLEMS.

PRACTICAL farm management problems were discussed and a definite extension program in farm management formulated at a conference of extension workers of the northeastern states at Springfield, Mass., last week. Attention was called to the fact that the whole emphasis in farm management is now shifted from production to economy. Extreme care in expenditures, with emphasis on economical production and with the greatest possible production of family supplies from the farm, is the only safe policy to follow during the next few years, according to the conclusions of the conference.

The conference considered the following among the outstanding farm management problems in the northeastern states: The trend of price relationship, return per animal, return per acre of farm crop, efficient use of labor, adaptation of enterprise to local conditions, diversity of farm business, size of business, farm finance, farm woodlot, taxation, and utilization of marginal lands.



Comfortable Cows Give More Milk

The amount of milk a cow gives is not always a true barometer of the amount of milk she *can* give. Good dairy cows respond at the pail strictly in accordance with the treatment given them.

Lock a good cow up in rigid wooden stocks and she will be just as uncomfortable as our erring Pilgrim fathers used to be when placed in the same position, and she will not produce to the limit of her natural ability—simply because she cannot. Many a high producer has been uncovered by a change of ownership—a change in living conditions. Probably there are cows in your own herd which would be persistent, heavy milkers if kept in comfortable quarters. Cow comfort is, therefore, a matter of vital importance for the good of your purse if nothing else.

Bring "Pasture Comfort" Into Your Barn

Pasture comfort for the cows in the barn should be the aim of every dairyman. Because it pays to give it to them. This can be obtained to the fullest extent by means of Loudon Steel Stalls and the famous, flexibly-lung Loudon Swinging Stanchion.

The Perfect Cow Tie

The Loudon Stanchion doesn't worry the cow. It holds her in her proper place yet allows her full freedom of movement for every comfort. She can turn her head, card herself and lie with her head at ease. It swings just enough to allow for the natural pitch of her body in getting up—she doesn't have to lunge and struggle—jam or bruise her shoulders.

Last a Lifetime

Loudon Stalls and Stanchions are made of Open-Hearth high carbon steel tubing. Very strong and will last as long as the barn. An important feature is the famous Loudon

interlocking dust-proof coupling—smooth on top—no open crevice anywhere to catch and hold lurking dirt and disease germs. This exclusive feature is covered by Loudon patents.

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Loudon Steel Stalls and Stanchions also allow good ventilation, lighter quarters, cleaner conditions and promote better cow health. They save you work in taking care of the cows and make you proud of your barn. You will be *permanently satisfied* with them and so will the cows. Write for full information with illustrations—just check the coupon.

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112 pages of valuable information on how to save money in building your barn. Explains methods of framing, types of roofs, etc. Shows 50 model barns with floor plans. Sent free to farmers who intend to build or remodel—check and mail the coupon now.

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The Planet Jr. catalog gives the facts about this and all the famous Planet Jr. implements. Ask your dealer for a copy, or write us.

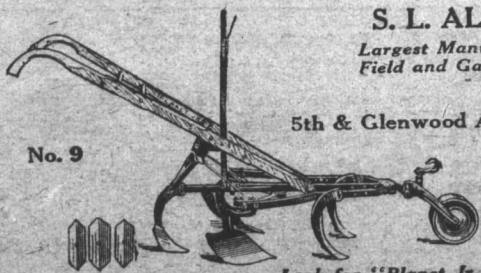
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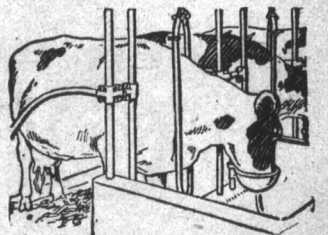


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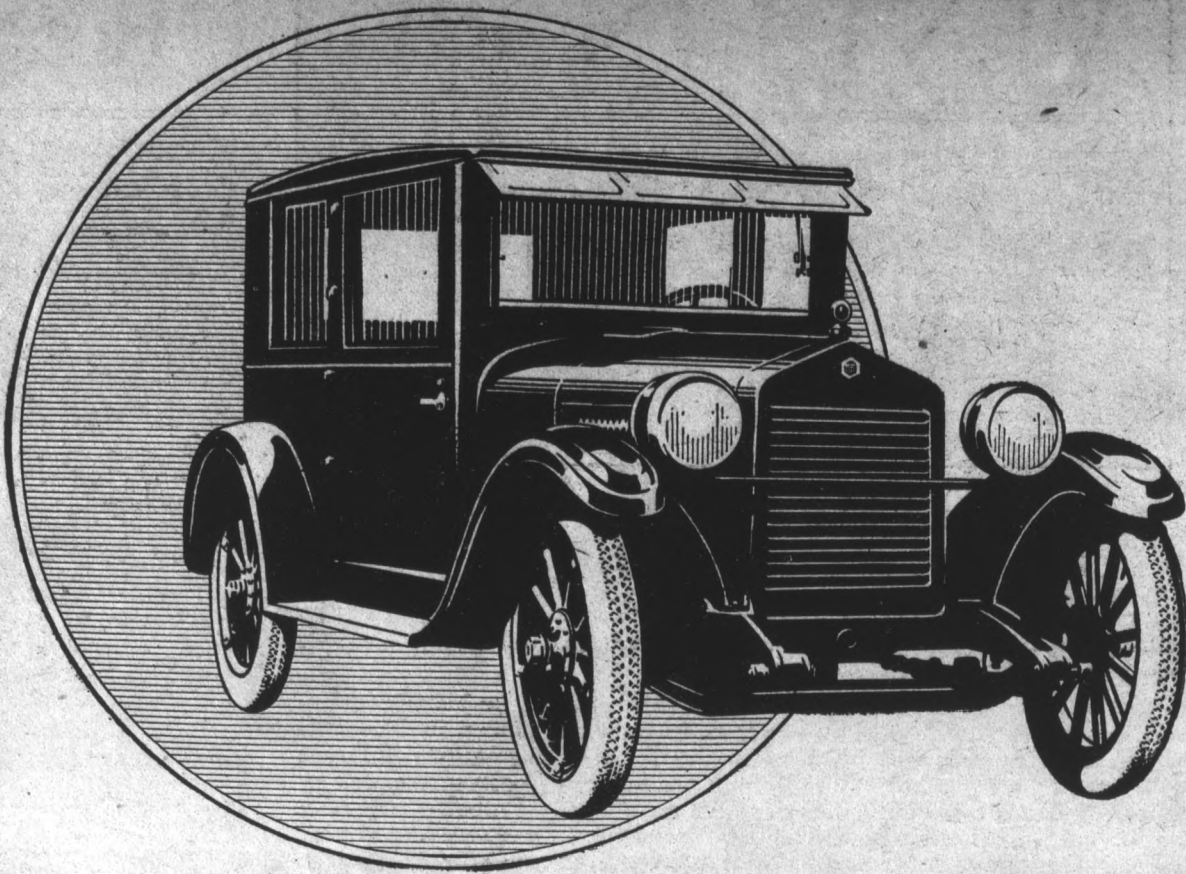
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A Six—Built by Hudson

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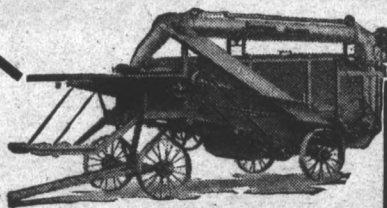
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Cloverland News

THIS POULTRYMAN KEEPS ACCOUNTS.

A WAKEFIELD poultryman has recently made public the results of his experience in poultry raising for the past year. He has a flock of about 120 white Leghorns, which in 203 days from January to July 22, 1923, laid 1,065 dozens of eggs, of which 1,019 dozens were marketed for \$418.45. The total output of this flock during the year was 19,886 eggs.

On the cost side of the ledger the figures are \$208.31. Itemizing these costs, it appears that feed cost \$194.46; disinfectants, etc., \$4.35; straw for litter, \$6.30; lice-killer, \$1.50. It is believed these figures will interest other poultrymen.

WAR VETERANS START FARMING.

SIX World War Veterans, rehabilitated under the direction of the United States Veteran's Bureau, will be placed on farms in Chippewa County near Brimley, it is announced from the Marquette office of the Bureau. These men have been in training, it is stated, at the Michigan Agricultural College along such lines as poultry, bees and fruits, and they will be supervised as farmers by an agricultural expert from the Marquette office of the bureau. The government will also assist the men in capitalizing their venture. Their holdings will amount to some forty acres each. It is known that one Upper Peninsula county offered tax exemption for a period of five years, if these men located there and it is considered that similar treatment will be accorded them in Chippewa.

WILL INCREASE DAIRYING IN CHIPPEWA.

Mr. D. J. McMillan, newly appointed agricultural agent of Chippewa County, has announced his policy as one of promoting dairying in that county which has hitherto been chiefly known as a producer of hay.

For some time it has been realized that taking off a hay crop year after year was impoverishing the soil in this section and that to retain the productivity of the land it would be necessary to change farm practice there. This Mr. McMillan expects to encourage.

He also recognizes that, in all sections of the country, farmers who have trusted to one crop only are the worst off financially and he believes that Chippewa's best hope agriculturally lies in greater diversification of crops.

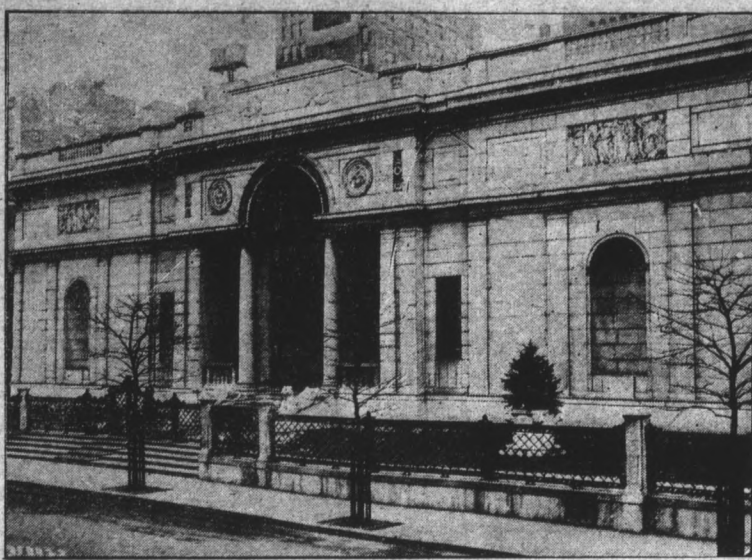
ADVISES CAUTION WHEN USING EXPLOSIVES.

CALLING attention to two fatal accidents which have occurred in this section as a result of land clearing activities during the past year, Mr. L. F. Livingston, land-clearing specialist of the M. A. C., strongly urges all who use these explosives to exercise care and good sense. For example, it is extra dangerous for a person to approach a charge which has failed to go off on time. It is likely only to have hung fire. A fuse should burn at the rate of two feet per minute, says Mr. Livingston, and if there is fifty feet of fuse out, one should wait at least a half hour for the discharge of the explosive. If there is delay, it may be a hang fire which some times lasts for five hours before the discharge takes place. Improper crimping or tamping, a broken powder train, a damp fuse may delay the blast. After firing the fuse, walk away and forget it, advises Mr. Livingston. Do not seek to see how it is coming on.

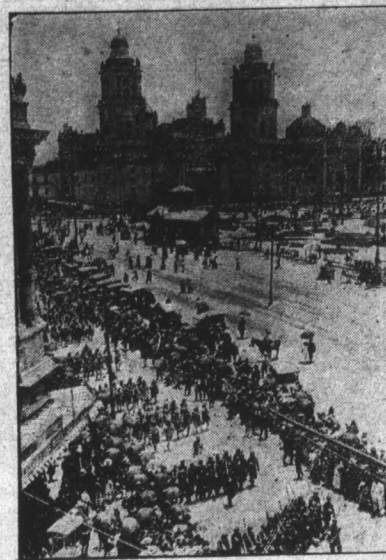
WORLD EVENTS IN PICTURES



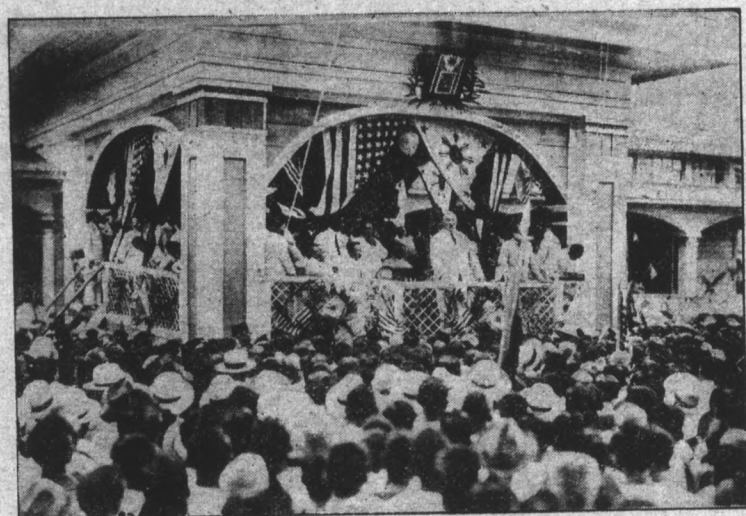
Anders Haugen, American, made best jump in Olympic games at Chamonix, France.



This beautiful library has been dedicated to the late J. Pierpont Morgan, by his son, and houses 25,000 rare books, manuscripts and priceless works of art. Collection is valued at \$8,500,000.



President Obregon's Loyalist troops are leaving Mexico City to tame the rebels.



General Leonard Wood, governor-general in the Philippines, spoke at Malolos on the anniversary of the Philippine's declaration of independence from Spain.



In the heart of Montpelier, Vermont, this fire caused the death of eleven people, with nine injured, and a property damage of \$300,000. The flames dangerously threatened the city hall.



Louise Bascom Barrat, and Helena Smith Drayton, are discussing the problem of royalties for their latest book.



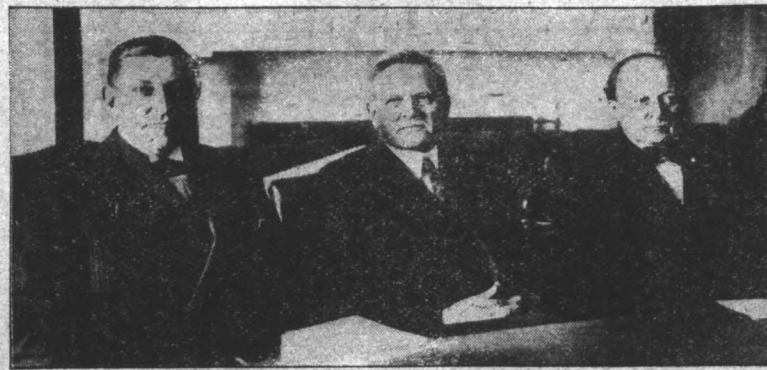
Arthur J. Davis is the new superintendent of Anti-saloon League in New York.



These two men have given the nation twenty-one new citizens, and each served nearly forty years in the postal service.



Olcott Zarn, 16-year-old dog "musher," of Ashton, Idaho, won the Annual National American Dog Derby. He is the youngest driver ever to bring his string of dogs first across the wire.



Senator Lenroot, Wisconsin, (center), chairman of senate's committee investigating naval oil scandals, is conferring with two lawyers just appointed by the President to aid in the probe.

"I've wired the agent at Denver three times about that stuff," came the announcement of the combined telegrapher and general supervisor of freight at the little station. "He's told me that he'd let me know as soon as it got in. But nothin's come yet."

A week more, and another week after that, in which spring taunted the hills, causing the streams to run bank-full with the melting waters of the snow, in which a lone robin made his appearance about the camp—only to fade as quickly as he had come. For winter, tenacious, grim, hateful winter, had returned for a last fling, a final outburst of frigid viciousness that was destined to wrap the whole range country in a grip of terror.

They tried to bobsled, Ba'tiste and Houston, only to give it up. All night had the snow fallen, in a thick, curtain-like shield which blotted out even the silhouettes of the heaviest pines at the brow of the hill, which piled high upon the ridges, and with great sweeps of the winddrifted every cut of the road to almost unfathomable depths. The horse floundered and plowed about in vain efforts at locomotion, at last to plunge in the terror of a bottomless road. They whinnied and snorted, as though in appeal to the men on the sled behind—a sled that worked on its runners no longer, but that sunk with every fresh drift to the main-boards themselves. Waded with clothing, shouting in a mixture of French and English and his own peculiar form of slang, Ba'tiste tried in vain to force the laboring animals onward. But they only churned uselessly in the drift; their hoofs could find no footing, save the yielding masses of snow. Puffing, as though the exertion had been his own, the trapper turned and started down at his companion.

"Eet is no use," came finally. "The horse, he can not pull. We must make the trip on the snowshoe."

They turned back for the bunk house, to emerge a few moments later—bent, padded forms, fighting clumsily against the sweep of the storm. Ghosts they became almost immediately, snow-covered things that hardly could be discerned a few feet away, one hand of each holding tight to the stout cord which led from waist-belt to waist-belt, their only insurance against being parted from each other in the blinding swirl of winter.

Hours, stopping at short intervals to seek for some landmark—for the road long ago had become obliterated—at last to see faintly before them the little box-car station house, and to hurry toward it in a fear that neither of them dared to express to the other. Snow in the mountains is not a gentle thing, nor one that comes by fits and gusts. The blizzard does not sweep away its vengeful enthusiasm in a day or a night. It comes and it stays—departing for a time, it seems—that it may gather new strength and fury for an even fiercer attack. And the features of the agent, as he stared up from the rattling telegraph key, were

The White Desert

By Courtney Ryley Cooper

"Your stuff's on the way, if that's any news to you," came with a worried laugh. "It left Denver on Number 312 at five o'clock this morning behind Number Eight. That's no sign that it's going to get here. Eight isn't past Tollifer yet."

"Not past Tollifer?" Houston stared anxiously. "Why, it should be at the top of the range by now. It hasn't even begun to climb."

"Good reason. They're getting this over there too."

"The snow?"

"Worse than here, if anything. Den-

run them through in a bunch. They'll be all right—if they can only get past Crestline. But if they don't—"

He rattled and banged at the key for a long moment, cursing softly. Only the dead "cluck" of a grounded line answered him. Houston turned to Ba'tiste.

"It looks bad."

"Oul! But eet depen'—on the storm. Eet come this way, near ev' spring. Las' year the road tie up—and the year before. Oh," he shrugged his shoulders, "that is what one get for living in a country where the rail-

—merely for the sake of passing time—to identify the almost hidden buildings of the little town, scarcely more than a hundred yards away. At last the wire opened again, and the operator went once more to his desk. Ba'tiste and Houston waited for him to give some report. But there was none. At last:

"What is it?" Houston was at his side. The operator looked up.

"Denver asking Marion if it can put its snowplow through and try to buck the drifts from this side. No answer yet."

A long wait. Then:

"Well, that's done. Only got one Mallet engine at Marionville. Other two are in the shop. One engine couldn't—"

He stopped. He bent over the key. His face went white—tense.

"God!"

"What's wrong?" The two men were close beside him now.

"Number one-eleven's kicked over the hill!"

"One-eleven—kicked over?"

"Yes. Snowplow. They're wiring Denver, from Crestline. The second plow's up there in the snowshed with a crew. One of 'em's dead. The other's—wait a minute, I have to piece it together."

A silence, except for the rattling of the key, broken, jagged, a clattering voice of the distance, faint in the roar and whine of the storm, yet penetrating as it carried the news of a far-away world—a world where the three waiting men knew that all had turned to a white hell of wintry fury; where the grim, forbidding mountains were now the abiding place of the snow-ledge and the avalanche; where even steel and the highest product of invention counted for nothing against the blast of the wind and the swirl of the tempest. Then finally, as from far away, a strained voice came, the operator's:

"Ice had gotten packed on the rails already. One-eleven tried to keep on without a pick and shovel gang. Got derailed on a curve just below Crestline and went over. One-twelve's crew got the men up. The plow's smashed to nothing. Fifty-three thousand dollars' worth of junk now. Wait a minute—here's Denver."

Again one of those agonizing waits, racking to the two men whose future depended largely upon the happenings atop the range. Far on the other side, fighting slowly upward, was a freight train containing flatcar after flatcar loaded with the necessary materials of a large sawmill. True, June was yet two months away. But months are short when there is work to do, when machinery must be installed, and when contracts are waiting. Every day, every hour, every minute counted now. And as if in answer to their thoughts, the operator straightened, with a little gesture of hopelessness.

"Guess it's all off," came at last. "The general superintendent in Denver's on the wire. Says to back up everything to Tollifer, including the plows, and give up the ghost."

MARCH

William Leonhardt

I wandered through the woods today,
And the forest seemed to sigh;
For I heard the moan, in an undertone,
From the branches up on high.

I saw the crow on the blasted oak,
And he craned his neck to the wind,
Then winged the breeze above the trees
With a cry, to his distant friend.

I journeyed on, o'er logs and leaves,
Froze down, in the icy flow
That covered the roots and tender shoots,
With the drip from the melted snow.

'Twas warm and soft in the sheltered bush

With the sun shafts peeping through,
While the chick-a-dee flew in and out
Where the sap pails hung anew.

But the spring is back, or it seems to be,
When March is born of the ewe,
And its bleak loud blast, we hope soon past
In the tint of an April hue.

And we long for the sight of the bleating lamb,
Of the birds as they pluck and preen,
And we hear on high the wild goose cry
When the woods has a tint of green.

ver reported ten inches at eleven o'clock—and it's fifteen miles from the range. There was three inches when the train started. Lord knows where that freight is—I can't get any word from it."

"But—"

"Gone out again!" The telegrapher hammered disgustedly on the key. "The darned line grounds on me about every five minutes. I—"

"Do you hear anything from Crestline—about conditions up there?"

"Bad. It's even drifting in the snowsheds. They've got two plows working in 'em keeping 'em open, and another down at Crystal Lake. If things let up, they're all right. If not—they'll run out of coal by tomorrow morning and be worse than useless. There's only about a hundred tons at Crestline—and it takes fuel to feed them babies. But so far—"

"Yes?"

"They're keeping things halfway open. Wait a minute—" he bent over the key again—"it's opened up. Number Eight's left Tollifer. The freight's behind it, and three more following that. I guess they're going to try to

road eet chase eetself all over the mountain before eet get here."

"There wouldn't be any chance at the tunnel either, would there? They haven't cut through yet."

"No—and they won't finish until June. That is when they figure—"

"That's a long way off."

"Too long," agreed Ba'tiste, and turned again toward the telegrapher, once more alert over a speaking key. But before it could carry anything but a fragmentary message, life was gone again, and the operator turned to the snow-caked window, with its dreary exterior of whirling snow that seemed to come ever faster.

"Things are going to get bad in this country if this keeps up," came at last. "There ain't any too great a stock of food."

"How about hay for the cattle?"

"All right, I guess. If the ranchers can get to it. But that's the trouble about this snow. It ain't like the usual spring blizzard. It's dry as a January fall, and it's sure drifting. Keeps up for four or five days; they'll be lucky to find the haystacks."

For a long time then, the three stood looking out the window, striving

AL ACRES—Tin Henry Puts A Lot of Pep in His Post Setting

By Frank R. Lee



"Give it up?" Houston stared blankly at the telegrapher. "But that's not railroading!"

"It is when you're with a concern that's all but broke," answered the operator. "It's cheaper for this old wooden-axe outfit to quit than to go on fighting—"

"That means six weeks eef this storm keep up two days longer!" Ba'tiste broke in excitedly. "By tomorrow morning, ever' snowshed, he will be bank full of snow. The track, he will be four inches in ice. Six week—this country, he can not stand it! Tell him so on the telegraph! Tell him the cattle, he will starve! Peuff! No longer do I think of our machinery! Eef it is los'—we are los'. But let eet go. Say to heem nothing of that. Say to heem that there are the cattle that will starve, that in the stores there is not enough provision. That—"

"I know. I'll call Denver. But I don't know what chance there is—the road's been waiting for a chance to go into bankruptcy, anyway—since this new Carlow Point deal is about through. They haven't got any money—you know that, Ba'tiste. It's cheaper for them to shut down for six weeks than to try to keep running. That fifty thousand they lost on that snow-plow just about put the crimp in 'em. It might cost a couple of hundred thousand more to keep the road open. What's the result? It's easier to quit. But I'll try 'em—"

He turned to the key and hammered doggedly. Only soggy deadness answered. He tested his plugs and tried again. In vain. An hour later, he still was there, fighting for the impossible, striving to gain an answer from vacancy, struggling to instill life into a thing deadened by ice, and drifts, and wind, and broken, sagging telegraph poles. The line was gone!

CHAPTER XIX.

UNTIL dusk they remained in the boxlike station, hoping against hope. But the whine and snarl of the wind were the only sounds that came to them, the steady banking of the snow against the windows the only evidence of life. The telegraph line, somewhere between Tabernacle and the country which lay over the bleak, now deadly range, was a shattered thing, with poles buried in drifts, with loose strands of wire swinging in the gusts of the blizzard, with ice coated upon the insulations, and repair—until the sun should come and the snows melt—an almost impossible task.

"It'd take a guy with a diving suit to find some of them wires, I guess," the operator hazarded, as he finally ceased his efforts and reached for his coat and hat and snowshoes. "There ain't no use staying here. You fellows are going to sleep in town tonight, ain't you?"

There was little else to do. They fought their way to the rambling boarding house, there to join the loafing group in what passed for a lobby and to watch with them the lingering death of day in a shroud of white. Night brought no cessation of the wind, no lessening of the banks of snow which now were drifting high against the first-story windows; the door was only kept in working order through constant sallies of the bent old boarding-house keeper, with his snow shovel.

Windows banged and rattled, with a muffled, eerie sound; snow sifted through the tiniest cracks, spraying upon those who sat near them. The old cannon-ball stove, crammed with coal, reached the point where dull red spots enlivened its bulging belly; yet the big room was cold with non-detectable drafts, the men shivered in spite of their heavy clothing, and the region outside the immediate radium of the heater was barn-like with frigidity. Midnight came, and the group about the stove slept in their chairs, rather than undergo the discomfort and coldness of bed.

Morning brought no relief. The storm was worse, if anything, and the

boarding-house keeper faced drifts waist-high at the doorway with his first shoveling expedition of the day. The telegrapher, at the frost-caked window, rubbed a spot with his hand and stared into the dimness of the flying snow, toward his station.

"Guess I'll have t' call for volunteers if I get in there today. We'll have to tunnel."

Ba'tiste and Houston joined him. The box car that served as a station house—always an object of the heaviest drifts—was buried! The big French-Canadian pulled at his beard.

"Peuff! Eet is like the ground hog," he announced. "Eet is underground already."

"Yeh. But I've got to get in there. The wire might be working."

"So? We will help, Baren and Ba'teese. Come—we get shovels."

Even that was work. The town simply had ceased to be; the stores were closed, solitude was everywhere. They forced a window and climber into the little general merchandist establishment, simply because it was easier than striving to get in through the door. Then, armed with their shovels, they began the work of tunneling to the station. Two hours later, the agent once more at his dead key, Ba'tiste turned to Houston.

"Eet is the no use here," he announced. "We must get to camp and assemble the men that are strong and willing to help. Then—"

"Yes?"

"Then, eet will be the battle to help those who are not fortunate. There is death in this storm."

Again with their waist-belt guide lines, they started forth, to bend against the storm in a struggle that was to last for hours; to lose their trail, to find it again, through the straggling poles that in the old days had carried telephone wires, and at last to reach the squat, snowed-in buildings of camp. There Ba'tiste assembled the workmen in the bunk house.

"There are greater things than this now," he announced. "We want the strong men—who will go back with us to Tabernacle, and who will be willing to take the risk to help the country-side. Ah, oui, eet is that danger that is ahead. How many of you will go?"

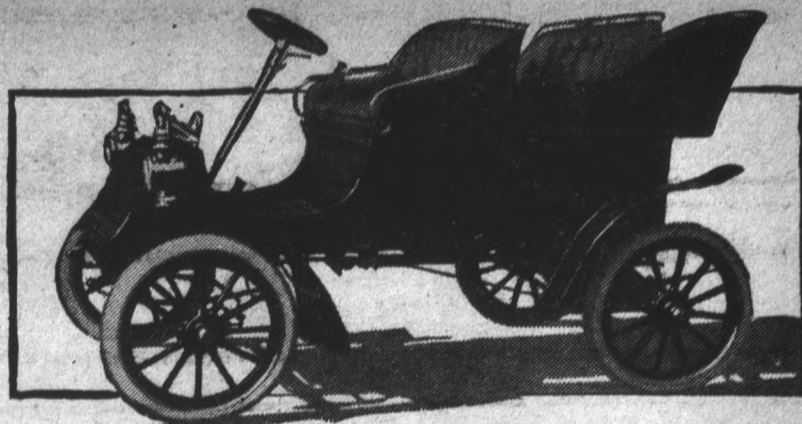
One after another they reached for their snowshoes, silent men who acted, rather than spoke. A few were left behind, to care for the camp in case of emergencies, to keep the roofs as free from snow as possible and to avoid cave-ins. The rest filed outside, one by one, awkwardly testing the bindings of their snowshoes, and awaiting the command. At the doorway, Ba'tiste, his big hands fumbling, caught the paws of Golemar, his wolf-dog, and raised the great, shaggy creature against his breast.

"No," he said in kindly, indulgent fashion. "Eet is not for Golemar to go with us. The drift, they are deep. There is no crust on the snow. Golemar, he would sink about his head. Then bloeey! There would be no Golemar!"

Guide lines were fixed. Once more, huddled, clumsy figures of white, one following the other, they made the grueling trip back to Tabernacle and the duties which they knew lay before them. For already the reports were beginning to come in, brought by storm-weakened, blizzard-battered men, of houses where the roofs had crashed beneath the weight of snow, of lost ranchmen, of bawling cattle, drifting before the storm—to death. It was the beginning of a two-weeks' siege of a white inferno.

Little time did Barry Houston have for thought in those weeks. There were too many other things to crowd upon him; too many cold, horrible hours in blinding snow, or in the faint glare of a ruddy sun which only broke through the clouds that it might peer at the stricken country beneath it.

Continued next week.



This 1904 Ford cost \$900

How would you have lubricated a FORD like this one?

A 1904 Ford advertisement featured the "8 H.P. Double-Op-posed Motor" and "Double Tube Tires."

In 1904 (as in 1924) one "oil company" stood out among the rest for its specialization in lubrication and its skill in producing and specifying the correct oil for the various types of motors.

The Ford owner who wrote to the Vacuum Oil Company in 1904 for advice on lubrication would have received in reply a recommendation based upon a careful study of the Ford "8 H. P. Double-Op-posed Motor."

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The character and the quality of Gargoyle Mobiloil "E" have been imitated. Even the name has been imitated. But Gargoyle Mobiloil "E" has never yet failed to prove its superiority when subjected to fair comparative tests.

This statement you will prove for yourself when you drain off your old oil and refill your Ford crank-case with Gargoyle Mobiloil "E."

Tractor Lubrication

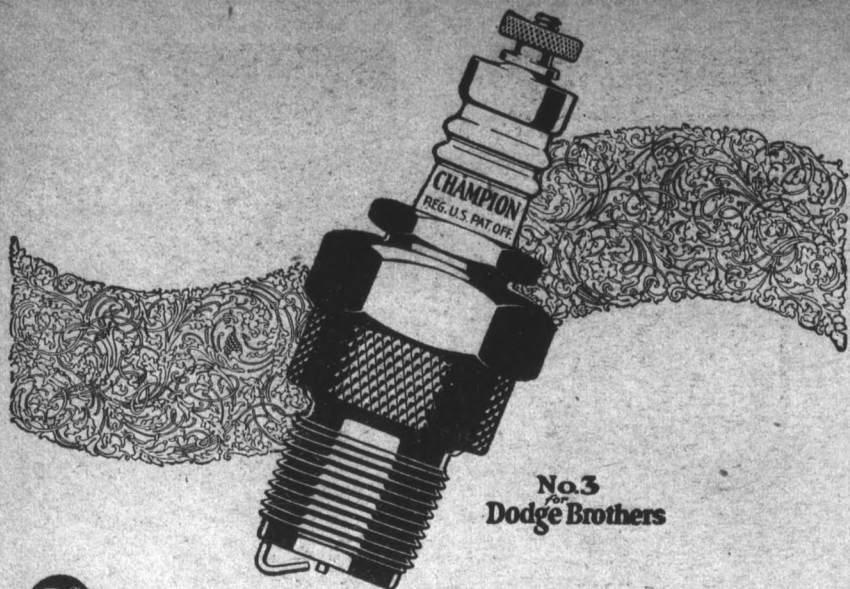
The correct engine lubricant for the FORDSONTRACTOR is Gargoyle Mobiloil "BB" in summer and Gargoyle Mobiloil "A" in winter. The correct oil for all other tractors is specified in our chart. Ask for it at your dealer's.

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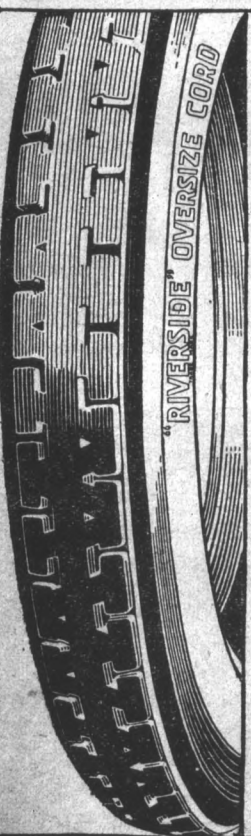
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The Shepherd--King

Our Weekly Sermon—By N. A. McCune

ALL live stock men ought to love David, for he speaks their language. All military men should read his life and his poems, for he was a warrior bold in the days when soldiers could not hide in a smoke screen. All lovers of the great outdoors should refresh themselves with his nature psalms, for did he not write, "The heavens declare the glory of God," and, "The voice of Jehovah is upon the waters, the God of glory thundereth?" All Christians should keep in touch with his flaming words of repentance, written after he had been rescued from the pit of destruction. Naturally music lovers know of David, for he was a musician and his songs have been sung by more people than those of any other writer.

Look at him as an adventurer. Few men come onto the scene of action in a more picturesque fashion. A ruddy-faced boy, he appears at the army where older brothers are serving. He is given a sound scolding in thorough-going big brother style.



(Big brothers still like to do it). It does not faze him, however, and he fails to go home. The Goliath adventure immediately follows, and David's fame and fortune are made. It is not all glory, however, for the king becomes insanely jealous of his victory, and resolves to make an end of him. Nevertheless, we may be morally certain that the young shepherd enjoyed his popularity to the full. He had attained without realizing it what half the men of America dream of at night, and spend millions to get—publicity. And he deserved it. Any country lad who dared what he dared that fateful day, as the Philistine giant roared his curses at him, merits whatever reward he may receive. Could any writer describe this event more graphically than the Bible? The giant is dead, killed with a sling-shot: "but there was no sword in the hand of David. Then David ran, and stood over the Philistine and took his sword, and drew it out of the sheath thereof, and slew him, and cut off his head therewith. And when the Philistines saw that their champion was dead, they fled." But David's adventures were only beginning.

AS I said before, King Saul did not glory in the popularity of his subject. Kings used to have a way of getting rid of over-popular heroes, until in our day the heroes have gotten rid of the kings. David had to flee for his life. He became a fugitive, at the head of a band of unshaven desperadoes, who got their living by methods which we could not recommend to youths about to graduate from high school. At one time the future king's case was so desperate, and his pursuers were so close on his heels that he went to an enemy city and feigned himself crazy to get taken care of. But the spirit of chivalry never left him. Certain high principles always made themselves felt. One night he found the king in his power. A stroke, and David could have killed him. Moreover, his followers urged that he do so. "Just one thrust," said they, "will be enough." But no. That would never do, for was not Saul the anointed of the Lord? To strike at him would be like striking at God. A man with a high sense of what our fathers would call the divine majesty will be saved from many evil deeds. The wave of swearing which now spreads everywhere is due to the fact that we have forgotten who God is. The use of the name of Christ in oaths is particularly reprehensible as it uses in curses Him who was the world's blessing and its

only source of life. A certain factory retains no man in its employ who is overheard using the name of Christ in profanity. Would there were more such. This high appreciation of the Name of the Deity was a characteristic of David. He never lost it but once.

THE bright star in the black sky of David's days of persecution and vagabondage was his friendship with Jonathan. Was any friendship ever deeper, or has it ever been more beautifully described? "The soul of Jonathan was knit with the soul of David, and Jonathan loved him as his own soul. Then Jonathan and David made a covenant, because he loved him as his own soul." Long after, when Jonathan had been killed in battle and David had become king of the united nation, he kept his old friend's crippled son in the royal household, as a memorial of the old attachment. I have a feeling that such friendships never are broken, but continue throughout the ages.

Of course, it was inevitable that David should be king. Who else was as admired, as widely known, or as bold in battle? With him began the golden days of the Hebrew people. For a thousand years the nation looked back to the reign of the shepherd-musician as one looks back on a glorious sunrise. Even the Messiah was supposed to sit on the throne of David. The first act of the new administration was to bring the ark up to the capital city. It was a memorable occasion. The crowds caught the spirit, and the king "danced before the Lord with all his might." The twenty-fourth psalm was probably written for this event. As the procession neared the city gates a chorus pealed out, "Lift up your heads, O ye gates, and be ye lifted up, ye everlasting doors, and the King of Glory will come in." Another chorus replied, "Who is this King of Glory?" and the first chorus comes back, "Jehovah, strong and mighty, Jehovah mighty in battle."

The last years of the great king were clouded in trouble. One son murdered another, and the rebellion of Absalom showed how cruel ambition can be, when it buries its fangs in an aged father. The death of the conspirator was, however, the worst body blow the king ever received. It hurt him more than the fact of his son's rebellion. He loved the sinner in spite of his sin. "O my son Absalom," he moaned, "would I had died for thee, O Absalom, my son, my son!" This is as different from the ordinary attitude of ancient kings toward seditious sons as prize fighting is different from love making. He thought of the spiritual tragedy of his son rather than the crime against himself.

HOW could this man be guilty of adultery and murder? How do good men in our day suddenly lapse into the blackest deeds? It is always hard to explain. There is secret desire and the mental dwelling on the thing we would like to do. Perhaps the conditions for committing the evil deed suddenly become favorable, and lo! ere we realize it, we are guilty of something we had never really expected to do. "Each man is tempted, when he is drawn away by his own lust and enticed. Then the lust, when it hath conceived, beareth sin: and the sin, when it is full grown, bringeth forth death." It is hard to improve on St. James's description. "Let no man gloat over another's fall, lest he himself get mired in the same bog."

SUNDAY SCHOOL LESSON FOR
MARCH 16.

SUBJECT:—The Reign of David. I Sam. 16 to II Sam. 24.
GOLDEN TEXT:—I delight to do Thy will, O my God, Ps. 40:8.

Rural Health

By Dr. C. H. Lerrigo

MEASLES HERE!

THE child who has contracted measles will probably break out with the rash fourteen days after the time of exposure. But he will show the first signs of illness three or four days before the eruption appears, and as this pre-eruptive stage is one of the most critical periods of the child's illness he must be under careful supervision from the very start. Nine or ten days after exposure the child who has contracted measles will begin to show signs of "a cold."

If the little one develops a cough, running nose, and watery eyes, keep him at home in a room that is just comfortable, neither too hot nor too cold. If he has fever keep him in bed. If the trouble is measles the rash will probably come out in four days, but bear in mind that this is not a rule without exceptions. I have seen cases in which the rash has delayed a full week without the child being the worse for the delay.

The rash of measles is first detected inside the mouth and throat. You may see it on the soft palate and the mucous membrane of the cheeks thirty six hours before it comes on the skin. When it breaks out it generally begins on the face and around the ears and is blotchy instead of uniform. A fine, uniform rash appearing first on the chest, indicates scarlet fever, but a blotchy, rough looking rash that comes out first on the face and has with it some swelling around the eyes is almost sure to be measles.

Do not make the mistake of shutting all air and light out of the room. Keep the room at a temperature of about 70 degrees. Shade the windows enough to remove strain from the eyes but do not make the room really dark. Be careful to see that the patient does not face a window. Do not make him uncomfortably warm by too much bedding. All that is needed is to keep the skin at a comfortable temperature. Remember that the great complication of measles is broncho-pneumonia and when you overheat your patient you are giving that disease an invitation.

In the ordinary cases the rash goes away about as quickly as it came—three or four days. The fever comes up just preceding the outbreak of the rash and drops as it becomes fully developed. In a week the patient may be up in a warm room if all has gone well. It is always well to have medical care for measles but is especially important if complications occur.

HAS BARN YARD ITCH.

In caring for a cow that had what I know now to have been barn yard itch, I got the same. I have tried different prescriptions from the doctor which seem to help but more comes. Have been troubled with it over three years. Can you prescribe a cure.—Mrs. A. L. S.

Thoroughly clean all scabs and crusts by scrubbing the parts with strong soapsuds and then apply sulphur ointment. Be careful to put on all clean underclothing and give no chance of becoming reinfected.

HAS BLADDER TROUBLE.

I am a man of 65 and in perfect health excepting some bladder trouble. It gets me up at night and spoils my rest. Would it be advisable to have my urine examined.—K. J.

It would be a good thing to have the urine examined as it might reveal some unsuspected trouble. Most cases of disturbance of this nature in men past middle age are due to some enlargement of the prostate gland. This gland lies in very close relation to the neck of the bladder and when it be-

comes inflamed or enlarged it causes just such irritation as you mention. Sometimes it will yield to medical treatment. In others a surgical operation is necessary. When one considers the disturbance to health that it causes any measure that will bring relief is justifiable.

HAS PIMPLES ON FACE.

What can a person do for pimples and small sores on the face of a boy of 15. We have given him blood medicine and it does not seem to do any good.—T. P.

Blood medicine would not be likely to do any good. This is a trouble called acne, very common in young people at puberty and for a few years thereafter. A very helpful measure is taking a cold bath all over the body, followed by a brisk rub with coarse towels, every morning. This increases the activity of the whole skin and is very beneficial. Diet is an important factor. Candy and sweetstuffs, rich cream and fats should be cut out of the diet. Much outdoor exercise should be taken. In very stubborn cases an antogenous vaccine often helps.

BLOOD PURIFIER.

What would you recommend as a good blood purifier and enricher to help me to get rid of pimples and blackheads?—Bettie.

You will have better success doing this by changing your diet and personal habits. Pimples and blackheads are very common complaints with young people and do not indicate poor blood, but are symptoms of disturbance of the excretory glands of the skin. It is always well for the patient to practice an abstemious diet, especially in regard to fats and sweets. It is also necessary to keep the bowels active by eating fresh fruit and vegetables and drinking plenty of fresh water. The skin of the whole body must be kept vigorous in circulation. This may be encouraged by taking a sponge bath every morning, followed by a brisk rub with a rough towel, until the skin of the whole body is in a good glow. These measures are not so easy as taking medicine, but are much more effective, as well as cheaper.

HIGH BLOOD PRESSURE.

My husband is eighty years old, and an old soldier. He is pretty well, with the exception of sudden spells that take him without any warning; then he breathes hard, his arms and limbs shake, and jerk fearfully some times. They last a minute, sometimes five; in five, he seems a little bewildered when it is over. I will appreciate it very much if you will tell us what you think it is, and what we can do.—M. N.

Such conditions as you name are not susceptible of cure at this late stage. They are due to brain changes which are very likely induced by a high blood pressure. In a younger person, epilepsy would be suspected, but this is not true epilepsy. A very light diet should be insisted upon. Free action of the bowels every day is required. The patient should do nothing that calls for straining or unusual effort, neither should he undertake anything that entails stooping. He should avoid exposure to the sun's rays in hot weather, and avoid public gatherings, crowds, and excitement of any kind. Aside from these restrictions, let him be as comfortable in every way as possible.

For removing grease stains from the wall paper, crush magnesia carbonate and apply it to the spots. In twenty-four hours the stains will have disappeared.



Why you should insist on *hand-made* rubber footwear

TOP NOTCH Rubber Footwear is made for hard service. From light rubbers to heavier weight boots and arctics, every pair is built up by hand just as carefully as fine custom-made shoes. This hand-made process of manufacture enables us to strengthen places where the greatest wear comes, without excessive weight or clumsiness.

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Top Notch Rubber Footwear is made in all styles and sizes for men, women and children. It costs no more than ordinary rubber footwear and often gives you double the wear. It will pay to patronize the dealer in your neighborhood who carries the Top Notch brand. He is interested in your pocketbook as well as his own.

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Woman's Interests



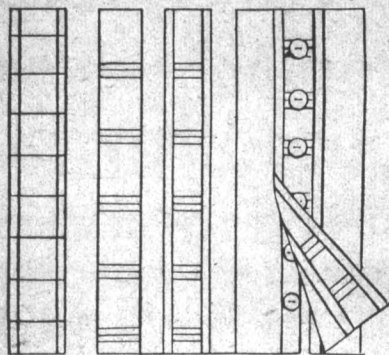
Make Buttonholes the Easy Way

It Will Save Time and Patience, Also Add to the Attractiveness of the Frock

BUTTONHOLES are bugbears." So you've said to yourself several times. Their making oftentimes takes as much time as it does to make the whole garment in any other detail.

The Sunday silk frocks, the winter woolens, and the dainty summer dresses can be finished with invisible closings, but children's clothes seem

to be made on the shoulders of your kitchen aprons. After the pieces are laid together with the bound edges just touching, the outer edge is rounded, making it possible to bind around the curve. On the shoulders of underwaists, bungalow aprons, or down the front of nightgowns, I have found these buttonholes quite satisfactory and a great time-saver.



Showing the Different Steps.

to demand buttons and buttonholes. Snaps will answer the purpose in some cases, but they are invariably coming undone. Children can be taught quite readily to dress themselves if their clothing is finished with buttons and buttonholes, but the snaps seem to be a mystery to them.

Buttons and buttonholes are also essential in nightgowns and work aprons and the kind illustrated above is as readily adapted to them as to children's garments.

These bound buttonholes are simple to make if you utilize your machine attachments. They wear well, look attractive and save much time in finishing a garment. If the buttonholes are bound in checked or contrasting color, they are even more fetching.

If you do not buy the folded bias binding, it may be made at home with the aid of the cutting gauge attached to the scissors. In making these bound buttonholes, the binder is substituted for the pressure foot. The bias binding is inserted in the binder. Next cut a strip of material the width that the buttonholes are to be apart, usually about two inches. Bind this strip on each side with the bias binding, and cut into pieces one-half-inch longer than the width of the buttons you are going to use.

It is sometimes best to stitch the row of buttonholes and bind, ready to be sewn on the garment. To save time, the pieces may be placed together on the garment in such a way as to bind the strip and the garment at the same time, putting two raw edges under one seam.

This method of making buttonholes may be used on most any romper pattern, but is particularly adapted to the romper pattern illustrated here. You may obtain this pattern through our Pattern Service Department, for twelve cents, in two, three, four and five-year sizes. A three-year size requires two and three-eighths yards of twenty-seven-inch material.

This same style of buttonhole can

THE COST OF CHARM.

DIFFERENT reformers of one sort and another were very much excited recently when the treasury department reported that American women spend on an average of seventy million dollars a year for cosmetics. Considering this as a lump sum, it seems large. But when calculating it with the population, it gets down to more reasonable figures.

It is a poor nation that cannot afford to spend two dollars per each feminine head for soaps, scents and the various other beautifiers. The well-kept woman is always admired and every husband takes pride in a well-kept wife. The lavish use of these cosmetics is vulgar, but when the

right amount is used to increase the charm, the result is an addition to every woman's personal appearance.

Let's hope that next year the price is doubled that the charm may be doubled.

PORK CAKE.

1 lb. fat pork	1 lb. currants
2 cups boiling water	1/4 lb. citron
2 cups brown sugar	2 cups nutmeats
1 cup molasses	4 tb. strong cold coffee
1 tb. cloves	3 tsp. baking powder
1 tb. nutmeg	1/2 lb. soda
2 tb. cinnamon	8 cups flour
1 lb. raisins	1 tb. vanilla

Take rind off and cook pork twenty minutes in two cups of boiling water

and be sure and have two cups when cooked. Chop meat fine and let cool.

Mix fruit with one cup of flour. Mix and sift remaining flour with baking powder and soda.

Add fruit and spices to sugar and molasses combined with fat and water. Add coffee and vanilla. Mix well and stir in flour and nuts.

Turn into a large pan lined with buttered paper and bake in a slow oven for two and one-half hours. This is a cheap, delicious cake. It is fine to have on hand and serve with a sauce as pudding.

The Wall Needs a Picture

There is nothing like a picture

To bear us miles away,
To whisk us off to Greenland,
To Spain or to Cathay
And show us all the wonders
With no bills or tips to pay.

—Henry Turner Bailey.

WHEN walls are bare, a room will always seem dull. Good pictures give a home-like and not merely a houselike appearance to walls. They are a high interpretation

of the simplest truths and most commonplace things of life. To stimulate a love of and a knowledge of good pictures in a child is doing much toward rounding out its life.

It means much to ourselves, our family and to our friends, who visit us, to have good pictures, and, like all good things, pictures are made to be shared. We can give pictures to others as gifts at all seasons of the year and gladden and mature their lives by doing so.

Over good pictures one can ponder and study them and look upon them many times—discovering new excellencies and new beauties each time.

It is not a normal person, when we find someone who does not like good pictures. But often such a person has not been roused to an appreciation of what pictures have to give to enrich their life.

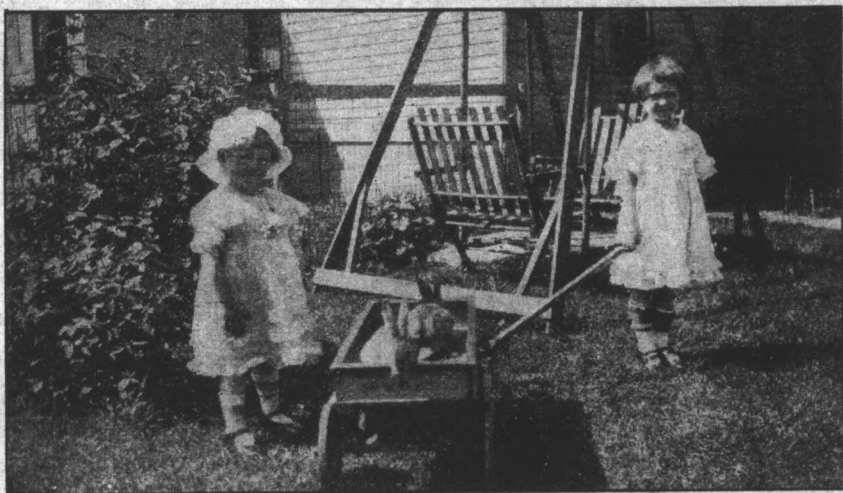
Pictures make our lives much more restful and colorful, and together with books and music, have the power to turn a house into a home. They create an oasis of beauty and great peace in a restless world. A good picture is not an expenditure in any real sense, but an investment which pays large dividends, while retaining the principal almost intact. The right kind of pictures creates a new atmosphere in any sort of room, and has the ability to let us live in its world of beauty, if we choose to.

It was a great pleasure, when a child, to go to the walls bearing the best pictures of the home and bidding them good-night before I went to bed. And often I thanked them ever so gratefully that they yielded me so much beauty and pleasure. When I travel, the first thing I look for in a hotel room are pictures on the walls. If they are of good taste, my stop is much more pleasant and less lonely.

Since there are hundreds of thousands of prints of good pictures, many of which may be had for fifty cents, the writer will be glad to answer inquiries about them if a stamped, addressed envelope is sent and will endeavor to locate the pictures that will meet your needs.—Mrs. P. Ward.

WHEN STRINGING BEADS.

Have you ever broken your string of graduated beads and lamented the difficulty of again getting them into proper order? If you will lay your beads on a piece of corrugated paper, you will find the task of arranging them very easy.



Taking the Bunnies Joyriding. A Prize Winner.

Play a Part in Music Week

LONGFELLOW once said, "Show me a home where music dwells and I shall show you a happy, peaceful and contented home." Music in the home is a comfort, a stimulus and a nerve-steadying force that helps to link the family group closer around the fireside.

To the tired body and weary mind, an hour spent listening to some soul-satisfying music does much to alleviate the cares and worries of a busy day. It will carry the thought above the commonplace things of life and inspire one to deeper and nobler thoughts. It will relax the nerves and aid in putting the mind at rest.

In recognition of the great part that a love of music plays in our life and our community, May 4 has been appointed as National Music Week. It is hoped to intensify, during this one week, the habitual use of music throughout the year.

Here an opportunity presents itself for musically interested persons to do their part in creating a greater interest in music in their community. For those interested in women's clubs, the entertainment for May might be a specially prepared musical program.

Rural churches have an important role to play in music week, that of ushering in the celebration with special sermons on music, ringing of church bells and special musical services with congregational singing featured.

Most readily organized form of rural participation is a community sing at some center of communal life, such as the community house, the church, or the school. It is indeed possible to have a successful sing in the parlor of a farmhouse. Households having no piano or other musical instrument may invite the neighbors in to "listen in" over the radio to the special Music Week programs that are now being prepared.





FOR a lame back, stiff neck or any muscular strain, Gombault's Balsam is the remedy you can depend upon to give relief that's quick and sure.

It's equally effective for cuts, bruises, sore throat, bronchial cold, muscular or inflammatory rheumatism, sciatica or lumbago. One application drives out pain in a hurry.

Safe, healing, antiseptic—Gombault's Balsam has been the standby in many households for over forty years. No need to suffer if you keep this reliable liniment always on hand.

\$1.50 per bottle at druggists or direct upon receipt of price.

AS A VETERINARY LINIMENT Gombault's Balsam also is the remedy which years of use have proved effective and safe for most horse ailments. Keeps your horses sound and working. The Lawrence-Williams Co., Cleveland, Ohio.

GOMBAULT'S BALSAM

HEALING and ANTISEPTIC

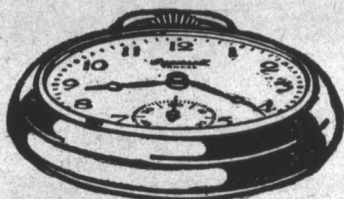


Ingersoll

IT IS interesting to test an Ingersoll by checking its timekeeping precision, day after day, against the running of the country's fast trains.

Such a test would convince you of the reliance you can place on an Ingersoll watch. Ingersolls though not split-second will get you where you want to be ON TIME.

Models \$2.00 to \$10.00



Reliable Watches at Low Prices



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Write for FREE Money-Saving Book

Save 1/4 to 1/2 on your stove, range or furnace. Order direct from manufacturers. More than 500,000 Kalamazoo customers have done it. Get highest quality, too—24 hour shipments. 30 days' trial. Cash or easy payments. Quick, safe delivery. Satisfaction guaranteed or your money back.

Over 200 stove and range designs in our new catalog—new porcelain enamel, cast iron, steel, malleable, all kinds and sizes. Oil Ranges, Refrigerators, Furnaces, too. Send no money—just your name.

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Patents

Write today for free instruction book and Record of Invention blank. Send sketch or model for personal opinion. CLARENCE A. O'BRIEN, Registered Patent Lawyer, 651 Security Savings & Com'l Bank Bldg., directly across St. from Patent Office, Wash., D. C.

MICHIGAN HOUSEWIVES PREFER SEALED PAPER PACKAGES.

THE score of letters received in the contest this week regarding the problem of purchasing food in the bulk or in sealed paper packages balanced the scales on the side of the sealed paper packages. In fact, they tipped them to a very decided angle. There were only twenty-six per cent who preferred to buy food in bulk, their main argument being the economy, not the quality of the food. Two of the leading letters follow here; the others will appear next week.—Martha Cole.

Quality is Best.

Undoubtedly some of us can remember when we took the molasses jug, all wiped nice and clean, to the grocery store, and after it had been filled we watched the groceryman wrap a sheet of paper deftly around his hand, fold up the tip and fill it with pepper from the red cannister with a landscape upon its facade (or was it a beautiful actress)? About here he always sneezed.

Tea, sugar, rice and such he made into packages by laying a sheet of paper on the scales and weighing out the amount you wanted, folded over the two sides and then the ends, and tied it with store string.

Time was when the wooden plate was the last word, but now is the day of attractive cartons and gummed paper sacks. Do we like it better? Of course. One has such a nice respectable, exclusive feeling when opening the artistic packages.

Perhaps our joy in the transaction is somewhat clouded when we remember that as the consumer we must pay the artist, the lithographer, the box maker, the packers, over and above what the food itself cost. Is it worth the price to us? The artistry is mostly in interest of competition, the use of sealed packages are a great saving to the merchant. What we get is the margin of difference in the quality of goods over that we get in bulk.

If we wish to take advantage of the cleaner and better protected way of handling food, we will buy in the largest possible amounts or rather, containers. On the farm where the quantity of material needed can be pretty closely estimated, it is economy to buy in wholesale lots. The groceryman will usually make a price for large amounts that will mean a distinct saving.—Mrs. I. K., Tecumseh, Mich.

Several Reasons Why.

I have several reasons for liking the present sealed package way of buying food. First, it is the way to better health, the package being sealed keeps the food from dust and insects in the store and also in the home. This cannot be possible in food bought in bulk.

Second, this sealed package way is a money-saver to the groceryman who needs less help in handling his goods. To the purchaser because it avoids waste of food. The packages are usually durable and seldom get broken.

Third, the sealed package keeps the food fresh and at the right degree of moisture, as when packed.

Fourth, in the home the cupboard has an attractive and neater appearance, and more room when we use the sealed paper packages.

Fifth, as a time saver, this new sealed paper way is indispensable. As they are always labeled, you can tell at a glance without looking in each package whether you are getting oat meal, sugar or laundry supplies.—Mrs. S. K., Milan, Mich.

A happy home is the single spot of rest which a man has upon this earth for the cultivation of his noblest sensibilities.—F. W. Robertson.

The color put into a girl's cheeks by milk and leafy vegetables rarely rubs off.



"Standard" PLUMBING FIXTURES

"Standard" kitchen sinks "yardstick high" provide comfort and prevent backstrain. How high is yours?

Standard Sanitary Mfg. Co., Pittsburgh

Write for Catalogue

Color Your Butter

"Dandelion Butter Color" Gives That Golden June Shade which Brings Top Prices

Before churning add one-half teaspoonful to each gallon of cream and out of your churn comes butter of Golden June shade. "Dandelion Butter Color" is purely vegetable, harmless, and meets all State and National food laws. Used for 50 years by all large creameries. Doesn't color buttermilk. Absolutely tasteless. Large bottles cost only 35 cents at drug or grocery stores.

Wells & Richardson Co., Burlington, Vt.

14 1/2¢ YARN

per oz.

Buy Peace Dale yarns direct from mill. Big money saving! Many beautiful kinds for only 14 1/2¢ to 27¢ per oz. Unusual range of colors—from the most brilliant to delicate pastel shades. Soft, smooth, long-wearing. Send for 120 free samples and get details of special discount offer. Satisfaction guaranteed. Peace Dale Mills, Dept. 814 26 Madison Avenue, New York City.

Peace Dale KNITTING YARNS

FARMS AND FARM LANDS FOR SALE

PAY NO ADVANCE FEE; don't give option or tie up real estate for any kind of contract without first knowing those you are dealing with are absolutely honorable, responsible and reliable.

Wanted Farms I can exchange your farm stock and tools for modern singles or flats. Write or call Hickory 6563-M. Wm. H. Learmont, 2186 Marlborough Ave., Detroit, Mich.

\$700 Secures 300 Acres with 10 Cows, Horses, Furniture

Poultry, crops, tools, implements; money-making farm all around; near live R.R. town; dark loam tillage, brook-watered pasture; big profits from wood and timber; apple orchard; 7-room house, running water, 20-cow barn, silo, 50-ft cow barn. Owner called away. All \$4,400, only \$700 needed. Details and village poultry farm only \$400 cash page 26 Big Illus. Bargain Catalog money-making farms, best sections United States. Copy free. STROUT FARM AGENCY, 205BC Kresge Bldg., Detroit.

For Quick Sale 80 Acres, tiled, fenced soil, 12-room house, hardwood floors, basement, 3 porches, shade. Big cement basement barn and other buildings, windmill and orchard, 6 miles from town, good schools and churches. \$5,500.00 with good terms. For particulars address, C. H. RIDGLEY, Whittemore, Mich.

Florida and Prosperity

10 ACRES—\$25 cash, \$25 monthly. (\$80 per acre.) Choicest Indian River Fruit land, including Palm City building lot and share in hotel. Write for particulars and bank references, today. E. W. CLEVELAND, Palm City, Palm Beach Co., Florida.

HOMESTEAD FOR SALE Price attractive. 120 miles from Tecumseh, Michigan. Big brick house suitable for Overnight Inn. Fine location for Roadside Stand. Land will grow anything. Write Mrs. C. A. Payne, Watkins, N. Y.

For Sale Eighty-acre farm, Saginaw Co., equipped. Near payment. Best soil and markets. Price \$6,500; \$2,000 down. S. L. BIGFORD, Genesee Bank, Flint, Mich.

Would you Buy a Home? With our liberal terms. White people only, good land, healthy progressive country. Write for list. Mills Land Co., Booneville, Ark.

IF YOU WANT TO LIVE in California write Kings County Chamber of Commerce, Hanford, California, for free booklet.

80 Acres Newaygo Co., Good farm home. For particulars address—Alex K. Martin, 9783 American, Detroit, Phone Gar. 1559-R.

GET CATALOG OF SPRING STYLES.

Send fifteen cents in silver or stamps for our up-to-date spring and summer 1924 book of fashions, showing color plates and containing 500 designs, of ladies', misses' and children's patterns, also explanations on dress-making and needlework. It will help you with your spring sewing.—Michigan Farmer Pattern Department, Detroit, Mich.

Montgomery Ward & Co. Wall Paper

3¢
per
single
roll

**Sample
Book FREE**

You, too, may as well save from one-third to one-half on YOUR wall paper.

Ward's paper is not cheap paper. It is all standard quality, made lower in price by manufacturing in immense quantities.

Think of papering an entire room 10 x 12 feet, side walls, border and ceiling, for only 82 cents.

Choose your paper from actual free samples of all the newest, best patterns—tapestries, fabrics, "all-overs" and stripes. Prices from 3 cents to 35 cents per single roll.

Sample Book Free—Over 100 Actual Samples

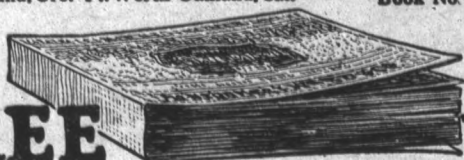
This sample book will go into over one million homes. Why not into your home, too? Why not see the best new patterns and save one-third to one-half? Why pay almost double for your paper? Write today for your copy of this free book of wall paper samples.

Address Our House Nearest You.

MONTGOMERY WARD & CO.

Chicago Kansas City St. Paul
Portland, Ore. Ft. Worth Oakland, Cal.

Write today for
Free Wall
Paper Sample
Book No. 37-W



Use this department to help solve your household problems. Address your letters to Martha Cole, Michigan Farmer, Detroit, Michigan.

TO WHITEN PIANO KEYS.

Please tell me what to do to whiten piano keys that have become yellow.—Mrs. A. R.

Wash the keys carefully with a clean flannel dipped in alcohol. Be very careful not to get the alcohol on the woodwork as it will spoil the varnish. Or you might use milk if you do not have the alcohol. After washing with the milk, polish with a clean flannel.

CARE OF GOLDFISH

My children have had two little goldfish given to them. Can you tell me something about how to take care of them?—Mrs. F. A. E.

Goldfish should be kept in a glass bowl and the water changed at least once or twice a week. It is well to have a small dipper to dip the fish out of the bowl, rather than handling them. Put them into a dish of clear water that is the same temperature as that in which they have been taken out of, adding a pinch of salt. Wash the bowl carefully and fill with water that is the same temperature as the

room. The water should be pumped from the well the day before and left standing in the room until the next day. Your druggist can supply you with fish food. I would recommend this rather than feeding bread crumbs or other food. A few shells and a bit of sea weed will add to the attractiveness of the bowl.

CURRENT RECIPES.

I have several quarts of currants that I canned last summer. Can you tell me some way to use them.—Mrs. E. W.

You might use the currants in either of the following recipes:

For currant conserve use five lbs. currants, 2 lbs. chopped seeded raisins, five lbs. sugar and four oranges. Cook sugar, raisins and currants together 15 minutes. After the mixture reaches the boiling point, add the grated rind and juice of oranges and cook together 5 minutes longer. Serve with meat.

Currant Cream Pudding:

Stew one pint of stemmed currants with 2 tablespoonfuls of sugar and 3 of water, until tender; then rub through a sieve. Blend 2 ounces of cornstarch with 2 tablespoonfuls of cold milk. Boil 2 cups of milk, then stir in the blended cornstarch and the currant pulp. Stir till it boils, then boil for 8 minutes, stirring all the time. Remove from the fire and allow to cool. Then add 2 well-beaten eggs, 1 tablespoonful of sugar and pour into wet mold. When firm, turn out and decorate with whipped cream, flavored with vanilla and ripe currants.

BRIGHTER KITCHENS ARE MADE THIS WAY.

BEFORE spring housecleaning comes upon us is the time to make dark places light. Especially is it a good time to brighten the kitchen floors and walls. Linoleum which is resilient and grease-proof will last for years if given reasonable care. The best way to lay linoleum is to put it down over a layer of heavy felt paper.

Soft wood or old wood floors may be painted after they have been scraped and sanded to make them smooth. First, put on a priming coat of paint and then putty to fill all nail holes and cracks. After sandpapering down the rough spots, one or two more coats of paint should be applied. One gallon of mixed paint will give two coats to three hundred square feet of surface.

To brighten up the walls, remove the dirty grease-spotted wall paper with warm water. After the walls are thoroughly dried, they may be painted a light color such as ivory, cream or tan to reflect the light. A good wall paint will give the walls a hard surface so that they can be wiped down easily.

HOUSEWIFERY A BUSINESS REQUIRING BOOKKEEPING.

HOUSEWIFERY is a business requiring business methods. Household expenses are very closely related with the business of the farm. The farm supplies poultry, fruit, vegetables and livestock products. Such materials would otherwise be a household expense. In turn, the household often furnishes board for the farm labor, which would otherwise be an expense for the farm. As a result it is necessary to keep track for household accounts as connected with farm expense.

Farm household accounts are essential to economy. A dollar saved is a dollar earned, and accounts accurately kept show where we may save a dollar and thus increase our income.

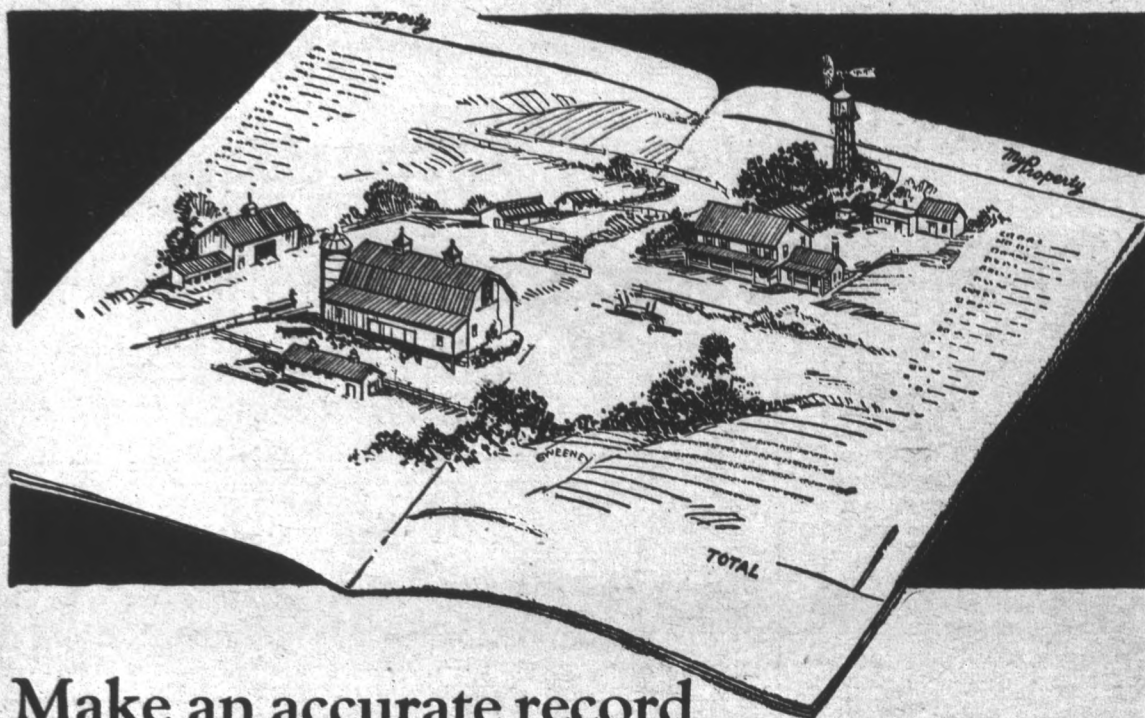
LEARN AUCTIONEERING at World's Original and Greatest School. Become independent, with no capital invested. Write today for free catalog coming term. Jones Nat'l School of Auctioneering, 28 N. Sacramento Blvd., Chicago, Ill. The School of Successful Graduates—Carey M. Jones, Pres.

HIDES TANNED \$3.50 to \$5.50

Tan Hide and Make Robe Complete, using No. 1 Flush Lining, \$10.00 to \$12.50. All work guaranteed. Write for samples and prices. Badger Robe & Tanning Co., Stevens Point, Wis.

FREE MEAT CURING BOOK

To learn the best methods of curing meat, write to E. H. Wright Co., 843 Broadway, Kansas City, Mo., and get absolutely free a new \$1 Book. "Meat Production on the Farm", which tells all about meat curing. Free to farmers only. Send name today.



**Make an accurate record
of your property NOW!**



Insure in a strong, reliable company like the Hartford Fire Insurance Company. That is the first important step towards securing adequate protection for your farm investment.

Make a complete inventory of your property so that you will know the proper amount of insurance to carry and so that you will not forget any item of property destroyed if a fire occurs.

Make this record in the Hartford inventory book "My Property". It is free—send for your copy.

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Gentlemen:
I operate a _____ acre farm.

Please send me a free copy of
your inventory book—"MY
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Mail this Coupon
for the booklet. It is **FREE**



Doings in Woodland

Dr. Quack Fox Takes a Tumble and Learns a Lesson

DO all our little folks remember how Dr. Quack Fox fooled Bruin in our story last week by giving him a bottle of cough syrup for a bottle of "Sooth-all?"

Well, it was just a week from the very day that Dr. Quack Fox played this trick that he found it necessary to again take the road that lead past Rolly Rabbit's house. As he neared the house he chuckled to think how cleverly he had fooled Bruin and made a profit for himself.

"That was a good trick on Bruin," he said to himself, "I wonder when he discovered it? I would like to know,



He Stubbed His Toe and Down He Went, Kerplunk.

but I guess I won't stop to find out. I might get one played on me."

In fact, he was thinking so much about his clever little trick that he did not look where he was going. Just as he was right in front of Rolly's house, he stubbed his toe on a rock in the path and down he went, kerplunk. His case flew open and bottles scattered in every direction.

Rolly was preparing a porridge for the noon meal by the kitchen window, and saw it all. At first he wanted to laugh, but his heart was kind and gracious. Forgetting the mean trick, Dr. Fox had played on his friend, he hastened out to help him.

The doctor was just picking himself up when Rolly reached him.

"Oh, sir, are you hurt?" asked Rolly sympathetically.

"My toe is," said Dr. Fox, "and my knee hurts dreadfully where it bumped the rock."

"Oh, I'm so sorry," said Rolly.

"Come right in the house. We will fix it up in just a few minutes. I am sure that I have something that will help it." And so Dr. Fox went limping along into the the house with Rolly Rabbit, groaning at every step.

Bruin sat reading the last edition of Woodland News when they came in, and was quite surprised when he saw who it was. But when Rolly Rabbit explained that the doctor had fallen and hurt himself badly, he was just as anxious to help as Rolly.

In a short time they had the bruised foot all banded with "Smooth-all."

"And does that feel better?" asked Bruin as he tied the last bandage.

"Oh, ever so much better," replied Dr. Fox. "Thank you both so much."

"Oh, we are very glad to help you," said Rolly.

"And may I ask why?" said Dr. Fox. "Because we would like to be helped that way ourselves," answered Rolly.

As Dr. Quack Fox limped toward the door, he said, "I have learned a lesson from you today. I can't thank you enough for all you have done for me. You have been kind to me even after I played that mean trick on Bruin. Now I know what friends really mean and I'm going to try to make more of them. I hope that some day I can do something to help you."

HIDDEN ANIMALS



Here is another puzzle for you. Can you fill in the blank spaces correctly?

Read A Good Book

"Music of the Wild," by Gene Stratton Porter, \$3.00.

Have you heard all the music of the outdoors? Are your ears attuned to the wonderful music of wild things? The music or sounds of the outdoors does not apply only to bird song. If you will read this book of Mrs. Porter's you will know that the locust has a fiddle, that trees have harps and the lilies have a song and that some birds sing from the ground and others from the tree tops, and moths make music as they wing about. This volume contains chapters on the chorus of the forest, music of the fields, music of the marsh and the music referred to does not at all only apply to bird song. It is very profusely illustrated with many unusual photographs of the wild things that grow and live in the outdoors. Such a volume as this is a veritable gold mine of the beauty and romance that lies all about us in the fields, woods, forests and waters. If you are debating as to just what book to get for a dear friend, relative or yourself, a volume that they will always prize,

and read often for the rest of their lives, "Music of the Wild" is just such a book.

NO CALL FOR MAIDS.

DOWN in Freeport, Illinois, it is reported there is an over-abundance of housemaids. A recent report of conditions there revealed there were almost twice as many women filing application for positions as domestic servants as there were appeals for this variety of service.

Upon investigating the reason for this condition, it was found that the great increase in labor-saving devices being used was responsible for this millenium-like state of affairs.

The shortage of maids so prevalent during the past years had resulted in the purchase by many women of vacuum cleaners, washers and other conveniences. With the purchase of these ever-ready aids, these women have found that they do not need the assistance they had formerly considered indispensable.



JELLO

—for neighborhood parties

You can make your tea parties, lunch parties, and supper parties always a sparkling success if you top off your menu with Jell-O. There is a smartly festive look about a Jell-O dish, and it tastes just as nice. It is prepared in a few minutes and set away several hours before your company arrives. You can make all sorts of fancy salads and desserts with Jell-O. Ask for a Jell-O Recipe Book.

"America's most famous dessert"

THE GENESEE PURE FOOD COMPANY, Le Roy, New York

RECIPES

Imperial Salad

Drain juice from half a can of pineapple, add one tablespoonful of vinegar and enough water to make a pint. Heat to boiling point and add one package of Lemon Jell-O. Just as Jell-O begins to set, add three slices of canned pineapple, cubed, one-half can Spanish pimientos, shredded, and one medium size cucumber, salted and cut fine. Mould in individual moulds or in one large mould and slice. Serve with cream salad dressing.

New Manhattan Salad

Dissolve a package of Lemon Jell-O in a pint of boiling water and one tea-spoonful vinegar. While it is cooling, chop one cup tart apples, one cup English walnuts, one cup of celery. Mix these ingredients, season with salt, and pour over them the Jell-O. Cool in individual moulds. Serve with mayonnaise or French dressing.



Michigan Farmer Pattern Service

New Spring Frocks for Mother and the Kiddies

Send twelve cents in either stamps or coin to the Pattern Department, Michigan Farmer, Detroit, Michigan, for any of these patterns. Be sure to state size, and write address plainly to avoid delay.



No. 4654—Boys' Suit. Cut in four sizes, 2, 3, 4 and 5 years. A three-year size requires 2 1/2 yards of 36-inch material. Price 12c.



No. 4655—Child's Play Dress. Cut in three sizes, six months, one year and two years. A one-year size requires 1 1/4 yards of 27-inch material. Price 12c.



No. 4666—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. A 10-year size requires 3 1/4 yards of 32-inch material. Price 12c.



No. 4349—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. A 10-year size requires three yards of one material 40 inches wide. Price 12c.

No. 4641—Ladies' One-piece Dress. Cut in seven sizes, 36, 38, 40, 42, 44, 46 and 48 inches bust measure. A 38-inch size requires 4 1/4 yards of 40-inch material. The width at the foot is 2 1/2 yards. Price 12c.



No. 4651-4657—A Smart Street or Sport's Suit. Jacket 4652 cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt 4657 cut in seven sizes, 25, 27, 29, 31, 33, 35 and 37 inches waist measure, with corresponding hip measure, 35, 37, 39, 41, 43, 45 and 47 inches. To make the suit for a medium size requires 5 1/2 yards of 40-inch material. The width of the skirt at the foot with plaits extended is 1 1/2 yard. Two separate patterns, 12c for each pattern.



No. 4508—Child's Dress. Cut in four sizes, 2, 4, 6 and 8 years. A six-year size requires 2 1/4 yards of 27-inch material. Price 12c.



No. 4507—Child's Play Dress. Cut in three sizes: Six months, one year and two years. A one-year size requires 1 1/4 yard of 36-inch material. Price 12c.

KARSTEN'S QUALITY

BABY CHICKS

FROM STOCK—THAT IS BRED WITH THE LAYING HABIT

Hollywood and Barron English Single Comb White Leghorns STRAIN MATINGS

250-300 EGG-BRED LINE

Careful breeding, type-testing and trap-nesting has produced our world-famous Karsten's Quality Laying Hen—A Utility Bird With Standard Requirements

SEND FOR FREE CATALOG

It describes our wonderful breeding establishment, it tells what and how to feed your chickens for profit, it will show you how you, too, can double your poultry profits.

KARSTEN'S FARM Box Y **ZEELAND, MICHIGAN**

PURE BRED BIG VALUE CHICKS

Best paying standard varieties from healthy free range utility flocks, carefully inspected, culled, and Hogan tested. Quick maturing, High Egg Production. Each

	25 Chicks	50 Chicks	100 Chicks	500 Chicks	1000 Chicks
S. C. White L., B. L., Buff L.....	\$3.25	\$6.25	\$12.50	\$60.00	\$120.00
S. C. B. Minorcas, S. C. M. Anconas, Barred Rocks, S. C. R. I. Reds	3.75	7.50	15.00	72.50	140.00
White Rocks, R. C. R. I. Reds, White Wyandottes.....	4.00	8.00	16.00	77.50	150.00
S. C. White, S. C. Buff Orpingtons	4.25	8.50	17.00	82.50	160.00
Mixed, All Breeds	2.50	5.00	10.00	50.00	100.00

Wolf Hatching & Breeding Co., Dept. 5, Gibsonburg, Ohio

CHIX FREE CHICK OFFER

Our Tom Barron Strain White Leghorns pay big dividends. We breed and hatch only one kind—the best. Our pure-bred chicks are strong, husky and easy to raise. Get our circular and **FREE CHICK OFFER** before buying eggs, chicks or breeding stock. It will surely pay you. **PROGRESSIVE POULTRY FARM, P. Ver Hage, Mgr., Zeeland, Mich.**

BABION'S QUALITY CHICKS

Varieties, Prepaid Prices on

	25	50	100	500	1000
Pure English White, Brown & Buff Leghorns	\$4.00	\$7.00	\$13.00	\$62.00	\$120.00
Barred Rocks, Reds, Anconas	4.25	8.00	15.00	72.00	140.00
Wh. & Buff Rocks, Wh. Wyandottes, Minorcas	4.75	9.00	17.00	82.00	160.00
Sil. Wyandottes, Orpingtons	5.50	10.00	19.00	92.00	180.00

Prices quoted are for chicks hatched from OUR GOOD UTILITY FLOCKS. Chicks from OUR EXTRA SELECTED FLOCKS will be \$3.00 per 100 higher and chicks from our Fancy Stock of BLUE RIBBON PENS will be \$5.00 per 100 higher. Postpaid, 100 per cent live delivery guaranteed. Bank references. You cannot go wrong. Order from this ad. Thousands satisfied. Ten years' experience. Our Sloan, the best chicks are cheapest, the best. The cheapest chicks the best.

BABION'S FRUIT AND POULTRY FARMS, Flint, Michigan.

750,000 CHICKS \$10.00 P R 100 AND UP

Select, culled flocks of heavy layers on free range and properly cared for to produce vigorous, sturdy chicks.

Varieties.

	25	50	100	500	1000
White, Brown & Buff Leghorns, Anconas	\$3.75	\$7.50	\$13.00	\$62.00	\$120.00
White & Barred Rocks, Reds, Black Minorcas	4.25	8.50	15.00	72.00	140.00
White Wyandottes, Buff Orpingtons	5.00	9.00	17.00	82.00	160.00
Buff Minorcas, Silver Laced Wyandottes	6.00	11.00	20.00	92.00	180.00
Mixed	3.50	6.00	11.00	52.00	100.00

Postpaid, 100 per cent live arrival guaranteed. Order right from this ad. Bank references. Circular Free.

TRI-STATE HATCHERIES Box 533 **ARCHBOLD, OHIO**

Highest Quality Certified Baby Chicks

From Michigan's Old Reliable Hatchery, the best equipped and most modern Hatchery in the State. Pure-bred Tom Barron English and American White Leghorns, Anconas, Barred Plymouth Rocks and Rhode Island Reds. Strong, well-hatched chicks from tested Hoganized free-range stock that make wonderful winter layers. Chicks sent by Insured Parcel Post, prepaid to your door. 100 per cent live delivery guaranteed. Sixteen years of experience in producing and shipping chicks, giving absolute satisfaction to thousands. Write for valuable illustrated free catalog and price list. Get lowest price on best quality chicks before placing your order.

W. VAN APPELDORN, R. 7, Holland, Mich

CHICKS

We can save you money on Ancona and White Leghorn Chicks. Send at once for catalog and prices. We insure your chicks for one week.

M. D. WYNGARDEN
R 4, Box 80 **Zeeland, Mich.**

Early Maturing Baby Chicks

Early maturing means that our stock has been selected and mated to produce fowls capable of making high yearly records. Great winter layers from pure-bred flocks under our own personal supervision. They are carefully culled and mated and from flocks headed by cockerels of high producing blood lines. Our best quality chicks have record breeding on both sides. B. P. Rocks, R. I. Reds, W. P. Rocks, W. Wyandottes, W. Leghorns, Anconas. Sent prepaid to your door. 100 per cent live delivery guaranteed. Write for illustrated catalog and price list. Low prices on quality chicks, \$12.00 per hundred and up. Bank References.

The Keystone Hatchery and Poultry Farms, Lansing, Michigan

Great Northern Hatchery

Pure Bred Selected Flocks 100% Live Delivery

Strong, Sturdy, Northern-grown Chicks. Selected, pure-bred stock. Healthy Flocks on free range insure strength in every chick. Order from this Ad.

	Prices on 50	100	300	500	1000
Leghorns (S. C. White and Brown)	\$7.00	\$13.00	\$38.00	\$62.00	\$120.00
Barred Rocks	8.00	15.00	43.00	72.00	140.00
White Rocks	9.50	18.00	53.00	85.00	165.00

Mixed Broiler Chicks, \$10 per 100 straight. Hatched under best conditions in Newtown Incubators. Every chick carefully inspected. 100 per cent live delivery guaranteed. Reference, State Commercial Savings Bank, this city. Write for prices on special matings. **GREAT NORTHERN HATCHERY, Box 56, Zeeland, Michigan.**

Early Maturing Baby Chicks

Quality Type Dependability Production

Our chicks are from flocks selected for their early maturing habits. This means high-producing individuals. These flocks are headed by cockerels from high-producing blood lines. Cullled by experts. Each flock personally supervised. Pure-bred. From \$10.00 per hundred and up. We have a limited number of superior grade chicks from special matings. 230-302 egg strain. B. P. Rocks, R. I. Reds, W. P. Rocks, W. Wyandottes, W. Leghorns, Anconas. Write for description and prices. 100 per cent live delivery. Ref. Milan State Savings Bank. **MILAN HATCHERY, Box 4, Milan, Mich.**

1,000,000 GOOD LUCK CHICKS

\$10 Per 100 AND UP

This season get our big, fluffy, healthy "GOOD LUCK" Chicks and REAP PROFITS.

Varieties

	Prices on 50	100	300	500
White, Brown and Buff Leghorns	\$7.00	\$13.00	\$38.00	\$62.00
Barred and White Rocks, R. C. & S. C. Reds, Anconas	8.00	15.00	43.00	72.00
White Wyandottes, Black Minorcas, Buff Orpingtons	8.50	16.00	47.00	77.00
Sil. Part. Wyan., Lt. Brah., Buff Minorcas, Speckled Sussex	11.00	20.00	53.00	95.00

Mixed, all varieties, \$10 per 100, straight. Postpaid, full live delivery guaranteed. Bank references. Order right from this ad. Get them when you want them. You take no chance on "GOOD LUCK CHICKS." Catalogue free. Member, International Baby Chick Association.

NEUHAUSER CHICK HATCHERIES Box 72 **NAPOLEON, OHIO**

SPRING POULTRY SUGGESTIONS.

Continued from page 387.

stimulates the hens to eat more feed and that encourages egg production. Hens with poor appetites are not good layers. More fencing and more plantings on the range this spring will help to increase summer poultry profits.

Early Chick Troubles.

In this climate the early chicks are often forced to spend several weeks in the colony houses. Leg weakness can often be prevented by cutting sods and placing them, near the brooder canopy. The chicks will peck the green feed which sprouts and scratch in the moist earth. It helps to give them natural conditions in bad weather. As the sods become dry and baked they can be removed and fresh scratching material replaced.

Succulent vegetables are relished by chicks. I use onions, beets, carrots or potatoes, and have used cull apples. They can be chopped or lined with criss-cross cuts and then sliced off in bits small enough for the chicks to swallow. They will often leave the mash hoppers to fight for the bits of fresh vegetables and obtain needed exercise by chasing each other around the brooder house. The use of plenty of clean succulent green feed helps to prevent digestive disorders among the early brooder chicks.

Sour Milk.

Sour milk, in spite of its benefits, has probably caused a lot of losses due to the feeding of spoiled sour milk. The dishes often become gummed up with encrustations. Corncocks and boiling water are fine to scour the dishes and make them safe for the chicks. Aluminum dishes were used last year with apparent safety in feeding sour milk to chicks, and with the increasing cheapness of aluminum I believe it will soon be in general use for sanitary sour milk feeders.

Rats in the brooder house have ruined the prospects of many fine flocks of chicks. Colony houses or sheds used for brooders must be raised from the ground and have tight board floors. Have the door fit tightly to the sill, as a large crack makes an easy place for a rat to start working. Use hardware cloth on the windows, especially if they are near the ground where rats might enter. Be sure that brooder house doors are closed at night, and as soon as the chicks are on the range all scrap lumber heaps and brush piles should be cleaned up as they may form breeding places for rats and cause chick losses even during the day.

The Hawk Evil.

Hawks are a cause of some early chick losses and it pays to fight them on the first visit in the spring. The longer you can put off the first losses the greater the chances for saving the chicks. As soon as hawks have their first meals of spring chicken they become braver and more persistent and are more difficult to fight. Construct a scarecrow and keep the shotgun handy for the first spring visits. As the chicks feather out and the green crops grow on the range the chances of losses from hawks grow less each month.

HENS WITH LEG WEAKNESS.

Would you please advise me what to do for my chickens? There are now two of them that haven't any use of their feet and legs. They seem to eat and drink all right if they can get to it.—W. P.

Leg weakness is a form of paralysis which is not thoroughly understood by poultrymen and there is no medicine that seems to be of value. The trouble can usually be prevented by feeding a balanced ration with green feed and plenty of exercise. The only remedy is to isolate the afflicted birds where they can be well fed and are not trampled by the strong birds in the flock. Then the condition will often improve and the bird finally regain its strength and appear normal. If the bird does not gain in strength nothing can be done.

Baby Chicks Sick and Dying

If they're weak, wobbly, "pasted up", with no appetite, don't waste a minute!

WHITE DIARRHEA

Easily stopped in 48 hours

White diarrhea kills half of nearly every hatch of chicks. It's strange how many people do nothing either to prevent the trouble or end it, thinking this loss can't be stopped. But it can be stopped, without extra work, without troublesome dosing, and at almost no cost. For years, thousands have saved their sick chicks and raised nearly every chick in every hatch, by merely dropping an Avicol tablet in the drinking water. Successful poultry raisers say there is nothing else like Avicol for this purpose.

Trouble gone in 2 days

Chas. N. Kittinger, Willows, Calif., writes: "Twelve of my chicks had diarrhea by the time I received my Avicol. I immediately gave them some, and by the second day, the trouble disappeared and now they are all as lively as crickets. If I had only known of Avicol sooner, I would have saved lots of chicks."

It is wonderful how sick, droopy chicks, within 48 hours after they get Avicol, become just as lively as Mr. Kittinger says. No matter how rapidly the trouble is spreading, they stop dying almost the very day Avicol is put in their drinking water.

"Stopped dying at once"

"Last spring I bought 25 baby chicks," writes Mrs. John Shaffer, Owen, Wis. "When about a week old, they began dying, would get droopy and in a few hours would die. When I had 15 left, I began giving Avicol and they stopped dying at once. I did not lose another one."

Costs nothing to try

Why should anyone sit back and let baby chicks die? It costs nothing to try Avicol. Readers are urged to write to the Burrell-Dugger Co., 54 Allen Ave., Indianapolis, Ind., sending 50 cents, as a deposit, for a package by mail prepaid (or pin a dollar bill to your letter for the extra large size holding nearly 3 times as much). If you prefer, send no money, but deposit the money with the postman on delivery. Either way, you won't risk a cent. If Avicol doesn't stop your chick losses immediately, if it isn't superior to anything else you ever heard of, if it doesn't satisfy you in every way, every cent of the money you have deposited will be promptly refunded by the manufacturers.

Burrell-Dugger Company, Indianapolis, Indiana, 54 Allen Avenue.

What He Needs Now



FUL-O-PEP CHICK STARTER

Will enable you to raise more of your chicks. Its Cod Liver Oil content greatly reduces leg weakness and death losses. Makes healthy chicks and faster growth. Write today for Free Ful-O-Pep Poultry Book—tells all about Ful-O-Pep Chick Starter—the greatest discovery of science in past 50 years for preventing death of chicks.

The Quaker Oats Company
1628 Ry. Exchange Building
Address Chicago, U. S. A.

DON'T LOSE BABY CHICKS

GERMOZONE, for 25 years the reliable remedy, will rid them of Koup, Colds, Bowel Trouble, etc., and keep them healthy. "A wonder worker." Used by hundreds of thousands. Get it at drug or seed store, or order of Geo. H. Lee Co.—75c and \$1.50 sizes, delivered. Postman will collect. No extra charge. Order today.

GEO. H. LEE CO., Omaha, Nebr.

LEE'S LICE KILLER

The Old Reliable

Has proven itself year after year the one sure way to rid poultry of lice, mites, bedbugs, body lice and such vermin. Paint or spray on roosts, etc. No dusting, dipping, greasing, handling. Get it at your drug or seed store, or write us for particulars and valuable free book. **GEO. H. LEE CO., Omaha, Nebr.**

Detroit-Alliance INCUBATOR 140-EGG CAPACITY

Has all the features that insure big hatches—double walls, copper tank, complete nursery, perfect heat control through automatic trip burner, "Tycos" thermometer held so chicks can't break it when hatching. Detroit Brooders, too. Write for low combination price today!

Detroit-Alliance Incubator Co., Alliance, Ohio, Dept. 11

BIG MONEY IN POULTRY

FREE GUILD'S CATALOG

\$5.02 PER HEN PROFIT—Government report on per of our stock. Bred-to-lay Rocks, Wyandottes, Leghorns, Reds. High record breeding males \$6 to \$12. BABY CHICKS \$20 to \$40 per 100. HATCHING EGGS \$3 to \$5 per 15, \$12 to \$20 per 100. (No duty to U.S.A.) 30,000 illustrated poultry and incubator catalogues FREE. L. R. GUILD & SONS, Box A, Rockwood, Ont., Can.

White Diarrhea

Remarkable Experience of Mrs. C. M. Bradshaw in Preventing White Diarrhea

The following letter will no doubt be of utmost interest to poultry raisers who have had serious losses from White Diarrhea. We will let Mrs. Bradshaw tell of her experience in her own words:

"Gentlemen: I see reports of so many losing their little chicks with White Diarrhea, so thought I would tell my experience. I used to lose a great many from this cause, tried many remedies and was about discouraged. As a last resort I sent to the Walker Remedy Co., Dept. 507, Waterloo, Iowa, for their Walko White Diarrhea Remedy. I used two 50c packages, raised 300 White Wyandottes and never lost one or had one sick after giving the medicine and my chickens are larger and healthier than ever before. I have found this company thoroughly reliable and always get the remedy by return mail.—Mrs. C. M. Bradshaw, Beaconsfield, Iowa.

Cause of White Diarrhea

White Diarrhea is caused by the Bacillus Bacterium Pullorum. This germ is transmitted to the baby chick through the yolk of the newly hatched egg. Readers are warned to beware of White Diarrhea. Don't wait until it kills half your chicks. Take the "stitch in time that saves nine." Remember, there is scarcely a hatch without some infected chicks. Don't let these few infect your entire flock. Prevent it. Give Walko in all drinking water for the first two weeks and you won't lose one chick where you lost hundreds before. These letters prove it:

Never Lost a Single Chick

Mrs. L. L. Tam, Burnetts Creek, Ind., writes: "I have lost my share of chicks from White Diarrhea. Finally I sent for two packages of Walko. I raised over 500 chicks and I never lost a single chick from White Diarrhea. Walko not only prevents White Diarrhea, but it gives the chicks strength and vigor; they develop quicker and feather earlier."

Never Lost One After First Dose

Mrs. Ethel Rhoades, Shennandoah, Iowa, writes: "My first incubator chicks, when but a few days old, began to die by the dozens with White Diarrhea. I tried different remedies and was about discouraged with the chicken business. Finally, I sent to the Walker Remedy Co., Waterloo, Iowa, for a box of their Walko White Diarrhea Remedy. It's just the only thing for this terrible disease. We raised 700 thrifty, healthy chicks and never lost a single chick after the first dose."

You Run No Risk

We will send Walko White Diarrhea Remedy entirely at our risk—postage prepaid—so you can see for yourself what a wonder-working remedy it is for White Diarrhea in baby chicks. So you can prove—as thousands have proven—that it will stop your losses and double, treble, even quadruple your profits. Send 50c for package of Walko—give it in all drinking water for the first two weeks and watch results. You'll find you won't lose one chick where you lost hundreds before. It's a positive fact. We guarantee it. The Leavitt & Johnson National Bank, the oldest and strongest bank in Waterloo, Iowa, stands back of this guarantee. You run no risk. If you don't find it the greatest little chick saver you ever used, your money will be instantly refunded.

WALKER REMEDY CO., Dept. 507, Waterloo, Iowa

Send me the [] 50c regular size (or [] \$1 economical large size) package of Walko White Diarrhea Remedy to try at your risk. Send it on your positive guarantee to instantly refund my money if not satisfied in every way. I am enclosing 50c (or \$1.00). (P. O. money order, check or currency acceptable.)

Name.....

Town.....

State..... R. F. D.....

Mark (X) in square indicating size package wanted. Large package contains nearly three times as much as small. No war tax.

HENS WITH BOWEL TROUBLE.

I have a pen of Rhode Island Reds that have a disease. It is some trouble of the bowels. The dropping of sick hens are light yellow and the bowels loose. Their feathers look dull, combs pale, and in about 3 to 4 weeks they die.—G. L. H.

The hens show signs of digestive disorders which may be due to a variety of causes such as the lack of a balanced ration, or eating mouldy feed. Too much corn without a mash or green feed sometimes seems to be a cause of bowel trouble. The condition may be due to disease. Perform a postmortem on birds that die and note the condition of the internal organs especially the liver. Try feeding the hens a balanced dry mash. The bran and easily digested ground grains in such a mash are of great help in preventing digestive disorders especially during the winter when the hens are confined to the house.

RIGHT SIZE OF COOP.

I am thinking of going into the poultry business. Will you please give me the size of coop for 1,000 hens?—C. F. H.

In large flocks the hens of the heavy breeds require about four square feet of floor space per bird while Leghorns seem to thrive on about three square feet per bird. In other words you can house 400 Leghorns in a building with a capacity of 300 Plymouth Rocks. A house 20 feet deep and 200 feet long will give you 4,000 square feet of floor space or enough room for 1,000 hens of almost any breed. The house would be divided into ten sections each with a capacity of 100 birds.

I would advise you to send to the Michigan Agricultural College for the blue prints of the Michigan Poultry House which they are recommending. Housing 1,000 hens successfully is a bigger proposition than most people realize. It will be best to visit several poultry farms and inspect a number of large buildings before you can construct housing accommodations of that size that will suit you.

PREVENTING TUBERCULOSIS.

Can you tell what ails my hens. They act dumpish and go lame, in five days and soon die. I opened one and found the liver enlarged and some ulcerated.—W. H. B.

When hens go lame, act dumpish and become rapidly emaciated it is often a sign of tuberculosis. The spots on the liver are an additional symptom. Tuberculosis is a serious disease and cannot be cured in poultry so it pays to have a veterinarian make a personal inspection of the flock and make recommendations.

In talking with a prominent poultryman recently he said that most of the cases of tuberculosis he had observed occurred in hen houses where there were no dropping boards and the floor was apt to be damp. In this case one of the best means of preventing a disease like tuberculosis may be to have a dry floor and use dropping boards so all the damp manure may be scraped out often and the roosts and boards sprayed with some coal tar disinfectant.

HOW TO SPROUT OATS.

Will you tell the best way to sprout oats for feed for laying hens. I tried to germinate oats but they turned sour.—A. E. T.

Sprouted oats can be made by soaking the oats in a pail of warm water to which has been added about ten drops of formalin to prevent mold. Then the oats are spread out on trays to a depth of one inch. The trays should be placed in a room where the temperature will not go below sixty degrees. The oats should be sprinkled each day and may be stirred for the first two days while there is no danger of breaking roots. At the end of a week they will usually be in good condition to feed to the hens at the rate of a square inch per hen per day.

You Take No Risk in Buying **Ironclad** 140 Egg Incubator \$13.85 30 DAYS TRIAL EXPRESS PREPAID

Investigate before you buy. Incubator made of Redwood covered with galvanized iron. Double walls with air space between. Every joint lapped with galvanized iron. Strongest and most durable incubator that can be made. Deep chick nursery, self regulating. Hot water heat. Copper Tanks, in both incubators and brooders.

Money Back IF NOT SATISFIED

140 Egg Incubator with Brooder \$19.75
260 Egg Incubator alone 23.50
260 Egg Incubator with Brooder 32.90
You can use the machine for 30 days and if not satisfactory we will refund your money and pay return freight charges. Both machines shipped complete with all fixtures. Set up ready to use. Write for catalog or order direct from this advertisement.
IRONCLAD INCUBATOR CO. Box 91 Racine, Wis.

140 EGG Wisconsin ONLY \$13.25 Freight Paid

Just think of it! This fine, California Redwood Wisconsin 140-Egg Incubator, with double walls, dead air space between, hot water heat, copper tank and boiler, double glass door, nursery, self-regulating—everything complete, set up ready to run, for only \$13.25, freight paid east of Rockies. With 140-chick hot air brooder, only \$17.75.

180 Egg size, only \$15.75 with Brooder, both \$22
You take no risk buying Wisconsin. We give 30 days trial—money back if not pleased. If you prefer larger machines we have them up to 1000 eggs.

30 Days Trial Why Pay More
WISCONSIN INCUBATOR CO. Box 120, Racine, Wis.

Express Paid Prices 24 in. Canopy, 125 chick, \$9.95
32 in. Canopy, 300 chick, 15.55
42 in. Canopy, 500 chick, 17.75
Write for our New 1924 Catalogue or order direct from this ad.

WISCONSIN INCUBATOR CO. Box 120, Racine, Wis.

"It Fills the Bill"
"Self-Serve" Chick Feeder
Holds 12 quarts. Can't clog. Chicks can't roost on cover nor touch feed with feet. Price \$1.50 plus postage. Send for booklet.
Ira P. Hayes
Dept. B-11, Eckford, Michigan

Baby Chick Feeders and Fountains

Simple—Sanitary—Automatic. Used and Endorsed by the largest Hatcheries and Poultry Farms in the United States. We want to send you our Catalog of POULTRY SUPPLIES. —IT'S FREE—
THE McCURDY MFG. CO. DEPT. B, ADA, OHIO.

DAY OLD CHICKS

S. C. White Leghorn Day-old Chicks (English Strain) from 2-year-old hens from our own stock. Strong and vigorous. Best breeding. Also Barred Rock Chicks from 2-year-old hens from best laying strain. Catalog free. Write today. Hillcrest Poultry Farms & Hatchery, Box A, R. 2, Holland, Mich.

ROSEWOOD CHICKS

Best Baby Chicks. Select heavy laying strains. White Leghorns, Anconas, Barred Rocks. Real quality, low prices. Postpaid. Full delivery guaranteed. Write today. ROSEWOOD FARM, HOLLAND, MICH.

CHICKS From World's Greatest Layers

If you want pure bred chicks that are bred right, hatched right, and shipped right, that grow and will make you a profit, get our new low prices and free catalog before you buy.

Tom Barron White Leghorns Heavy Type Brown Leghorns
R. C. & S. C. Rhode Island Reds Park's Barred Rocks
Flocks are carefully culled and developed on free range. All chicks are hand picked and inspected, no cripples or weaklings. Every one strong and healthy. Satisfaction and 100% live delivery guaranteed. Postage paid. Write now for our low prices and free catalog. White Leghorn and Barred Rock pullets after May 1, at low prices.
KNOLL'S HATCHERY, R. R. 12, Box M, HOLLAND, MICH.

Royal Egg-Bred Chicks

S. C. English Type White Leghorns and Brown Leghorns

You want strong, healthy chicks that grow fast into heavy producing Leghorns. You can have these chicks from us at a very reasonable price. Old customers took over 65 per cent of our chicks last year. H. A. Burke, of Green Bay, Wis., writes he had 70 per cent production during Dec. and Jan., 22 below zero, of chicks bought from us May 1st, 1923. 12 years of breeding for heavy egg production. Carefully selected breeders, headed by large, vigorous males and many years of successful hatching and shipping chicks, gives you chicks that will bring you success. 100 per cent live arrival guaranteed. Catalog price list free. Write today. ROYAL HATCHERY AND FARMS, S. P. Wiersma, R. 2, Zeeland, Mich.

Better Chicks & More of Them

From well kept, well fed, free range heavy laying flocks. Barred Rocks, 50, \$7.75; 100, \$15.00; 500, \$72.50; Anconas, 50, \$6.75; 100, \$13.50; 500, \$62.50 White Leghorns, 50, \$5.75; 100, \$11.50; 500, \$52.50. Order direct from ad, saving time and money. Our nine years' experience hatching and selling chicks, your best protection. 100 per cent live delivery guaranteed. Good reference.
DILIGENT HATCHERY, Holland, Mich.

Dundee Chicks

Are from pure-bred flocks culled by M. A. C. graduates. Only choicest breeders kept. Best utility and exhibition matings. Barred Rocks, 230 to 302 egg strain. R. I. Reds from Liddicoat's best, Anconas direct. Sheppard's White Leghorns direct M. A. C. Get 1924 catalog, price list. Reference, Dundee State Savings Bank.

THE DUNDEE HATCHERY
Box A, Dundee, Michigan

QUEEN QUALITY CHICKS

from Best Blood Line Free Range Flocks.
Developed and Culled by Experts—Barron Strain English White Leghorns, Brown Leghorns and Sheppard's Anconas. Sturdy, Healthy Chicks. Just a little more for your money. Safe delivery guaranteed. Write for Catalog.

QUEEN HATCHERY & POULTRY FARM :: ZEELAND, MICH.

HUNDERMAN'S First-Class Chicks \$10 AND UP

We are heavy producers of first-class chicks. Flocks on free range. Culled by expert, 100 per cent live delivery guaranteed. Order today from this ad. and get chicks when you want them.
*Prices on 25 50 100 500 1,000
English S. C. White Leghorns... \$3.50 \$6.50 \$12.00 \$57.50 \$115.00
Barred Rocks, S. C. R. I. Reds... 8.00 15.00 70.00 140.00
Odds and Ends... 5.50 10.00 50.00
Blue Hen Incubators. Reference: Zeeland State Bank. Order today. You take no chances. Catalog free. HUNDERMAN BROS. POULTRY FARM, Box 25, Zeeland, Michigan.

—Inspected and Approved—



Baby Chicks
From Best Egg Laying Strains in the World
Tancred, pedigree-sired and Tom Barron, S. C. White Leghorns, S. C. & R. C. R. I. Reds, Parks' Barred Plymouth Rocks.

LAKEVIEW Our flocks are all on free range, closely culled, inspected and approved by Michigan Baby Chick Association. Every bird is healthy, has size, type and color.

Hatched in World's Best Incubator
Our chicks are strong, sturdy and healthy. They live and grow because they are hatched in the best incubator made. 100% live delivery to your door. Illustrated catalog sent FREE.

LAKEVIEW POULTRY FARM, R. 8, Box 5, Holland, Mich.

BABY CHICKS

The season of 1924 opens with some fine breeding pens in the 10 varieties of **PURE-BRED PRACTICAL POULTRY.**

Barred Rocks, Anconas, White Rocks, Leghorns—White, Rhode Is. Reds, Brown, Buff Orpingtons.

In the White Leghorns a Superior Egg Quality in the D. W. Young American type and in the English type.

It is now time to be looking after your Chicks for this season. Send for our descriptive matter and price list. You will be interested in the egg records our customers report.

Cockerels—A few unsold in Barred Rocks, and White Wyandottes.

STATE FARMS ASSOCIATION, Masonic Temple, Kalamazoo, Michigan.

PURE BRED BABY CHICKS

We have been carefully developing our flocks for eight years. Every chick pure-bred and from stock carefully culled, for type and production. Our chicks give satisfaction. Order today and get chicks when you want them.

Wh. Leghorns	50	100	500
Bd. Rocks, R. I. Reds	\$7.00	\$13.00	\$62.00
Wh. Wyandottes, Wh. Rocks	8.50	15.00	72.00
		16.00	77.00

Postpaid, 100 per cent live delivery. You take no chances. Ref. Farmers' & Mechanics' Bank, this city. No catalog. Order from this ad.

WASHTENAW HATCHERY, R. 5, Ann Arbor, Mich.

CERTIFIED CHICKS

"BRED TO LAY" STRAINS

Best Quality Certified Chicks pay biggest profit. Our Chicks are from our own Free Range flocks of Sheppard's Famous 331 egg strain of Anconas, heavy winter layers of large white eggs; Hollywood and Tom Barron S. C. White Leghorns; and Everlay S. C. Brown Leghorns, Park's strain, Barred Rocks. Carefully selected and rated by experts and certified by Michigan Baby Chick Ass'n. Bred for quality and high egg yield for 11 years on our own farm. Strong, vigorous, full of vitality. 100 per cent live delivery guaranteed. Low prices. Illustrated catalog free. Townline Poultry Farm & Hatchery, Dept. M, Zeeland, Mich. Member Mid-West and International Baby-Chick Ass'n.

QUALITY CHICKS AT REASONABLE PRICES

English White Leghorns, Parks' Strain Barred Rocks, S. C. Black Minorcas, Reds and Anconas. My pen (16) at the 1923 Mich. Contest finished third among all heavy breeds, four hens making records over 200 eggs each, and one with a record of 254 eggs was seventh highest individual for the entire contest, 990 birds competing. Catalog free.

PINE BAY POULTRY FARM, HOLLAND, MICH.

Baby Chicks

Postpaid to your door. Guarantee 100 per cent live arrival. Heavy laying, pure-bred flocks. White, Brown & Buff Leghorns, 50, \$7; 100, \$13; Barred Rocks, Reds, Anconas, Minorcas, 50, \$8; 100, \$15. White and Columbian Wyandottes, White Rocks, Black Spanish, Black Minorcas (choice), 50, \$9; 100, \$17. Catalog Free. **WHY NOT BUY GOOD CHICKS? THE C. M. LOWER HATCHERY, Box 30, Bryan, Ohio.**

WORLD'S CHAMPION LAYERS

Hollywood and Improved English S. C. WHITE LEGHORNS. The American Business Hens: 250-300 egg bred line. Large White eggs. Winners at National Shows and Egg-Laying Contests.

HIGHEST QUALITY CHICKS from certified tested hens mated to high power pedigreed sires. Discount on early orders. **Valuable instructive CATALOG FREE.**

DEVRIES' GRANDVIEW POULTRY FARM, R.R. 6, Zeeland, Mich.

Baby Chicks S. C. W. Leghorns

—Only—
Pedigreed Certified
Michigan's Largest S. C. W. Leghorn Farm, over 2000 Birds. Hatch our own eggs only. Supply limited. Order early. One trial will convince you. Free Circular.

SIMON HARKEMA and SON, R. 1, Holland, Michigan

STANDARD CHICKS

SUPREME CHICKS
LAYERS! That's what you want. Standard Chicks are from just that kind of flocks. Our strain of Supreme Laying White Leghorns is the result of our many years experience, breeding and selection. They are large sized, long deep wedge shaped bodies, keen alert eyes, large lopped combs. The kind you will be proud of and eventually buy. Shipped postpaid. 100% Live delivery guaranteed. Illustrated catalog sent Free.

STANDARD HATCHERY, Box A, Zeeland, Mich.

RELIABLE CHICKS

S. C. English White Leghorns and Barred Rocks. Every chick from carefully mated, culled, pure-bred flocks owned and developed by us for 15 years. Leghorn males from trap-nested 280-egg hens. Free catalog. Write for prices. **RELIABLE HATCHERY AND FARMS, 74 E. 16th St., Holland, Mich.**

OUR BOYS AND GIRLS

Spending Sundays

How Some Merry Circlers Do It

By Rosina Colby, Denton, Michigan.

My idea of spending Sunday is attending church, Sunday School and young people's meeting. We live quite a ways from the church and during the winter months it is impossible to get to church, especially in a bad country road.

The way I spend my Sunday now is playing the piano and Victrola, reading and singing, and since school has

these have to be all done before we go to church. It is about noon when we return from church and Sunday School. After dinner I go for a ride, or read, and sometimes make a call with my parents. About four o'clock it is chores again. After that I have lunch, play the Victrola, or play check-



Margary Hillman, of Six Lakes, won third prize with this drawing.

started I need quite a lot of my time for lessons.

Some people remark, "My, but Sunday is a long day." I never can say that. When I was small I remember of hating Sunday, but since I'm older and begin to know the real meaning of Sunday, I can't say that under any consideration. I think if people live right they will never say Sunday is long.

In our vicinity we have church and Epworth League in the evening, and in the morning we have Sunday School at ten o'clock, and each person has a class. In summer time we try to go, but as I've said before, it is hard to get there in the winter months. Each Sunday School class has a class meeting with president, vice-president, secretary and treasurer.

We hold very interesting meetings.

By Hugo Hallstrom.

Sundays are meant to rest, and mainly to have church service, although few people think much of it now-a-days. It makes me feel most sorrowful to see people, mostly young people, going to halls and saloons, on Sundays, (or any other day).

Such people sure lead low lives, but they will find out later on. Sundays are also the time to have fun and that, of course, means healthful exercise. For instance, we have a rope swing in our hay barn, located where there is no more hay, and then we mount on the hay and give a jump, and we're off and back again at a mile a minute. We certainly get fresh air, for the wind just goes whew! past our face.

I would like to use my Sundays in the very best ways. One way is helping mother and father with the chores.

But the most important thing is to get your school lessons ready for Monday.

By William Connor, Ypsilanti, Mich.

Sunday morning at our house I think is the busiest day of the week, especially in winter. I live on a farm and there are so many chores to do and

OUR LETTER BOX

Dear Uncle Frank:

Now, Uncle Frank, I don't see why I shouldn't win a prize. I would like to see my "How I use my Sundays, and how I would like to use them," and my letter in print.

Will close, from your niece, Esther Oberlin, M. C., R. 3, Shelby, Mich.

I know that very often boys and girls don't see why they should not win a prize. But, when their papers are compared with others, the best ones win and often theirs are not among the best ones.

Dear Uncle Frank:

I have four sisters and four brothers. I live on a 300-acre farm. I am fifteen years old, and I passed the eighth grade last year. My oldest sister missed only one day in eight years. My two oldest brothers did not miss any days in eight years. George, Martha, Amanda and I only missed one week in eight years, and that was because we had the "flu." Can you beat that?—Your friend, Miss Lillian Buss, R. 2, Manchester, Michigan.

Your family certainly has a school attendance record that is hard to beat. Let's have some other records.

Dear Uncle Frank:

I just had to write and thank you for that Merry Circle pin and membership card. I was having the "blues" and my mother came along with a letter from the Michigan Farmer—I didn't have the "blues" any more.

I have belonged to several clubs, but I like the Merry Circle best. Say, Uncle Frank, doesn't it get your goat when your nieces and nephews are always guessing your name after you've told them that it's Puddin' Tame?—A niece now, Nellie G. Hutton, M. C., 2753 Magnolia Street, Detroit, Michigan.

No, it doesn't get my goat, because I have no goat to get. I am glad that the M. C. "Blue and White" cured your blues.

Dear Uncle Frank:

Please, Uncle Frank, don't tell your name, that would spoil all the fun of having anybody writing to you.

Yes, most boys are rude to girls, by snow balling them, washing their faces, and all kinds of other tricks.—Your niece, Grace Schlader, M. C., of Freeland, Michigan.

I am glad that you, for one, want me just as plain Uncle Frank. I think that now the boys have an opportunity to defend themselves.

Dear Uncle Frank:

I go to a rural school three miles from here. I am in the eighth grade and we certainly enjoy wonderful times, while practicing boxing and wrestling; also, our handicraft club is a success.

I have never seen a letter in print from this locality, and would be very delighted if some of us gained patronization.—Your would-be nephew, Carl Peterson, Kiva, Mich.

If having your letter printed is patronization, here it is. I suppose if you keep on progressing in boxing and wrestling, you will soon want to meet all comers.

Dear Uncle Frank:

I agree with Louise Martin in the question of powder, for I simply hate it near my nose, that's the place where most girls put it. I only put it on once, but didn't have it there long,

ers or dominoes with my grandfather, and then it is time to go to bed.

Now, as to how I would like to spend my Sundays: When it comes to being washed and scrubbed to go to church, I sometimes think I would like to be like my dog and stay at home. Or in the winter when it is good skating, what a temptation to do as you would like to. Or or a hot Sunday in summer, how nice it would be to spend the day sitting on the bank of a lake, fishing.

not even for an hour, and have not used it since.—I am, as ever, Alta Baerema, M. C., Holland, Mich., R. 2.

I believe girls can be pretty and powderless at the same time. Putting powder on the nose makes it look large, and nobody wants a large nose.

Dear Uncle Frank:

I am sending in my drawing for this drawing contest. I didn't trace or use a ruler, and no other person helped me, but I got the idea from a calendar and changed it around a little bit. If you don't think this is fair, and I don't get first prize, you needn't think I am going to boo-hoo for the rest of my life, for I am going to use your motto of: "If at first you don't succeed, try, try again."

Don't you envy some of those members, some have such a lot of talent. I never will turn out to be anything but a scrub-maid, or something like that.

Oh, my! I must close this letter, it is too long.—Your would-like-to-be-niece, Ruth Hertler, R. 4, Saline, Mich.

Don't think that because you have no talent you won't amount to anything. In fact, those who have talent are often at a disadvantage because they do not have to try hard enough. Those who try hard are the ones who win out in the end.

Dear Uncle Frank:

I want to become an M. C. and have you for my uncle, as I haven't any uncle in America. All our relations are in Europe.

I like the motto, "Work to Win."



The fifth prize by Rosaline Lindered, of Newaygo, Mich.

It's my sister, Eliza's, and my motto, too.

One day when the snow had blocked our wood barn door, my sister and I were digging our way in. We weren't half done when we were going to give up. But, when in the act of doing so, we thought of our motto. So we resolved to work till we won. And we did.

Can anyone who is not yet a M. C. join the "Correspondence Scramble?"—Your want-to-be-niece, Lidia Plaseczny, Black River, Michigan.

I am glad our motto helped you to finish the job. Any boy or girl between eight and eighteen years of age can take part in our scrambles. I'll be glad to be your American uncle.

Critic Contest Comment

By Uncle Frank

I DON'T believe that most of the boys and girls like to find fault; at least, I judge so from the comparatively small number of critics' contest papers I received. It may be, though, that this being something new in contests, made many hesitate to take part.

The purpose of this contest was to give some idea of what a good Read-and-Win, or Ad Contest, paper was. It was also to show that in contests some papers would not have much chance for a prize, no matter how much the writers wanted one. When there are hundreds entering a contest one is in competition with many others and of those, only the best can win prizes. So it is necessary that one should put the best he has in a contest paper if he has prize-winning ambitions.

Aside from contests it is a good thing for one to do the best he can, for until he does that, he can never do better; he can never improve his ability. I think these contests are valuable because they put your work in competition with that of others and shows it up by comparison. It is that way throughout life, in which only the best win a full measure of success. But even if we, as individuals, can not do as well as someone else, we always gain when we try our best for we gain in ability by doing so.

Our motto is, "Work-to-Win." In order to do that we must do our best. I believe a great many M. C.'s believe trying a contest and doing no better than before is working to win. And they often think that because they have tried the contests a large number of times they ought to be entitled to a prize. That is a mistaken notion, because doing no better than you did before is not working to win; in fact, it means that you are going backward, as some of those you are competing with, are really improving in their work, and yours therefore stands less chance than before.

In this particular contest, most of the critics selected No. 4 as the best paper. It really was a good one, but it did not win a prize because the answer to question ten was not correct. It was the rubber in the boot, not the boot itself, that was as live as an elastic band.

Number four was neatly written, but I like the arrangement in number two much better as it is easier to read. In looking over hundreds of papers I can tell in a shorter time whether a paper like number two is correct than one like number four. Even though one does not have hundreds of papers to read, he likes the things that are easiest to read. We all do. So, if you want people to read what you write, make it easy for them to do so by correct arrangement and good writing.

Number three, although very carefully written had the same easy-to-read arrangement. Number one had the poorest arrangement. There was no paragraphing and it took quite a time and considerable effort to tell whether the answer were correct or not.

My ideas of these papers are as follows:

No. 2.—Good writing; neat and easily-read arrangement. Answers short and concise. The word Bertsch spelled wrong and a few other minor errors, but otherwise O. K.

No. 4.—Good writing; the arrangement is good but not as good as that of No. 2. Answer to question ten is not correct.

No. 3.—The writing is poor and careless, but the arrangement is good. The answers are correct, although number ten is incomplete.

No. 1.—The writing is fair but hard to read, the arrangement very poor. The answers are too long and unne-

essarily repeat the subject-matter of the questions.

One boy had ideas almost exactly the same as mine, but he failed to arrange them according to the suggestion in the announcement of the contest, therefore he lost a prize. I think it pays to follow directions, don't you?

The main thought I hope you will get from this contest is the necessity of making your work easy for other people. If you want to be a letter writer, write your letters so that they can be easily read. I often receive letters which are real labor to read; even if they do contain interesting things, it seems like a job for me to start to read them. Others not as interesting,

Our Mystery Contest

OUR advertising department is very busy so we are asking you to help us out. The following ad. does not read just right, and we would like to have you make it look sensible.

"Wanted—A young piano with a musical education by a grand lady with carved legs and mahogany finish."

Write the corrected ad. with a lead pencil.

Put your name and address in the upper left hand corner of the paper.

Put M. C. after your name if you are a Merry Circler; if you are not, put N. M. C. after your name.

Write your age in the lower right hand corner, also your grade in school.

Write only on one side of the paper. Put your letter, or anything else, on another sheet.

Place the date you write this in the lower right hand corner.

Address your contest envelope to Uncle Frank, Michigan Farmer, Detroit, Michigan.

This contest closes March 21.

Two fountain pens, three flashlights and five boxes of candy will be given as prizes. Those not Merry Circlers who fulfill requirements will get M. C. cards and buttons.

but arranged and written to be easily read, I always read with some enjoyment. Those which are easily read and are interesting besides, give me genuine pleasure.

THE BEST CRITICS.

THE following had their criticisms as near to my ideas of correct criticisms of the Ad Contest papers which appeared in the issue of March first.

Fountain Pens.

Edith Conant, Denton, Mich.
Elva McClintic, Homer, Mich.

Flashlights.

Adelia Goedge, R. 2, Wayne, Mich.
Hilda L. Koch, R. 2, Chelsea, Mich.
Bertha Burr, 333 West Prairie St., Vicksburg, Mich.

Candy.

Victor Sisson, Freeport, Mich.
Leona Renner, Reese, Mich.
Ida Mills, Trenary, Mich.
Fred Broemer, Jr., Green, Mich.
Louis O. Bohling, R. 1, Plymouth, Mich.

Grant Manning says when the graduating classes finish high school eighteen years from now it won't be an easy job to find a roll without at least one boy on it named Calvin.—Sunshine Hollow.

A good laugh and a long sleep, the best cures in the doctor's book.—Proverbs of Ireland.

Wingarden Strain
WHITE LEGHORN
BABY CHICKS
EGG BRED for 18 YEARS

Here's what you get when you buy
Guaranteed Wingarden
BABY CHICKS

(1) Pedigreed stock, sired by males whose dams had records of 260 to 280 eggs per year, and grand-dams 298 to 304 eggs. (2) 100 per cent live delivery. (3) Chicks guaranteed to be healthy. (4) Absolutely pure-bred. (5) Absolutely no culls. (6) Stock that withstands winter cold as well as summer heat. (7) Free entry in our annual flock performance contest, whereby you may obtain 200 of our best Barron English White Leghorns free.

We know the quality of our stock because we maintain 42 hatchery farms of our own, instead of buying eggs wherever available. Sired by Hollywood and Funk Farms Males.

White and Brown Leghorns, Anconas.

Send for our catalog and read full particulars of the Wingarden Strain.

Wingarden ZEELAND, MICH.
HATCHERY & FARMS Box M

BRED TO LAY CHICKS
Certified

100,000 Highest Quality Certified Baby Chicks. Improved Sheppard Strain S. C. Anconas—hard to beat. Winter and Summer, English Strain S. C. White Leghorns. All our Leghorns mated with Cockerels from E. E. Shaw Champion winning pen at M. A. C. 1923 laying contest. Personally culled and rated by experts and certified by Michigan Baby Chick Association. Guaranteed 100 per cent live delivery. Catalog Free. Take no chance with just as good, but get your best foundation pure-bred stock from The Reliable Poultry Farm & Hatchery, Paul De Groot, Mgr., R. 1, Dept. P, Zeeland, Mich.

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From high grade, heavy egg producing strains of S. C. White Leghorns, S. C. Rhode Island Whites and White Wyandottes. All from pure bred, healthy, vigorous stock, carefully culled and tested to insure your getting chicks that will be easy to raise, develop rapidly and become heavy winter layers. Shipped postpaid, 100% live delivery guaranteed. Catalog Free.

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BOWERS Colony Brooder

Burns any fuel—costs less

This brooder raises more and better chicks at lowest cost. Stove is sturdy, safe, air-tight, self-regulating—best in world to hold fire. Burns soft coal—cheapest brooder fuel—perfectly. Also hard coal, wood, etc. Automatic regulator maintains uniform heat night and day. Canopy spreads heat evenly over chicks; gives pure air, ample room. 500 and 1,000-chick sizes. Guaranteed. Lowest prices. Express prepaid E. of Rockies.

FREE—\$3.00 stove pipe outfit sent free with brooder if you order NOW.

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Jim Rohan's Latest Bulletin

For smaller capacity get my 80-egg Champion Belle City Incubator for \$9.95; my 80-chick Hot Water Belle City Brooder for \$4.95; or both ordered together for only \$12.95—Express Prepaid East of Rockies.

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Hot-Water, Copper Tank, Double Walls Fibre Board, Self-Regulated Safety Lamp, Deep Nursery, Thermometer & Holder, Hatches chicks, ducks, turkeys and geese \$6.95 buys 140-Chick; \$9.95 buys 230-Chick Hot-Water Double-Walled Brooder. Save \$1.95—Order Both. A complete hatchery.

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Or write me for Free Poultry Book, "Hatching Facts," Jim Rohan, Free, Belle City Incubator Co. Box 14, Racine, Wis.

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FINE ILLUSTRATED CATALOG FREE. Tells how we produce RELIABLE CHICKS that have pleased thousands of customers. We hatch 13 Varieties. COMBINATION OFFERS. VALUABLE BOOK GIVEN FREE with each order. HUBER'S RELIABLE HATCHERY, East High St., Fostoria, Ohio.

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Silver Ward Hatchery, Box 29 Zeeland, Mich

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PROFIT MAKERS

Breeders of high egg production, combined with sturdy free-range stock of exhibition quality assures you of fine success with Ovie's Healthy Chicks.

BLOOD TESTED

Tested for White Diarrhea and elimination of infected birds assures Profit Makers. 12 leading money-making breeds. Shipped prepaid and live delivery guaranteed. Write for Big Free Catalog. 80,000 chicks weekly.

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Wishbone Hatched CHICKS

The finest day-olds money can buy. Strong, big from free-ranged stock. All popular varieties. Shipped by parcel post. Write for moderate price list.

Wolff's Hatchery, R. 11, Holland, Mich.

Chicks with Pep

Try our lively and vigorous chicks from bred-to-lay and exhibition hens. They will make you money for they have the quality and egg-laying habit bred into them. A trial will convince you.

All leading varieties. Safe delivery. Prepaid. Prices right. Bank reference. Big, illustrated catalog free.

Holgate Chick Hatchery, Box M, Holgate, Ohio

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at popular prices. We won 1st and 4th prize this year on English strain White Leghorn Hen at the National Poultry Show, Chicago. Also first at Zeeland Poultry Show. Other breeds have had same careful supervision in developing and breeding. Pure-bred stock carefully culled. 100 per cent live arrival guaranteed. Our chicks are money makers and will improve your flock. Write for catalog and prices. A trial will convince you. All flocks certified.

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Send for free catalog describing best bred chicks in the country. Tom Barron and Tanager White Leghorns, Michigan Champion Winter Laying Barred Plymouth Rocks and S.C.R.I. Reds. No better chicks anywhere at any price. Satisfaction and 100 per cent live delivery guaranteed.

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Black, Brown, Buff, White, Brahmas and Orpingtons. Anconas and Minorcas. Reds, Rocks, Wyandottes. Allegan Hatchery on Highway No. 89. Send for 1924 price list. Crescent Egg Company, Allegan, Mich.

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Whittaker's Reds Chicks

And eggs for hatching. Rose and Single Combs. Michigan's greatest color and egg strain. Bred from fourteen generations of winter layers. Write for free catalog. Interlakes Farm, Box 39, Lawrence, Mich.

Baby Chicks \$12.00 per 100 and up. We are listing 12 varieties of pure-bred fowls, chickens, ducks and guineas. Send for prices and circulars. Clinton Hatchery & Poultry Farms, Wilmington, Ohio.

Additional Poultry Ads. on Page 421



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For example, Jamesway Drinking Cups are *guaranteed* to increase milk yield two pounds per cow per day. In a herd of 20 cows this means 40 pounds extra milk yield per day. If milk was selling for only \$2.50 per hundred pounds, the extra income amounts to \$27 per month.

Whatever equipment you need—whether stalls, pens, carriers—drinking cups, or ventilation—can be installed in your barn immediately—today on the

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A small down-payment is the only investment you make—your earnings take care of the rest. In many cases, only a *part* of your *extra earnings* is all that is needed.

Write Today

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from Earnings" will take care of that. Remember, Jamesway Service too. We dig deep into your cow, sow and hen problems—apply common-sense, practical knowledge of farm management—try to show you how and where to make more money. It costs nothing to find out. Write right *now* while you are thinking about it.

Ask for Booklet No. 75.

Jamesway FT. ATKINSON, WISCONSIN
Elmira, New York Minneapolis, Minn.



Meets Jersey Breeders

ONE night recently we took the train at Reed City, for Kalkaska, arriving about four A. M. The leading hotel was closed, and we were at first unable to find a substitute for it. But finally, entering a door that was not locked, we made our way upstairs in the dark, where by pressing an electric light button, we were able to discover an unoccupied bed.

We took possession of it at once, and owing to the temperature, felt no concern about the spread of germs of any kind. After a morning nap, and a bite of breakfast, we were discovered by County Agent Bird, who in company with some friends, drove us to Boardman Valley Grange Hall for a meeting with the grange, and the Kalkaska County Jersey Cattle Club.

Mr. D. P. Rosenberg, president of the club, is a pioneer in the breeding of Jerseys. He has a remarkable herd, the product of years of intelligent and careful breeding. Associated with him are a number of progressive farmers, who have recently become interested in the Jersey breed.

The desire for better herds seems to be contagious, and the Jerseys are found to be very profitable cows in that section. The growing of good ensilage is engaging the attention of the dairymen, and the seedlings of alfalfa and sweet clover are increasing year by year. Much of the land in Kalkaska county must be limed for alfalfa and sweet clover, but soy-beans do not require lime, and they are becoming very popular as a crop for hay or to grown in connection with corn for the silo.

But we started to tell you about the dairy meeting. The day was anything but pleasant, and the roads led away from the drifts and through the fields in a number of cases, but the attendance was good, and the interest was fine throughout. A high note was struck in the program in the reading of a letter from D. Reed Kirkpatrick, one of the leading members of the club.

We first met Mr. Kirkpatrick in December, 1911, coming to his community to conduct a farmers' institute. When a young man he attended the Moody Bible School, in preparation for evangelical work. But his health failed and his physician advised life on the farm. He settled in Kalkaska county, where his unusual talents found expression in a farm and home, second to none in the locality.

He was a very successful alfalfa grower, and his interest in this crop has increased with the years. I quote from the letter, because the writer is in failing health, no longer able to take part in the labor of the farm, and most of the time is confined to

the house. The faith and the optimism expressed in a letter like this, from one in his condition, are good things to copy. An extract from the letter follows:

Dear Friends:

This is my first attempt at letter-writing in four months, the temptation is too strong to resist. I am thankful for your courage and faith in the dairy industry and Jersey breed for Kalkaska county * * * Form a testing association, weed out, feed up and breed up. Profits are more sure than any crop we have tried * * * Herd is coming fine now, we think. Last month the herd record for ten cows—six in milk, fresh since September 15, one a stripper, and three dry—one made thirty-seven pounds of fat, four are in the forty-pound class, and one made fifty-six pounds of fat. * * Pin your faith to alfalfa, sweet clover and soy-beans for feed. Let us thank God for the pleasantries of life, and possibilities to make the world better, through just such meetings as you are holding today.

Dr. Fosdick has written a wonderful article, entitled, "Seeing it Through." Mr. Kirkpatrick is going to see it through.

It is doubtful if the value of self-help has ever been fully appreciated. The greatest need of rural life today, is for local leadership, that will assist communities to help themselves. For nearly a generation, Kalkaska county has had such leaders, some of whom "rest from their labors and their works do follow them." But a goodly number remain, and promising young people are taking up the work, and the future will show no lack of leaders. Present indications are that in a few years, Kalkaska county will enjoy a wide reputation as a dairy county, and as the home of as good Jerseys as can be found anywhere else in the state.—W. F. Taylor.

FEEDING POOR HAY.

WHILE the general farmer finds economy in feeding his lower grades of roughage, the fact should not be overlooked that such feeds do not have the full nutritive value that number one roughages have. Otherwise, there would be no difference in the market price of these different grades of feeds. The value of the various farm feeds can be roughly gauged by the condition of the animals to which they are fed. Watching closely his stock, the feeder can know quite accurately whether he is treating the animals to the quantity of roughage they should have.

White rats, pink of eye and not very lovely to look upon, have done more in the last fifteen years to show us what we should eat than 100 years of chemical analysis and investigation had previously revealed.

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Get the lowest prices ever quoted on famous Peerless high quality Fence, Steel Posts, Gates, Barb Wire, Roofing and Paints. Send your name for big 104 page bargain book. All Peerless products.

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Frank S. Edwards, R 1, Camden, Mich., says:

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Cut your own fence costs to the bone by buying direct from us at Lowest Factory Prices. We Pay the Freight.

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Galvannealed
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Cuts Fence Costs in Half—

is GUARANTEED to last 2 to 3 times longer in any standard test and to have 2 to 3 times heavier zinc coating than ordinary galvanized wire. It should last many years longer; therefore, cost far less than you paid for your present fence.

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Stiff stay wires and well crimped line wires locked together with the famous little Square Deal Knot so tight they are guaranteed never to slip, make Square Deal a firm, long-lasting, economical fence. 50c copy of Ropp's New Calculator sent free to landowners who write for catalog that tells all about the new high test, Triple-Life "Galvannealed" wire.

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An improvement found only on West Bend Barn Equipment. One lever locks in or releases from 2 to 50 cows instantly, and also operates cow-stops. Saves thousands of steps. Simple, practical and indestructible. Used on the best dairy farms everywhere. Our steel stalls, mangers, pens, litter carriers, ventilators, water bowls and other dairy barn necessities are your best investment. Get our

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Explains entire line, also our special FREE service to farmers building new or equipping old barns with the best labor-saving devices. Blue prints furnished. Drop us a postal for full information. We are helping thousands of farmers make more profit out of their barns. Why not you?

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County Holstein Activities

Doings With the Various County Holstein Associations.

MICHIGAN has sixteen active county associations of Holstein breeders. There are several organizations which hibernate in the winter and sleep in the summer. Two, Wayne and Calhoun, are in embryo to be formally born later in this month.

Using Long-Distance Sires.

Seven local associations have held meetings since the first of the year. Hillsdale led off on January 7. "Seven" is well known as a lucky number, holding true in this case, for not many breeders showed up. The luck lies in that the meeting was staged in a small room; if a great horde had attended, the place would have been unduly packed.

But, all alleged joking aside, the Hillsdale boys are pointing right in the Holstein game; they have for main objective the using of yearling record bulls. The future will undoubtedly prove their contention that breeding a long distance sire on cow-testing association record dams will produce Holsteins good to own and good to sell.

Gratiot County reared up next, on January 22nd. But snow descended copiously so that only seven strong men could reach the meeting place at Ithaca. The number seven held no luck in this case, for Shorty Himes, president of the County Association, had to walk seven miles home, the bus not being able to wallow through. And County Agent Pressley was forced to entertain J. G. Hays, Holstein State Fieldman, overnight as traffic was snowed out of commission.

Gratiot took another bad dose from the snow-gods when on a second attempt on February 15th a blanket of the beautiful white preceded. However, roads were somewhat passable so that a score of breeders rallied round the stove in the Farm Bureau office. Following a talk by State Fieldman Hays, the breeders took definite action endorsing the project for their association of calf club work and cow-testing association organization.

Interest in C. T. A. ran high. The county agent was invited to call upon any help needed from members of the County Holstein Association in forming a cow-testing association. Six members got so enthused that it was necessary to adjourn so that they might sign the C. T. A. membership checks.

The same hard luck as to surplus snow assailed the Kent County boys on a date in late January. Only more so. And again in Sanilac County snow debarred a meeting set for February 26th.

Livingston Breeders Cross Toes Under the Table.

Twenty-three, another lucky number, was the date in January on which the Livingston County Association successfully met. Although the luck may have come from the twenty-seven dinners served to the gang by the American Legion auxiliary. It is true there were but twenty-six present, but county Agent Bolander personally made the twenty-seventh serving possible, thus insuring the presence of Lady Luck. It was sure a live meeting—nothing promotes cordiality more than gathering around the feed table. There were two main topics for debate, the bull association and the county sales manager system.

"Debate" is a poor word to use in connection with these topics. "Testimonial" would be more apropos. For the members are pleased with the working out of the bull association, formed last summer; an association, you remember, of four blocks each with a high class sire, built around the Central Sire, a son of May Walker Ollie Homestead, the U. S. champion yearly butter producer. All five bulls are line bred.

The sales manager system as a

means of selling surplus Holsteins also came in for favorable comment. As a result of operating under this system one year, the county association has over three hundred dollars in its treasury. This money was voted to be spent for the erection of a pair of huge signs advertising Livingston County Holsteins, and for journal advertising. Nothing stirs up business better than to do a little of it.

Tuscola Breeders want T. B. Hung.

"We are all pretty beat." Such were the words of a German Holsteiner of Tuscola county, uttered January 24th, before a meeting of the Holstein association of that county. The final analysis of the meeting shows that the forty-eight corpses in attendance were sure a jazzy lot! For, aided and abetted by County Agent Sims and Fieldman Hays—two lads who like black when mingled with white on a cow but not as a shade symbols of a County Holstein bunch—the breeders came out decidedly in favor of C. T. A. work. They elected two deputies to assist the county agent in this work. They elected also Oscar Wallin, of Unionville to act as a County Sales Manager with Thomas Kimmel, of Caro, as an assistant; and fired a broadside of protest against the misguided powers who have held Tuscola County back from area work in eradicating T. B.

Now that these breeders have given up playing possum, other counties will do well to look to their laurels, for in Tuscola County are some of the largest and best-bred pure-bred and grade Holsteins in the state. Clean 'em up as to T. B.; get 'em in C. T. A. work; watch them in the hands of men who sure know how to handle cows and are not afraid to give them a little to eat now and then; watch them lug Tuscola into the limelight as a Holstein County.

Where They Rally Easy.

On the way back to M. A. C., the Fieldman stopped for a chat with Shiawassee breeders. Found twenty chatters on hand—not so bad a number for an impromptu night rally. Shiawassee breeders are a good bunch in regard to turning out for meetings. On this pleasant wintry eve, the topics under 'concussion' were mainly local, although delegates to the State Annual Meeting were elected.

Naturally "Eats" on County Breeders Are Good Dinners.

Eaton County bowed herself gracefully into action on January 29. No definite projects were adopted. Officers were duly elected. A certain air of polite difference seemed to be in order, especially manifested by the rapid zeal with which breeders accorded the signal honors of high offices, accepted them. Possibly the Holstein men were bashful in the presence of a large crowd of spectators who were assembling for a joint meeting of Eaton County's three cow-testing associations.

Practically all the Holstein men stayed over for their C. T. A. feed, being members, and it was a notable fact that their performance at the banquet table was hampered by no maidenly reserve! At the meeting following, certain men spoke of the excellent qualities of their favorite breed. G. T. Warren, of Charlotte, championing the Black and White, rose to no oratorical heights, saying simply that the Holstein Cow spoke for herself!

Jackson Has Long Favored "Black and White."

On February 23—the date of 7, bringing us back to our lucky figures—Jackson County staged her annual meeting. A small band, grim and determined, met at the Y. M. C. A. in Jackson. Corey J. Spencer, noted Holstein breeder, presided with great

Continued on page 419.



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Continued from page 389.

employed by Mr. Eckard, the lighting beginning at five o'clock in the morning, and continuing until dawn. That hens handled in this manner do not suffer loss in breeding qualities and vitality, as is sometimes asserted, is proved by the fact that Eckard's pens which are leading the contest, were hatched without exception from pullet stock which had been raised in the same manner. Proper breeding is considered as the determining factor in the production of qualities of vitality, endurance and breeding, rather than the use of artificial lighting. This forcing of the hens increased production after its introduction by about twenty per cent, while Professor Foreman, of M. A. C., declares that from thirty to forty per cent increase may be secured from flocks which have not had such careful breeding.

All the pullets in Mr. Eckard's flocks are trap-nested the first year, and mass-mated in units of about 200 pullets to the pen. After the completion of the first laying year the high-record pullets are segregated and placed in small pens or individual matings are carried out. In this manner hens of varying production ability are separated and placed together according to their production, one pen containing hens producing annually from 200 to 220 eggs, another from 220 to 240 eggs, and likewise with all the hens. The purpose of this method is that when a sire of unusual prepotency is secured, he may be used to the best possible advantage by mating him with the lower pens needing improvement.

Heavy protein feeds have a large place in the feeding of the chickens. Mr. Eckard is a great believer in the use of milk by-products as an important factor, both in promoting growth and production. The milk is used in the form of a semi-solid buttermilk paste at the rate of twenty-five pounds a day per 1,000 birds. He also feeds a dry mash containing twenty per cent bran, twenty-two per cent cornmeal, twenty per cent of wheat and oats middlings, fifteen per cent meatscrap, two per cent calcium carbonate and one per cent salt. This mash is available at all times in dry mash hoppers. Scratch feeds of two parts of cracked corn and one part each of wheat and sprouted oats is also given. The grain feed is limited to two ounces daily per bird, requiring a mash consumption of about two ounces daily, and balancing the rations in the proper manner.

Uniform production is maintained by dating the hatching of one group of

the birds in March, another in April, and another in May. In this manner the different pullets mature and come into production at different times, preventing a very large drop in production at any one time.

Mr. Eckard at present is trapping about 800 hens, from which he secures about fifty per cent average production the year around. Outside of the breeding season, all the eggs shipped to the fancy grocery trade at Chicago and sold at premiums of about five cents a dozen over top market prices. Every egg is candled and graded carefully before shipping as a means of developing a reputation for high-quality eggs production.

Some interesting figures have been compiled by the M. A. C. poultry experts who are directing the egg-laying contest. During the sixteen weeks of its duration up to February 20, a total of 45,751 eggs were produced by the 100 pens entered, of which 24,905 were produced by the fifty-one pens entered in the White Leghorn division which Mr. Eckard is leading.

The total value of the grain, mash and milk constituents of the feed was \$502.62, or an average cost per egg for the total production of all the pens of 1.1 cents per egg. Leghorns produced at a cost of 1.0 cents per egg, however, while the other breeds ranged from 1.05 cents per egg for Anconas, to 1.18 cents for Rocks, 1.22 cents for Reds, 1.24 cents for Wyandottes, and 1.53 cents per egg for the four pens classed under miscellaneous in the summary.

The standard mash used for feeding this winter costs \$42.03 per ton, while semi-solid buttermilk paste was fed at the rate of twenty-five pounds per day per 1,000 birds. The cost of feeding per bird ranged from 40.3 cents for the Anconas, to 48.6 cents for Leghorns, 51.7 cents for Reds, 53.7 cents for Wyandottes, and 54.1 cents for Rocks.

Cooperative marketing organizations having a history reaching back ten years or more, have realized fully that they must guarantee the trade a product of standardized quality.

To appreciate the tremendous volume of America's freight traffic, it is sufficient to state that for 1923 there was an equivalent of 4,160 tons of freight carried one mile for every man, woman and child in the country.

Foot and Mouth Disease Warning

AFTER several years of freedom from foot-and-mouth disease the infection has appeared in the United States, this time in California. It is now the prime duty and privilege of live stock owners to fully cooperate with state and federal officers in the quarantine and slaughter of affected and exposed animals, in the disinfection of infected premises, and in all other measures essential for checking the spread of the disease and accomplishing its eradication.

If a condition suspicious of the disease, such as vesicles (blisters) in the mouth or on the feet develops among any of the cattle, sheep or swine, the owner should immediately notify his state veterinarian or the nearest inspector of the bureau. Pending the arrival of an official veterinarian, the owner of suspicious animals will, as a matter of course, close his place to all visitors and with his family and help refrain from visiting other farms.

If the animals are found by the inspector to be affected with foot-and-mouth disease, all stock on the premises, including the horses, will be carefully confined and all dogs be prohibited from running at large. No animals are to be received on, or shipped from the place, or moved across any highway, and no milk, hay, feed, or manure is to be removed from the farm. It should be borne in mind that the curiosity of neighbors to see affected animals, or their well-meant desire to be helpful, may result in infection of their own farms and further dissemination of the disease. There must be close adherence to all the necessary quarantine requirements until all susceptible animals have been slaughtered and cleaning and disinfection of the premises have been accomplished.

Mud and Slush vs. Concrete

By I. B. McMurtry

FARMER readers, have you ever observed quagmires of filth to develop at the door to the horse or cow stable, around the watering trough, or even in the hog pen? Where such conditions exist can one do chores or other work where it is necessary to pass through this filth, with any degree of efficiency.

Imagine, if you can, any successfully managed factory—even a fertilizer factory—having any such cess-pools of filth at their entrance doors, as are seen at and must be waded through to enter nearly one-half of the cow and horse stables of the country during a good part of every year.

Factory managers see at once that such a condition would not only be a great inconvenience, but would cause a loss of time to their men, and be an eyesore to all visitors. The farm suffers not only these handicaps, but the health and productiveness of livestock are often seriously injured.

There are many substitutes for the real thing in bridging over, or filling up, the holes which horses and cattle produce about stable doors and watering troughs. The easiest and least effective way is to throw old boards into the mud. I have, while serving as a county agricultural agent gone into stables on a series of old two by fours over 10 to 40 feet of knee deep dope. (Dope is not the word which expresses the correct meaning.) A tight wire walker's balancing pole and a very steady nerve were all that would avert a disaster—unless one wore hip boots!

Cinders, stones or broken tile make fillings which have a real bottom to them, but the greatest objection to all of them is that they make a rough surface to travel over and to clean manure from. Concrete placed enough higher than the ground to offer good drainage or so placed that it will lead to a cess-pool and drain tile, offers the only solution of the problem which will prove permanently satisfactory.

Concrete work is not very expensive if one will but get the materials necessary and do the work when farm work is slack. All arrangements should be made for securing the proper amount of gravel or crushed stone with stone or cinders for the base and cement. All of it should be hauled before time to begin the spring work. If the weather will permit the job may be done at this time. Otherwise the concrete may be laid during showery spells in the spring.

If it is not possible to lay all the concrete about the stables that is needed this spring just start the job by fixing up the worst place on the farm. Of course I need not suggest that if the first improvement is at a stable door that the concrete should not be trowelled so smooth that it will be slippery. It should be roughened after it is trowelled down. If any mistake is apt to be made in the size of the concrete work, make it too big. Make it extend at least the length of a horse from the door.

The chief benefits of such concrete work as I have advocated briefly in this article are:

1. It will save many hours of time handling the stock during the year.
2. It will add greatly to the comfort, health and productiveness of the cows and other stock to be permitted to get into the stable without getting feet and legs all plastered with slush.
3. It will add largely to the comfort, convenience and peace of mind of the boss as well as of the hired man.
4. It will be worth twice its actual cost in increasing the value of the pro-

CLOVERLAND COWS HITTING ON HIGH.

SEVEN cows in the Gogebit County Cow Testing Association produced more than 7,000 pounds of milk in a

recent seven-months period, thus averaging better than 1,000 pounds per month.

Aaggie, a pure-bred Holstein owned by Victor Talo has produced 8,977.1 pounds of milk with 291 pounds of butter-fat in seven months. Aaggie freshened March 17, 1923.

Queen, an eight-year-old grade Holstein owned by Eric Strand, is a runner-up, for, although she has less milk to her credit than Aaggie in the seven-month period by 105 pounds, it must be remembered that Queen had been producing two months and thirteen days when Aaggie came into production and Queen has 315 pounds of butter-fat to her credit, while Aaggie has 291. Both Queen and Aaggie will exceed a production of 12,000 pounds of milk annually, and are remarkably good cows.

John Tassava's Suomi pure-bred Holstein comes third with 7,809 pounds of milk and 263 pounds of butter-fat.

H. Juniata, a pure-bred Holstein cow owned by K. Gunderson, has been high cow in milk and butter-fat production. In a recent month they made 1,677 pounds of milk and eighty-five pounds of butter-fat; 1,473 pounds milk and sixty-three pounds of butter-fat, respectively.

HOLSTEIN COUNTY ACTIVITIES.

(Continued from page 417).

ecial. In order to secure privacy, the noon feed which ushered in the meeting was held in the private office of the Y manager. Here, behind closed doors, the state Fieldman Hays whispered the achievements of the state association this past year; officers were elected, and three important measures put through.

One was the passage of a resolution demanding that tuberculosis eradication be resumed in the county by the supervisors. Another was the appointing of County Agent Decker, William Wood and Russell Blake to cooperate with W. B. Burris, manager of the Jackson Fair, to secure proper showing of Holstein cattle at that fair; and, third, to handle the selling of surplus cattle of members, the breeders elected Arthur Perrine, of Rives Junction as county sales manager, with Ben Smith, of Rives, as assistant.

Meetings being held this week include Kent, on March 11; Shiawassee, night of the 12th, Livingston, the 13th and Lenawee, the 14th. C. M. Long, of Chicago, Field Manager for the National Holstein Association, will address these meetings. Wayne County breeders meet to organize a county association on March 19, and Calhoun breeders meet for the same purpose on the 20th.

The Hopkins Cooperative Creamery of Allegan county received over eleven million pounds of milk and did a business amounting to \$277,393.40 during 1923.

According to the state department of agriculture there are more automobiles in the northern peninsula of the state than there are horses.

With five animals entered in the recent Shorthorn show held at the Agricultural College, McLachlan Bros. of Evart won four first prizes.

Utah sugar beet growers have formed a state organization, which is a federation of twelve county organizations.

Kanred wheat, a rust resistant variety developed in Kansas, is not rust resistant when grown in the vicinity of Lansing, although it is free from this disease at the Chatham experiment station.

Says Sam: Hearsay, at a conservative estimate, is half lies.

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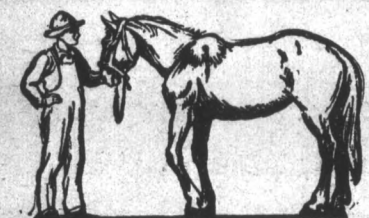
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STOCK FARMING

GROWING TWIN LAMBS.

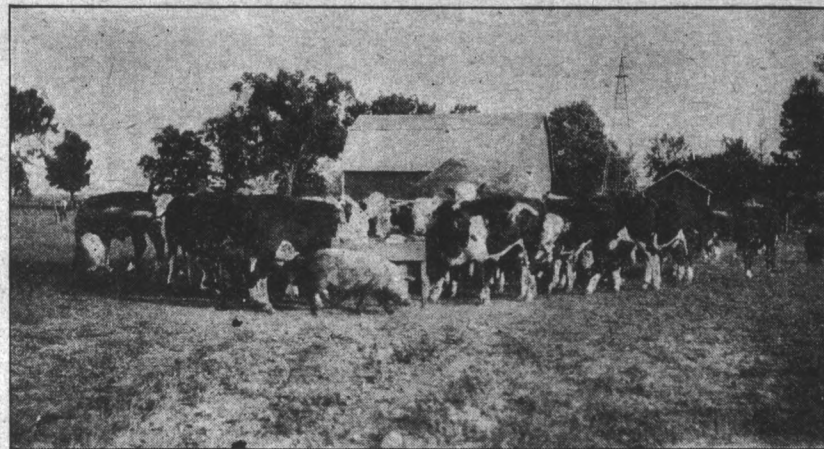
IT is the desire of many farmers raising sheep to increase the flocks by raising twin lambs, not only on account of their additional increase thereby, but also because of the satisfaction had from growing twin lambs. A farmer who keeps sheep on a small scale told me recently and with much satisfaction, that he had succeeded in raising twenty-two lambs from eleven sheep, which constituted his entire flock. Certain breeds of the coarse wool producers have been bred in some sections of the country with a view of producing twins, and to such an extent that if they have been bred with those of the same breed, prob-

excellent feed for the ewes at this season, while legume hays, particularly alfalfa, make first grade roughage feed.

LIVE STOCK CO-OPS. FLOURISH.

SEVENTY locals were added to the membership of the Michigan Live Stock Exchange during the past year, bringing the present membership up to 223 local cooperative live stock shipping associations, according to reports published at the annual meeting of the exchange recently held at Lansing.

The exchange commission house at Detroit is now handling about one-third of the live stock coming to that



This Strongly Built Barnyard Cafeteria is Most Popular with this Bunch of Well-Bred White Faces.

ably two-thirds or three-quarters of the ewes will have twins. And as these twins have always been favored by breeders, the tendency to produce twins has increased.

No farmer should breed for early lambs unless he has a basement barn, or other facilities for keeping the place warm. Then he can, by choosing a coarse woolled ram, breed it to grade ewes with reasonable certainty of growing more lambs than he has ewes in the flock.

But this is not all profit by any means. The ewe must be fed extra and with succulents, almost as soon as the lambs are born, and the lambs themselves must be fed extra new milk, preferably just as it comes from a fresh cow. The milk of farrow cows is not good, as it does not have the laxative quality that milk from a fresh cow has.

Fed in this way a few days, they may be given a little clover hay to eat. They will quickly learn to pick at it and eat more or less. And after they have learned to eat clover, they may be given a few oats. If these are fed to the ewes giving milk, the lambs will learn to eat with their dams, just as they did in eating clover.

Unless the lambs are to be fattened, feeding them oats should be stopped after the season is advanced enough to make good nutritive grass. But the oats, varied with some dry wheat bran, will be needed by the ewe until her milk dries up. In this way a ewe may be kept in milk longer than under the usual treatment given.—T. M. Couch.

KEEP THE SHEEP DRY.

A PRACTICAL sheep man advises that farmers owning flocks pay especial attention to the ewes in the period preceding the lambing season. Dry beds are important. The wind and rain should be kept out of the quarters in which the ewes are housed. Another essential is exercise. To provide for this, the ewes should be allowed access to the barnyard or field. Oats and bran, equal parts, make an

market. The volume of business already done through this house runs into the tens of millions of dollars.

During the first fourteen months of the operation of the Producers' Cooperative Commission Association at East Buffalo, over \$11,000,000 of business was done for its patrons, giving it first rank among the eighteen commission firms on the Buffalo market. Checks have just been issued for a \$24,000 dividend to be pro-rated back to shippers, Michigan's share of this amounting to \$10,653.70.

The board of directors was re-elected, except C. H. Runciman, of Lowell, who is succeeded by Frank Oberts, of Breckenridge. The old directors returned were: E. A. Beamer, of Blissfield; W. J. Perry, of Grand Blanc; J. H. O'Mealey, of Pittsford; Alex. Lindsey, of Decker; Edward Dippey, of Perry; Charles Woodruff, of Hastings; L. E. Willett, of Laingsburg; C. V. Tracey, of Ithaca.

OLD FEEDER GIVES A HINT.

AN old steer feeder drops a little hint to other members of his fraternity. He appreciates the value of having steers go to the market in their best clothes. The early shedding of the winter coats aid materially their attractiveness.

To bring about early shedding this old feeder makes use of linseed meal. He uses around three pounds per day in the ration for a steer weighing upwards of 1,200 pounds. He mixes this with the grain ration, but states that he has also found it equally satisfactory when scattered over the silage feed.

1923 WOOL CLIP WAS LARGE.

THE total United States production of wool for 1923 was 223,610,000 pounds, or an increase of 1,500,000 pounds over the preceding year. This increase was due to a large number of sheep on American farms, and to an increase of three-tenths of a pound in the weight of the average fleece which reached 7.3 pounds.

BREEDERS' DIRECTORY

Change of Copy or Cancellations must reach us Twelve Days before date of publication

Brookwood Farm

Registered Guernseys of both sexes for sale at reasonable prices. Young stock from A. R. dams. Herd is Federal Accredited.

JOHN ENDICOTT, Owner
BIRMINGHAM, MICH.

Reg. Guernseys We are offering at very reasonable prices for quick sale some choice cows in milk, a two-year-old heifer soon to freshen, and a splendid young bull ready for service. Don't write but come if you want Guernseys. Farm located 1 mile north and 4 miles east of St. Johns. Wm. S. Ormiston & Son, St. Johns, Mich.

10 Reg. Guernsey cows, some A. R. Record May Ross breeding, \$2,600 for all; herd bull \$100. John Ebels, Holland, Mich., R. 2.

Reg. Guernseys Two Nice Bulls, nearly ready for service. Special terms if desired. J. M. Williams, North Adams, Mich.

Ready For Service

Good, light-colored Holstein bull, born February 27, 1923. Sire—A son of Echo Sylvia King Model and a 24.9-lb. Junior three-year-old daughter of a 31-lb. cow with a 365-day record of 989.7 lbs. butter and 23,629.5 lbs. milk.

Dam now on yearly test, with better than 840 lbs. butter and 20,000 lbs milk in ten months. Send for pedigree and price to

BUREAU OF ANIMAL INDUSTRY
Department C.
LANSING, MICHIGAN

Registered Holstein Bulls

Up to eleven months of age. Good individuals and good breeding, at low prices. Also a few young cows or heifers soon to freshen. A healthy herd. I. M. SHORMAN, Fowlerville, Mich.

FOR SALE 45 Holstein Heifer Springers. Tuberculin Tested. Large Type. John Hickey, Reese, Mich.

FOR SALE Jersey bulls ready for service. All cows Register of Merit. Accredited herd. Would take a bankable note. SMITH AND PARKER, R. 4, Howell, Mich.

Brookwater Jerseys

Bull calves for sale. Majesty breeding. Herd tuberculosis free. Come or write. Brookwater Farm, Ann Arbor, Mich.

Registered Jersey cattle, young bulls, for sale. Tuberculin tested. J. L. CARTER, Lake Odessa, Mich.

15 Cows, 4 bulls from R. of M. Cows. Chance to select from herd of 70. Some fresh, others bred for fall freshening. Colon C. Little, Coopersville, Mich.

HEREFORDS

Bulls, Heifers and Cows with Calves by side. Most popular strains. Allen Bros., 616 S. Westedge St., Kalamazoo, Mich.

HEREFORDS

Registered Breeding cattle, T.B. Tested at practical prices for production of Hereford Baby Bees profitably, all ages. **T. F. B. SOTHAM & SONS** (Herefords since 1889) St. Clair, Mich.

Thumb Hereford Breeders' Association can supply your needs with outstanding, well-bred registered Herefords, either sexes, polled or horned at reasonable prices. Inquire of E. E. TWING, Sec-Treas., Bad Axe, Huron Co., Mich.

Herefords For Sale Cows with calves, yearling and two year old heifers also young bulls at beef prices. Ralph Calhoun, Bronson, Mich.

FOUR heifers of the best Hereford breedings, at reasonable prices, also one young bull. No better anywhere. Ward Dunston, Clarkston, Mich.

Francisco Farm Shorthorns

and Big Type Poland Chinas

Now offering three good bulls and a few choice gilts bred to Elvetrand Revelation 2nd.

P. P. Pope, Mt. Pleasant, Mich.

BIDWELL SHORTHORNS

Revolution Jr. 573939 heads, accredited herd 28917. Now offering 2 January roan bull calves of exceptional merit, reasonably priced.

BIDWELL STOCK FARM, Box D, Tecumseh, Mich.

Wildwood Farm Milking Shorthorns. An accredited herd bred for beef and milk. Headed by King Sales, grandson of Glenside Dairy King. Fresh cows and heifers priced reasonably. Visitors welcome. Beland & Beland, Tecumseh, Mich. Paved Road No. 50.

When In Need of Red Polled Bulls, Cows or Heifers, Buy from Michigan's leading herd, owned by Westbrook Bros., Ionia, Mich.

FOR SALE 3 roan scotch Shorthorn bulls, 8 to 12 mos. at \$75 to \$100 each. Come Quick. H. B. Peters & Son, Elsie, Mich.

For Polled Shorthorns Milk Strain. Either Sex. Paul Quack, Sault Ste. Marie, Mich.

Red Polled Cattle for sale. Bulls ready for service. Cows with calves and heifers. G. A. Calhoun, Bronson, Mich., R. 1.

HOGS

To be Popular Is to be Different That's the reason

Topmast Sensation

Is So Popular!

He outmeasures and outweighs the best boars in the state. BEST of ALL, he transmits his individuality to his offspring. Bred Sows and Real Boar-Prospects for sale. **LOEB FARMS**, Virgil Davis, Supt. Swine, Charlevoix, Michigan.

Converse BIG C LINE

Sold by
Dealers
Every-
where



White
Top
Band
and the BIG "C" on
the White Tire Sole
are exclusive marks
of Converse
quality

White
Tire
Sole
No
Break
Here

"Ruff
Shod"

Built like a battleship—easy as an old shoe. Fits perfectly because built on "foot-shape" last. Foot and ankle construction prevents "break" at instep which eventually cracks the best rubber. Extension sole prevents scuffing and snagging and will not collect mud. Made like the famous Converse "Caboose" and delivers the same service. "Caboose" heavy duty work rubber outwears them all. Extra strength in the two-ply uppers and double-thick White Tire Sole. Hugs the ankle tight and high. Always comfortable. Ideal foot wear for tough going. (Made in red and black rubber, but we recommend black for service.)



Try them today!
Insist upon the White
Top Band and the
BIG "C" on the White Tire Sole. If your store-
keeper hasn't the Converse BIG "C" LINE write
nearest office for catalog and dealer's name.

Converse Rubber Shoe Co.
CHICAGO :: BOSTON :: NEW YORK

Only \$2 DOWN
ONE YEAR
TO PAY

You can now get any size of the New
Butterfly Cream Separator direct from
our factory for only \$2 down, and on a
plan whereby it will earn its own cost
and more before you pay.

We quote Surprisingly Low Prices and
allow payments as low as
ONLY \$3.50 PER MONTH
No interest to pay—no extras.
Every machine guaranteed a life-
time against defects in material
and workmanship.

30 Days' FREE Trial on your
at our risk. Nearly 200,000 already
in use on American farms. Easiest
of all separators to clean and turn.
Write for Free Catalog Folder today.

ALBAUGH-DOVER CO. 2165 Marshall Bldg
Chicago, Ill.

Certified White Leghorn CHICKS

HOLLYWOOD
MATED \$15 per 100
Sired by Hollywood males
whose dams had egg re-
cords of 250 to 300. Stock
certified by Michigan Baby
Chick Ass'n.
**Rural Strain,
Barron Bred \$13**
Anconas, Barred Rocks.
Send for catalog.
RURAL POULTRY FARM
Box 109, Zeeland, Mich.



Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscrib-
ers. Letters should state fully the history and symptoms of
each case and give name and address of the writer. Initials
only are published. When a reply by mail is requested the
service becomes private practice and \$1 must be enclosed.

Diseased Scalp.—I have a gelding
that is losing his hair on and around
root of tail. The skin must itch for
he rubs himself. R. H. M., Unionville,
Mich.—Apply one part bichloride of
mercury, dissolved in 1,000 parts wa-
ter to itchy parts twice a day.

Nasal Gleet.—I have a horse that
will be twenty in the spring; never
been sick before, but now has thick
discharge coming from both nostrils.
His appetite is good. He has lost
flesh lately. Will it pay me to keep
him? P. L. S., Milford, Mich.—He
may have diseased grinder teeth which
is causing nasal discharge; if so, bet-
ter destroy him. If he is a light horse
he has low value.

Cows Eat Wood.—Our cows are
fond of wood and will chew it when-
ever they get the chance. H. S., Pe-
toskey, Mich.—Mix equal parts of gen-
tian, ginger, fenugreek, baking soda,
common salt together, give each cow
a tablespoonful and three tablespoon-
fuls of powdered charcoal in soft feed
twice a day. Feed plenty of roots.

Abortion.—Our cows suffer from
abortion and I would like to know
how we can control it. The cows mis-
carry six or seven months after they
are bred. C. K., Snover, Mich.—If you
keep your cows in clean stable, give
them good care, they will perhaps
carry their next calf full period. If
any of them have vaginal discharge,
flush, using a one per cent solution of
lysol daily until discharge ceases. Your
stable should be cleaned and disin-
fected every two weeks.

Lice.—Can you tell me the best way
to get rid of lice on horses and cattle
without using a solution? A. L. D.,
Uby, Mich.—Either apply gray mer-
curial ointment or insect powder, but
don't forget to clean your stable.

Heifer Has Never Been in Heat.—I
have a heifer one year old that has
not been in heat yet. G. P., Caledonia,
Mich.—Give her twenty grains of
ground nux vomica, and one dram of
ground capsicum in feed three times
daily. Keep her warm, and feed some
grain. If she has twin brother she
will not breed.

Shy Breeder.—I have a cow that
freshened December, 1922. My local
veterinary cleaned her. This was fol-
lowed by vaginal discharge, but dur-
ing the summer she seemed to get
over that. She has been served sev-
eral times, but fails to get with calf.
This vaginal discharge has returned.
R. C. I., Chelsea, Mich.—Give her one
dram of powdered sulphate of iron in
feed three times a day.

Bunch on Udder.—I have cow with
bunch on front part of udder, that
hangs down. What shall I apply? R.
A. B., Holt, Mich.—Either paint bunch
with tincture of iodine daily, or have
it cut off.

Death Following Castration.—Can
lambs be safely castrated during the
winter weather? Have had some
lambs castrated; they swell after the
operation and die. A. J. B., Shiloh,
Mich.—Lambs one-year-old should not
be castrated during very cold or very
hot weather; however, if the work is
done in a surgical manner and if the
animal receives good care for a week
after the work is done, it should live.
May I again remind those who do
surgical work on animals to be sure
that the instruments and their hands
are clean; also thoroughly clean the
part of animal's body you expect to
wound, and have a place prepared to
keep the animal until the wound heals.

Shy Breeder.—Heifer twenty months
old has been served at different times
by two different bulls, but she fails to
get with calf. What can be done for
her? B. W. C., Marquette, Mich.—The
yeast treatment is inexpensive and
well worth its cost. Drop a cake of
compressed yeast in one quart of tepid
water, let it stand in warm room for
two or three hours, strain, then with
bottle syringe, flush vagina. In my
dairy practice I usually treat the an-
imal daily for a week before she comes
in heat.

Loss of Vision.—I have three sheep
that have apparently gone blind. This
all happened within a few days. The
eyes look blue and discharge some.
P. E. B., Portland, Mich.—Foment the
eyes with hot, boric acid (two per
cent) solution for one-half hour two
or three times a day. Drop one per
cent solution of atropine sulphate in
eyes five times daily. Give each sheep
five grains of potassium iodide daily.
Keep the sheep in a darkened place.
If thin, feed them well; if fleshy, diet
the sheep. Keep their bowels open.

**Certified
Pure Bred
Baby Chicks**
Trapped direct from
world champion layers;
the famous Tom Barron
and Hollywood strains of
White Leghorns. Order
these chicks from pedi-
greed stock now at bar-
gain prices! Hatched in the larg-
est and finest hatchery in Michi-
gan at the rate of 150,000 eggs to
a setting. Also get our prices on
Barred Rocks and other popular
breeds. Satisfaction guaranteed
or money back. Write for FREE
illustrated catalog and special
DISCOUNT PRICES—today.
SUPERIOR POULTRY FARMS
Box 200 Zeeland, Mich.

Buy Your Baby Chicks

from us this year and guarantee your profits
Purchasers of our stock raise 95 per cent instead of
only 50 per cent, because we hatch only tested
Mammoth machines, insuring husky chicks with vital-
ity, and because our flocks are the busy and husky
kind that know no disease. Order from this ad or
write for catalog which tells all about our wonderful
egg strain.

Barred Rocks	100	500
S. C. Reds	\$16	\$77.50
Selected W. Leg.	15	77.50
Eng. W. Leg.	13	70.00
Anconas	14	65.00
Broilers	9	45.00

100 per cent Delivery Guaranteed. PROGRESSIVE
POULTRY FARM, Box 1, Holland, Mich.

Only Trapnested and Pedigreed English S. C. White Leghorns

Chicks, Eggs, 10 weeks old Pullets. From contest
and utility prize winners at Fairs and Shows. The
stock with breeding to back them. Write for circu-
lar.
Pennock Poultry Farm, Nashville, Mich.

Barred Rock Baby Chicks

We hatch only Barred Rock Chicks from
choice selected stock shipped by pre-
paid parcel post to your door, satisfac-
tion and alive delivery guaranteed.
Circular on request.
THE KAZOO HATCHERY CO.
R. R. 3 Kalamazoo, Mich.

300,000 CHICKS

Eggs, Pullets and Breeding Stock
Aristocrat Strain Barred Rocks, both
light and dark matings. Sheppard Strain
S. C. Mottled Anconas, 250-280-egg
strain. Tom Barron S. C. White Leg-
horns, heavy layers. Write for catalog
giving details as to breeding. Special
discount on early ordered chicks. Can
all orders promptly. **FAIRVIEW POULTRY FARM,**
R. 2, Box E, Zeeland, Mich.

QUALITY CHICKS

Strong, vigorous, pure-bred. From heavy
lay Barron strain S. C. White Leghorns
that have been carefully culled and mated
to pure-bred males. The kind that develop
quick and lay early. Following prices—25,
\$3.50; 50, \$7.00; 100, \$13.00; 500, \$62.50. Postage and
live delivery guaranteed. Bank reference. Peoples
State Bank. **LAKE BLUFF HATCHERY, R. F. D.,**
No. 1, Holland, Mich.

CHICKS: Strong, Healthy.
S. C. Tom Barron Eng. White Leghorns,
Brown Leghorns, 12; Shepherd's Anconas,
13; Assorted Chicks, 10c. Class A flocks
therefore we sell no Class B, but Class A
chicks only. 100 per cent safe delivery. Postpaid.
No money down with order. Catalog free. **BOS
HATCHERY, Zeeland, Mich., R. No. 2 M.**

Geese, Ducks Mammoth Toulouse, White
China, Brown China, geese
40c per egg. African & Embden 50c. Ducks—Mammoth
Pekin, Giant Rouen, Buff, F. & W. Runner, White
Runner, Colored Muscovy, White Muscovy. \$2 per 11
eggs; \$3.75 per 22. Won over 2,000 prizes 1923. **Bern-
ard Brearin, R. 3-M, Wapakoneta, Ohio.**

FARROW CHIX FOR SUCCESS

WONDERFUL PRODUCERS—EARLY LAYERS
10 THOROUGH VARIETIES. Lowest prices.
Large free catalog. Write to-day.
D. T. FARROW CHICKERIES, Dept. O, Peoria, Ill.

BABY CHIX

PEDIGREE SIRE Eng. W. Leg. (Barron Strain),
direct from our farm, delivered 100 per cent alive at
your door at \$13.00 per 100; \$60 per 500; \$110 per
1,000. Chix sold from our own flock only. Send for
circular. Model Poultry Farm Zeeland R. 4, Mich.

Highest Quality Chicks Feb.-March prices.
12c; Barred Rocks or Reds 15c; Anconas 14c; Black
Minorcas 16c; White or Brown Leghorns 15c; White
Rocks 15c; White Wyandottes, Buff Orpingtons
17c; Extra selected chicks, built directly from con-
test winners, 4c per chick more. Add 30c if less
than 100 wanted. Hatching eggs. Catalog. Good refer-
ence. **Beckmann Hatchery, TMF, 26 Lyon St., Grand
Rapids, Mich.**

Big 5 To 6 Lb. English White Leghorns.
Larger hens, better win-
ter layers. Chicks, hatching eggs. Free catalog de-
scribes them in full of practical money-making pou-
ltry information. Send for it. **A. Wauchek, Gobles,
Michigan.**

CHICKS White and Barred Rocks,
White Leghorns, English
Strain White Wyandottes, Buff Orpingtons,
Reds. 100 per cent live arrival Guaranteed.
Postpaid. Order from this ad and get the
best. **Durand Hatchery, Fenton, Michigan.**

HOGS

DUROC JERSEYS SOWS

Bred and open Sows of the finest practical type.
Farrowed April 15 to May 15, 1923. Long, well-
rounded body. Send for description and photos.
Fred Vreeland writes: "I am pleased with the
Sows and assure you that they are satisfactory in
every respect."
Every shipment guaranteed to be satisfactory.
STATE FARMS ASSOCIATION
Masonic Temple, Kalamazoo, Michigan

Registered Durocs

FOR SALE.—Young boars and gilts bred from the
best herds in Michigan and Ohio, at reasonable prices
and fully guaranteed. **W. E. Bartley, Alma, Mich.**

DUROC JERSEYS Spring pigs either sex of March
April and May farrow, sired by three outstanding
herd boars. If you want size type and quality combined
come and see or write us. **F. J. Drott, Monroe, Mich. R. I**

Duroc Jerseys Bred Sows, July and September gilts
at prices that leave no excuse for
breeding scribbles or grades. Reg. and guaranteed.
ESSE BLISS & SON, Henderson, Mich.

Duroc Jerseys Extra choice bred gilts
at reasonable prices.
CAREY U. EDMONDS, Hastings, Mich.

O. I. C.'s 75 spring pigs, pairs not akin, from
3 good sires, also fall pigs, recorded
free. **Otto Schulze & Sons, Nashville, Mich.**

O.I.C. & Chester Whites Strictly Big Type with
gilts with extra length. Bred for last March. Also
a few Choice Sept. Pigs. **NEWMAN'S STOCK FARM,**
Marietta, Mich.

25 Reg. O. I. C. Sows Bred for April and May
Farrow. All Stock Shipped on Approval. Priced
Right. **Fred W. Kennedy, R. 2, Plymouth, Mich.**

O.I.C.'s Sept. pigs, Sired by "Giant Boy," Senior
Champion at West. Mich. State Fair, 1923.
Milo H. Peterson, R. 2, Ionia, Mich. "Elmhurst Farm."

O.I.C. 5 young service boars, 8 gilts for April far-
row, and Buff Rock eggs, \$1.00 per 15 eggs.
Clover Leaf Stock Farm, Monroe, Mich., R. 1.

Hile's Good Polands

Big, easy feeding, quality Polands. That's the kind
we like and sell. Bred gilts and sows for sale. A
hundred years of constructive breeding back of them.
WESLEY HILE, Ionia, Mich.

SPOTTED POLAND China yearling gilts, sired by
our 1923 blue ribbon winner Chicago Int'l. Bred to
son of Spotted Ranger. Boars and gilts all ages. High
quality, low prices. **Keller & Jackson, Ohio City, O.**

L. T. P. C. Bred gilts, Fall pigs, either sex.
Brown Swiss Bull, Calved 4-29-23.
A. A. Feldkamp, Manchester, Mich.

Fall Pigs either sex, by the great Boar, The
Wolverine. Priced reasonable. Best
of dams. **W. E. Livingston, Parma, Mich.**

Hampshire Bred gilts, spring and fall boars,
at bargain prices, 12th year. Write
your wants. **John W. Snyder, R. 4, St. Johns, Mich.**

HORSES

For Sale

Clyde Stallion and 3 Mares

6-3 to 5 yr. old work horses
Black and Greys Wts. 1400
to 1700. Prices \$125.00 to
\$250.00.

R.S. Hudson, Farm Supt.

Michigan Agricultural College

Reg. Black Stallion For Sale, 8 yrs.,
1900 Lbs. S. J.
Purcell, Newaygo, Mich.

Complete Dispersal

OF

19 Head of Registered Jerseys

With C. T. A. Records

Tuesday, March 25, 1924 2 o'clock

Owned by **W. E. & Mark D. Grout, Morrice, Mich.**

**Majesty and Foxhall Jubilee, breeding
Herd on the accredited list.**

For catalogues write **M. E. Bloss, Swartz Creek, Mich. Sales Mgr.**

J. E. Ruppert, Perry, Mich.

Wolverine Baby Chicks

Always Good Easy to raise.
**English Type
S.C. White Leghorns**
High producing, profitable
stock.
100% safe arrival guaranteed.
Write for our 13th annual
catalogue.

Wolverine Hatchery
H. P. Wiserna, Prop. R. 2, Zeeland, Mich.

CHICKS BARRED ROCK, English Strain White Leg-
horns and Brown Leghorns. Guarantee full 100 per
cent alive. Free Delivery. **Wolverine Poultry Farm &
Hatchery, C. Boven, Prop., R. 12, B. F., Holland, Mich.**



THE LATEST MARKET REPORTS



GRAIN QUOTATIONS

Wednesday, March 12.

Wheat.

Detroit.—No. 1 red \$1.11; No. 2 red \$1.10; No. 3 red \$1.07; No. 2 white \$1.11; No. 2 mixed \$1.10.

Chicago.—May \$1.06@1.067; July \$1.077@1.077; September \$1.07@1.077.

Toledo.—Cash \$1.09@1.097.

Corn.

Detroit.—Cash No. 2 yellow at 82c; No. 4 yellow 78c; No. 5, 72@74c; No. 6, 69@71c.

Chicago.—80@807c; July at 807c; September 807c.

Oats.

Detroit.—Cash No. 2 white at 50c No. 2, 48c.

Chicago.—May at 467c; July 45c; September 417c.

Rye.

Detroit.—Cash No. 2, 70c.

Chicago.—May 687; July 70c.

Toledo.—68c.

Barley.

Barley, malting 76c; feeding 72c.

Buckwheat.

Buckwheat.—New milling at \$2.05 per cwt.

Beans.

Detroit.—Immediate and prompt shipment \$4.75 per cwt.

Chicago.—Choice pea \$5.25; red kidneys \$7.50.

New York.—Choice pea at \$5.75@6; red kidneys \$7.60@7.75.

Seeds.

Detroit.—Prime red clover cash at \$12; alsike \$9.15; timothy \$3.85.

Hay.

Strong.—No. 1 timothy \$23.50@24; standard and light mixed \$22.50@23; No. 2 timothy \$21@22; No. 1 clover at \$20.50@21; No. 1 clover mixed \$20.50@21; wheat and oat straw \$11.50@12; rye straw \$12.50@13.

Feeds.

Bran \$32; standard middlings \$33; fine do \$34; cracked corn \$33; coarse cornmeal \$37; chop \$35 per ton in 100-lb. sacks.

Apples.

Chicago.—Barrels, "A" grade Greenings \$5@5.50; Jonathans \$5.50@6; Grimes at \$3; Spies at \$4.50@6; Kings \$4@4.50; Baldwins \$4@5.00; Spitzenberg \$4@5.00.

WHEAT

Wheat prices had a small rally last week. Prospects of a crop scare, an advance of 12c in the tariff, and belief that farm reserves were small, coupled with a continuation of enough breadth in the demand to prevent any weakness in the cash markets in this country or abroad were the motive factors. The market shows no strong indication of a material change in prices, but in view of the fact that values are already low, that light receipts usually bring a seasonal advance during the spring months and that 1924 crop yields both in this country and elsewhere are not likely to equal those of 1923, it is logical to believe that future developments will favor higher prices. Foreign absorption of wheat shows no sign of letting up from the rapid rate recently prevailing. Acreage reports from twelve countries show a combined reduction of about five per cent in the area planted to winter wheat compared with last year. Comprehensive private reports indicate a loss in the condition of our new winter wheat compared with last December.

RYE

The rye market shows a slightly more stable undertone. The visible supply increased again last week, but symptoms of an improved demand are not wanting. Exporters have been buying as foreign demand shows intermittent activity and clearances have enlarged slightly but there is not the breadth of foreign interest needed to bring about a material advance. The world acreage reports thus far show about the same total as a year ago.

CORN

Conditions in the corn market have been deadlocked for the past two weeks. In spite of reports of light country offerings, arrivals at primary markets in the last ten days have been larger than at any time this season and heavier than at the peak of the winter movement a year ago. The visible supply has doubled since the first of the year, but it was small at that time and has not gained quite as much as in the corresponding period in 1923. In spite of a great deal of

favorable sentiment, prices have not made any upward headway during the ten days. On the other hand, declines do not get far since it is recognized that receipts have probably reached the peak, the visible supply seldom increases after March, and fairly broad distributing demand should be maintained.

OATS

The oats market has been in the same fix as corn. A moderate setback has occurred and eastern demand has broadened. This may hasten the clean-up of the visible supply and pave the way for an advance above the level prevailing in the last month.

SEEDS

The cloverseed market strengthened last week as spring demand became more brisk. The drop in prices compared with early winter promises to stimulate heavier seeding operations. Alsike remains at a big discount below red clover. During February 7, 131,000 pounds of red clover were imported and the total since July 1 amounts to 17,176,000 pounds as compared with 277,000 pounds in the corresponding period a year previous.

FEEDS

The feed market has turned easy again as the spurt in demand did not last long. The output of mill feeds is ample because of the high rate of flour mill operations for this time of year and the large amount of low grade wheat being milled. The tariff on mill feeds has been reduced by presidential proclamation and Canadian bran will probably come in freely as soon as the change goes into effect. April bran is now quoted about 50c lower than spot. High protein feeds also have weakened again, with stocks ample and demand light, although feed mixers are showing a little more interest in cottonseed meal than heretofore.

HAY

The hay market is unchanged from a week ago with demand broad enough to clean up the best grades but lower grades hard to sell, even at big discounts. Some Canadian hay has been coming into eastern markets, making them a little weaker relatively than markets elsewhere. Prices are much higher than a year ago, especially for clover hay.

POULTRY AND EGGS

Fresh eggs dropped last week practically to the level at which they have

been stored during the last two years, but considerably below the level at this date a year ago. The market may decline a little further owing to expectations of unusually heavy production. Receipts are gaining steadily and in the last three weeks they have been considerably heavier than a year ago in spite of weather which has been rather unfavorable for production and country collections. The weekly receipts generally rise rapidly from this season to a peak in late April or early May. Poultry prices were a little lower last week. Arrivals increased and were much above normal for this season of the year. For the last six weeks receipts have been materially larger than a year ago, thus making up for most of the deficiency in January. Consumptive demand remains excellent.

Chicago.—Eggs, miscellaneous 217c@22c; dirties 21c; checks 20c; fresh firsts 22@227c; ordinary firsts 20@21c. Live poultry, hens at 26@27c; springers 26c; roosters 17c; ducks at 28c; geese 19c; turkeys 30c.

Detroit.—Eggs, fresh candled and graded 237c@247c; storage 27c. Live poultry, heavy springers 28c; light do 22@23c; heavy hens 27@28c; light do 27@28c; roosters 17c; geese 20c; ducks 32c; turkeys 28@30c.

BUTTER

Butter prices declined sharply early last week, but scored a smart upturn before the close. Buyers took advantage of low prices to anticipate their needs and some purely speculative buying was observed. Receipts at the leading markets were about the same as in the preceding week and the weather was none too favorable for high production. About 4,000 boxes of Argentine butter and 1,000 casks of Danish arrived in the east but much foreign butter was held off the market as its cost was above prevailing prices. Storage holdings in the United States on March 1 were slightly larger than a year ago, but the total was less than half of the five-year average for that date. The market may remain strong for a week or so, depending upon the volume of receipts, but the main trend of prices is downward.

Prices of fresh creamery butter: Chicago, 92-score centralized carlots at 47c. Fresh creamery in tubs in Detroit sells for 46@47c.

POTATOES

Carlot shipments of potatoes were at a record level for this season of the year again last week. The movement was forty per cent heavier than two

weeks previous, and the heaviest since last October which is always the peak month. Seed potatoes made up a fair share of the total, and prices of table potatoes in the principal markets were practically steady, although the undertone was easy. Quotations are 10 to 40 cents higher than a year ago. U. S. No. 1 Northern round whites are quoted in Chicago at \$1.20@1.25 per 100 pounds sacked, and \$1.25@1.50 in bulk.

BEANS

Bean prices advanced slightly last week, reaching \$4.90 per 100 pounds at the close for choice hand-picked Whites f. o. b. Michigan shipping points. Light deliveries by producers were the chief cause as demand is not particularly brisk at the advance. Country roads are in bad condition and growers are not so anxious to sell at prices which have prevailed during the last two weeks. It is believed that the supply remaining in Michigan is ample to supply the demand between the present time and the harvest of the new crop. This probably means that prices will continue to swing near the same level as during most of the winter.

WOOL

Seaboard wool markets are rather quiet as manufacturers are reluctant to pay prices asked. Dealers are not making concessions, however, and the market rules firm under the surface. After showing weak tone temporarily, foreign wool markets have become quite strong again and the European demand appears unsatisfied. Contracting in the west is spreading rapidly, especially in Wyoming, Idaho, Nevada and Utah. In most cases buyers are not paying above a parity with Boston.

The Boston market is quoted as follows: Ohio and Pennsylvania fleeces, fine strictly combing 57c; fine French combing at 51@52c; fine clothing 49@50c; 1/2-blood strictly combing at 57c. Good Michigan, New York, Wisconsin and Missouri wools one to two cents less; Kentucky and similar wool two to five cents higher.

DETROIT CITY MARKET

Produce was in liberal supply and moderate to heavy buying gave the market quite a brisk tone. Good cabbage and carrots were in demand and cleaned up easily. The demand for the large supply of potatoes was strong, and most offerings were cleaned up easily at 80@85c a bushel. Apples were in brisk demand. Poultry remained firm, while eggs were a trifle lower.

Prices paid were: Apples, fancy \$2 @2.50 bu; No. 1, \$1.25@1.75 bu; beets \$1.25@1.50 bu; cabbage \$1.75@2 bu; carrots \$1.50@1.75 bu; onions, dry at \$1.50 bu; parsley \$5@5.50 bu; parsnips \$1.25@1.50 bu; potatoes 80@85c bu; root celery \$1.50@1.75 bu; vegetable oysters 60@75c dozen bunches; eggs, wholesale 27c, retail 30@35c; hens, wholesale 23@28c, retail 30@35c; springers, wholesale 26c; retail 28@32c.

COMING LIVE STOCK SALES.

Holsteins.

March 20.—Dispersal sale of T. W. Sprague & John Rolfe, at Rolfe farm near Battle Creek. W. R. Harper, Sales Mgr., Middleville, Mich.

March 27.—Wooster, Ohio. C. S. Reece and E. S. Wertz.

Shorthorns.

March 17.—Gus Thomas, New Lothrop, Mich.

Hampshire Swine.

March 17.—Gus Thomas, New Lothrop, Mich.

Dispersion Sale

Ten head of strickly high class

SHORTHORN CATTLE
of the dual purpose type Clay and Bates breed

70 Head of Hampshire Hogs

of the best blood line of the Hampshire breed. Sale will be held at our farm 2 miles west, 1/4 north of New Lothrop, Mich., on

March 17, 1924

Rain or shine. GUS THOMAS, Prop.

Live Stock Market Service

Wednesday, March 12.

CHICAGO

Hogs.

Receipts 31,000. Market generally 10c lower than yesterday's average, fairly active. All interests buying. Good, \$7.00. 190 to 325-lbs. butchers \$7.40@7.50. Limited showing of good to choice weighty butchers \$7.55. Better grades 160 to 180-lb. largely \$7.20@7.35. Bulk packing sows \$6.40@6.60.

Cattle.

Receipts 8,000. Market, beef steers steady to strong; stots higher. Top maturing steers \$11.50. Bulk \$8.00@10.00. Other classes generally steady. Fat she stock active. Common and medium vealers tending lower. Others strong. Bulk \$10.00@11.00. Early shippers paying up to \$13.00.

Sheep and Lambs.

Receipts 12,000. Market slow. Very little early business. Fat woolled lambs 25c lower. Early sales to city butchers \$16.30. Sheep weak to 25c lower. Odd lots fat native ewes \$10.00. Several decks clipped ewes \$8.75. Shearing lambs \$15.60@15.85. Western feeding lambs \$15.25.

DETROIT

Market steady.

Good to choice yearlings \$8.75@9.50
Best heavy steers 8.00@8.75
Handyweight butchers 7.25@8.00
Mixed steers and heifers 6.25@7.00
Handy light butchers 5.50@6.00
Light butchers 4.25@5.00

Best cows 5.00@6.00
Butcher cows 4.00@5.00
Cutters 3.00@3.50
Canners 2.50@3.00
Choice bulls 5.00@5.75
Bologna bulls 4.50@5.50
Stock bulls 4.00@4.50
Feeders 5.50@6.50
Stockers 5.00@6.00
Milkers 45@80

Veal Calves.

Market steady to 15c higher.
Best 13.50@14.00
Others 6.50@13.90

Sheep and Lambs.

Market steady.
Best lambs 16.50
Light to common 11.50@12.50
Fair 13.50@14.50
Fair to good 9.00@9.75

Hogs.

Market steady to 10c lower.
Mixed and heavies 7.65
Pigs 6.25
Roughs 6.00@6.10
Yorkers 7.00@7.65

BUFFALO

Receipts five cars. Market steady. Calves at \$14.50.

Hogs.

Receipts 30 cars. Market is strong. Heavy and yorkers \$8.10@8.20; pigs \$6.50@6.75.

Sheep and Lambs.

Receipts 15 cars. Market is steady. Top lambs \$17; yearlings \$13@13.50; wethers \$11@11.50; ewes \$10@10.50.

TO MAKE WHITEWASH STICK.

What can be put in whitewash to make it stay so it will not rub off from the stalls and walls?—H. R. W. Alum added to whitewash prevents it rubbing off. Flour paste may also be used to prevent rubbing off, but when it is used, zinc sulphate in small quantities should be added as a preservative.—F. E. F.

FAT GLOBULES FAIL TO SEPARATE.

I have a cow that will not freshen until April 20. We have not been able to churn her cream. Have tried it in all ways, such as barrel churn, stirring in dish, and a fruit can, but can not seem to get any butter. She gets good clean shredded corn and hay, also a mixed feed of ground oats, corn meal, with a small amount of oil meal and bran. When her cream was in with others cows, we did not have any trouble, but can do nothing with her cream alone. Can you give me any reason, or tell me what to do?—E. B. It is a well-known fact that the fat globules from milk produced by cows well along in the period of lactation do not so readily separate from the milk as they do when the cow is fresh. In cold weather many times no attention is paid to the temperature of the cream. If the cream is cold the fat will never separate as readily as when at the proper temperature, which in winter weather is about seventy degrees.

Also, in winter some pains must be taken to ripen the cream if you want the butter to come quickly.

When you have accumulated a sufficient amount of cream for a churning set the vessel which contains it in another vessel of hot water and warm the cream up to seventy or eighty degrees and retain it at that temperature for about forty-eight hours. This will ripen it. If the room in which you churn is warm, then cool the cream to about sixty or sixty-five degrees, but if the room is cold then churn at seventy degrees.

If you follow these directions your butter will probably come within a reasonable time. If it does not, don't try to make butter from this cow until she freshens.

STARTING ALFALFA.

I have a piece of light, sandy ground which I would like to seed to alfalfa. There has not been any alfalfa seeding on this ground for a long time, but we raised some good corn on it this year.—Subscriber.

Good stands of alfalfa can be secured on land such as you describe, provided the crop is rightly handled. It is very likely that your land will be

benefited by an application of lime. I would suggest that you send samples of your soil to your county agent or the Soils Department of the Michigan Agricultural College, East Lansing, for testing to determine lime requirement.

Alfalfa should be planted early in the spring for best results, using either Grimm or northern grown seed at the rate of twelve pounds per acre, with one bushel of barley or oats.

SOWING SWEET CLOVER.

If I sow sweet clover with oats, then cut oats early for hay, will the clover be all right? Will the oats make good hay for cows? I am top-dressing the ground well.—S. B.

The best results can be secured by planting sweet clover and oats as early as possible in the spring, using one bushel of oats and fifteen pounds of scarified sweet clover on a firmly rolled seed-bed. The oats will make excellent hay for cows if cut when in the milk stage, and the sweet clover will be benefited by taking off the oats at an early date. If the season is favorable a considerable amount of fall pasture will be available from the sweet clover. Stock should not be allowed to pasture too close the first fall, since the most valuable pasture or hay crop is provided the second year.—J. F. Cox.

ENTITELY IN PERSONAL PROPERTY.

Mr. Smith buys a farm, giving his wife a joint deed. Stock and tools are in Mr. Smith's name on the tax roll, but stock and tools together with crops and buildings, are insured for both fire and cyclone in the names of both Mr. Smith and wife. In case of Mr. Smith's death, can Mrs. Smith claim stock and tools as being held jointly, or what share of them does she get? They have children.—A. F.

There can be entirety in personal property. How they are assessed is of little consequence except as it might indicate an admission made by the party reporting to the assessor as to what his interest is, and even that is quite remote. The manner of insurance is in the same class. It is a question of fact whether they held undivided interests, and, if so, whether in common, jointly, or by entirety; and in the absence of writing clearly indicating it, the presumption is strongly against either joint tenancy or entirety in personal property.—Rood.

ASPARAGUS, RHUBARB, Blackberries, Currants, California Privet roots and aster seed. Write for prices. CHAS. L. LUCAS, PERRY, OHIO.

Ship Hay and Grain to the OLD RELIABLE HOUSE GEO. E. ROGERS & CO., Pittsburgh, Pa.

IMPROVED ROBUST BEANS—Heaviest yielding existing variety and latest improved Agricultural College Strain. Ninety-four per cent germination. Not polished or hand-picked. Ninety-pound bag, six dollars. Owasco. Will pick about three pounds to bag. A. B. Cook, Owasco, Mich.

SEED CORN—Clement's Improved White Cap Yellow Dent. Field selected, dried on racks, ear tested, with a guaranteed germination. This was one of the heaviest yielders in the State the past year in a test made by The Farm Crop Department of the Michigan Agricultural College. Write Paul Clement, Britton, Michigan, for catalog and prices.

TREES, Plants, Shrubs, guaranteed direct from grower. Lowest prices. New—Dr. Worcester hardy peach and Ohio Beauty Apple. Planting Book Free. Woodlawn Nurseries, 951 Garson Ave., Rochester, N. Y.

30 GLADIOLUS BULBS—new colors, including rare purple, \$1. postpaid. Send for 20-page illustrated catalog of 125 beautiful varieties. Howard W. Gillet, New Lebanon, N. Y.

FRUIT PLANTS. Prices Right. Stock Guaranteed. Strawberries, \$3.00 per 1,000 and up. Raspberries, Grapes, Gooseberries, Currants, Dewberries. Catalogue Free. Hellenga's Nursery, Three Oaks, Mich.

FREE CATALOG of high-quality strawberry, raspberry plants. Some kinds \$2.75 a 1,000. Write today. C. D. Thayer, Three Rivers, Mich.

BERRY BOXES—Our Berry Boxes will carry your fruit to market safely. \$4.50 per thousand. Write us. Central Basket Co., Berrien Springs, Mich.

STRAWBERRIES—Plants and all kinds of small fruit plants, thousands of plants. Get our list for cut prices. Sawyer Nurseries, Sawyer, Mich., Box 81.

GLADIOLI—25 big plump bulbs, fine varieties, and catalog postpaid, \$1.00. B. F. Kindig, Box 637, E. Lansing, Mich.

IF IT'S RUSSETT Rural Seed Potatoes you want, write for prices. Twin Boy Farm, Alba, Michigan.

PET STOCK

SCOTCH COLLIE DOG—well broken, \$15.00. English Sheep Dog, well broken, \$20.00. Fox Terrier Dog, good ratter, \$15.00. Three Young Fox hound dogs ready to break, \$10.00 each. White Spitz Dog, \$20.00. Sable Spitz Dog, \$20.00. Boston Terrier Dog, screw tail, \$35.00. English Bull Dog, 2 yr. old, \$35.00. Toy Black and Tan Dog, \$20.00. German Police Dog, pup 8 months old, \$40.00. Wanted Young pups, live animals. Detroit Bird Store, Detroit, Mich.

AIREDALE PUPS—Sired by half-brother Ex. Pres. Harding's Laddie Boy. From registered stock. Pedigrees furnished. Males \$15. Females \$10. R. G. Kirby, Route 1, East Lansing, Mich.

PARROTS—Macaws Cockatoos Parakeets. Rare Turshes, Larks, Finches, Canaries. All in full song. Breeding Cages, Fancy Cages. Supplies of all kinds. Circulars free. Detroit Bird Store, Detroit, Mich.

GERMAN SHEPHERD—Airedales, Collies, Old English Shepherd dogs, puppies, 10c illustrated instructive list. W. R. Watson, Box 95, Macon, Mo.

50 BREEDS DOGS—Catalogue 10c (Coin). Tilmer Thompson, Elmore, Minn.

TOBACCO

HOMESPUN TOBACCO—Chewing, 5 lbs. \$1.75; Ten \$3.00. Smoking, 5 lbs. \$1.25; Ten \$2.00. Pay when received, pipe and recipe free. Farmers' Union Paducah, Ky.

NATURAL LEAF TOBACCO—Chewing, five pounds, \$1.75; ten, \$3; smoking, five pounds \$1.25; ten, \$2; twenty, \$3.50; pipe and recipe free, pay when received. Cooperative Farmers, Paducah, Kentucky.

KENTUCKY Natural Leaf Tobacco. Best Grade Chewing 10-lbs. \$3—20 \$5. Best grade Smoking 10-lbs. \$2.40—20 \$4. Farmer's Tobacco Union, Rt. 1, A. Sedalia, Kentucky.

SMOKERS' ATTENTION—100 High Grade Stogies \$2.75. Satisfaction Guaranteed or Money Refunded. Flack Cigar Company, South Bend, Indiana.

BABY CHICKS

STURDY CHICKS—Pure bred-to-lay and exhibition flocks, culled by experts. Reasonable prices. Catalogue free. Single Comb White Leghorns, Anconas, Rocks, Reds, White Wyandottes. Gunnybrook Poultry Farm, Hillsdale, Mich.

WRITE for free catalogue and prices on good, sound, thrifty Baby Chicks. Four leading varieties of T. B. S. C. White Leghorns, Barred Rocks, Shepard Anconas and Rhode Island Reds from thoroughly culled flocks, to the Summit Hatchery, Byron Center, Mich. 100 per cent live delivery.

BRED TO LAY Barred Rock chicks, hens, all blood tested for White Diarrhea by Michigan Agricultural College Bacteriological Dept. Pedigreed males from high-record hens used. Circular free. L. W. Aseltine, R. 1, Grand Rapids, Mich.

CHICKS—Genuine Tom Barron English Strain S. C. White Leghorns, bred from imported stock, and M. A. C. Barred Rocks. Write for our low price quality stock circular. Hillside Hatchery Farm, R. 3, Holland, Mich.

BABY CHICKS—Write for our new free catalog and price list. Eight years' experience. H. H. Pierce, Jerome, Michigan.

QUALITY CHICKS, eggs; fifteen standard bred varieties; best winter laying strains. Free delivery. Reasonable prices. Catalogue free. Missouri Poultry Farms, Columbia, Mo.

BABY CHICKS from heavy-laying strains. All leading pure breeds. Low prices. Prepaid. Live delivery guaranteed. Catalog Free. Smith Bros. Hatcheries, Mexico, Mo.

BRED-TO-LAY CHICKS from my own flock of Barred Rocks. Write for description and prices. Delivery Guaranteed. Krueper Poultry Farm & Hatchery, Milan, Mich., R. 3.

BABY CHICKS—Remarkable for size and strength. Reasonable prices. Leghorns, Anconas, Rocks, Reds, Wyandottes, Orpingtons, Minorcas, Spanish, Brahmas, Tyroses Poultry Farm, Fenton, Mich.

HAI LOOK! 100,000 chicks 12c and up, 15 varieties. From highest producing contest winners. Hatching eggs. Circular. Lawrence Hatchery, Box J, R. 7, Grand Rapids, Mich.

RICHARDSON'S ROCKY RIDGE pure Parks strain Barred Rock Baby Chicks, \$16 per 100. Hanover, Mich.

BABY CHICKS and eggs. Superior Ringlet Barred Rocks, R. C. R. I. Reds, White Leghorns. Circular. Wyndham's Ideal Hatchery, Tiffin, Ohio.

BABY CHICKS—Rocks, Reds, Silver L. Wyandottes, White Wyandottes, Anconas, White and Brown Leghorns have been culled and inspected. We have real quality at commercial prices. One of the oldest hatcheries in Michigan. Write for prices. Shepard Poultry Farm, Litchfield, Mich.

PURE-BRED baby chicks, Barred Rocks, Rhode Island Reds, \$14.50 per 100; White Wyandottes, Buff Orpingtons, \$16.00; 99 per cent live delivery guaranteed. Brookdale Poultry Farm, Box 522, Paw Paw, Michigan.

BARRED ROCKS—Park's best pedigreed stock, mated with M. A. C. and Dennison pedigreed cockerels. Hatching eggs \$2 per \$15; \$5 per \$50; \$10 per 100. Chicks \$20 per 100. Prepaid by parcel post. R. G. Kirby, Route 1, East Lansing, Mich.

CHILSON BARRED ROCKS—Hatching eggs and Baby Chicks. Winning pen all heavy breeds Michigan International Egg Contest 1923. Michigan's greatest egg and color strain. Write for price list today. Mr. & Mrs. W. H. Chilson, R. 1, Grandville, Mich.

SILVER WYANDOTTES—Heavy layers, mated to produce stock of exhibition quality. Chicks—April 20c each, May 18c delivered. Not less than 25. Order now. Wishbone Hatchery, Sebawaing, Mich.

BAE'S BIG, beautiful, brilliant Reds S. C. Chicks, Eggs, Stock, Quality at farmers' prices. Babcock & Son, R. D. 6, Battle Creek, Michigan.

BABY CHICKS and Hatching Eggs. Send for Circular. "Gibbs" Winterlay Ancona Farm, Bronson, Mich.

BABY CHICKS—Barron S. C. W. Leghorns, 10c up. Park Strain Barred Rocks from 14c up. Sent by parcel post. 100 per cent live delivery guaranteed. Waterway Hatchery, R. 4, Holland, Mich.

BABY CHICKS—Bred to lay Rhode Island Reds, Barred Rocks & English White Leghorns, Also Broilers Chicks. Goret's Poultry Farm, Corunna, Mich.

S. C. BUFF LEGHORN Baby Chicks from good laying strain. Willard Webster, Bath, Mich.

POULTRY

SINGLE COMB REDS—Selected eggs from strong matings. Win M. A. C. Silver and Bronze Medals. Birds under Ribbons in both exhibition and utility classes. Postal card request brings free circular. Satisfaction guaranteed at live prices. Harry J. Theis, 283 Hunter St., Battle Creek, Mich.

STOCK and Eggs by 100 or 1,000 lots, all leading Varieties Chickens, Ducks, Geese, Bantams, Guinea, Turkeys, Fox Terrier Pups. Write your wants. Jesse Burnside, Judson, Ind.

STOCK & EGGS—Buff & W. Leghorns, Orpingtons, Reds & Anconas, \$1 for 15; \$5 per 100, parcel post. Turkeys, Ducks & Geese, Indianapolis winners. W. C. Jackson, R. 3, South Bend, Ind.

WHITE WYANDOTTES—A few hens and pullets from my heavy laying strain at \$2.50 each. Hatching eggs, \$2.00 and 3.00 per 15. David Ray, Ypsilanti, Mich.

S. G. R. I. REDS—Pure-bred eggs for setting, 15, \$1.25; 100, \$8.00. Louis Morris, R. 1, Mt. Morris, Michigan.

QUALITY Barred Rocks, some good cockerels for sale for \$5. A few pullets. George H. Campbell, E. Cross, Ypsilanti, Mich.

BARRED ROCK COCKERELS—College Egg-laying Strain. Culled twice, \$5. Earl Sindcuse, Albion, Michigan.

GIANT BRONZE TURKEYS—Gold Bank Strain. A few choice toms and hens at reasonable prices. Mrs. Perry Tibbins, Saranac, Mich.

SILVER LACED and White Wyandotte Choice Cockerels. C. W. Browning, Portland, Mich.

WHITE ROCK COCKERELS—Choice stock, \$3.00 and \$4.00 each. Wesley Hile, Ionia, Mich.

PURE BRED White Rock Eggs for Hatching. Chas. Kietzler, Bath, Mich.

BUFF ROCK EGGS—\$1.25, 15; \$7.75, 100. Peter Portinga, Three Oaks, Mich.

R. C. RED EGGS, \$2.00 per 15. Parcel post, prepaid. Estal Price, Galien, Mich.

PURE-BRED Partridge Wyandotte Cockerels, \$3.00 eggs, \$2.50. Fred Rierson, Bronson, Mich.

WHITE MINORCAS—Single comb, hatching eggs. H. C. Schrock, Shipshewana, Ind.

88 VARIETIES fine pure-bred chickens, ducks, geese, turkeys, fowls, eggs, baby chicks. Large catalog 5c. A. A. Ziemer, Austin, Minn.

WHITE WYANDOTTES Exclusively. Eggs \$4.50 per 100. Prepaid. Raymond Eash, Shipshewana, Indiana.

GEES—Ducks, leading varieties. Free Circular. John Hass, Bettendorf, Iowa.

WHITE CHINA GEES, excellent layers, \$10.00 trio. Eggs 50 cents. Mrs. Alice Bonow, Mattawan, Mich.

NARRAGANSETT TURKEYS—Get something different from your neighbors. Express paid on trio. Ernest Clement, Ionia, Mich.

FOR SALE—Choice White Holland Toms, \$8; Flemish Giant Rabbits, \$2. Leonard Norton, Three Rivers, Mich., R. 3.

PURE-BRED White Holland Turkeys—Hens, \$8; Toms, \$10. Mrs. Howard A. Gibson, Oxford, Mich.

BOURBON RED TURKEYS—Hens, \$8.00; Toms, \$10; trio, \$24. E. A. Dunham, Oshtemo, Mich.

HELP WANTED

WE WILL PAY YOU at the rate of \$8.00 per barrel selling quality lubricants to auto and tractor owners, garages and stores. Sell now for immediate and spring delivery. We have been in business 40 years. The Manufacturers Oil and Grease Company, Dept. 18, Cleveland, Ohio.

MASON sold 18 Comet Sprayers and Autowashers one Saturday. Profits \$2.50 each. Particulars free. Established 30 years. Rusler Co., Johnstown, Ohio. Box C-26.

WE PAY \$200 monthly salary, furnish car and expenses to introduce our guaranteed poultry and stock powders. Bigler Company, X983, Springfield, Illinois.

FIREMEN, BRAKEMEN—\$150-\$250, railroads everywhere. Railway Association, Desk W-1, Brooklyn, New York.

MEN wanting forest ranger and railway mail clerk positions. Write for particulars. Mokane, B28, Denver, Colo.

GIRL WANTED for general housework, three in family. Reference required. Apply Mrs. C. R. Lennane, 4060 Taylor, Detroit, Mich.

WANTED,—by month or year, married, also single man, for general farming. References given and required. Box 12, South Lyon, Mich.

EXPERIENCED, single, middle age man for farm. Work all year round. State wages. John Mason, South Lyon, Mich.

WANTED—Married farm hand, write Service Exchange, Merrill, Michigan.

WANTED—Experienced, single man for general farm work. Karl Feldkamp, Saline, Mich.

SITUATIONS WANTED

FARM MANAGER open to employment or would consider lease of large productive farm with option or purchase. Worth while references as to ability to handle large proposition. Agricultural Graduate. Address, Box 815, Michigan Farmer.

CLASSIFIED ADVERTISING

This classified advertising department is established for the convenience of Michigan farmers. Small advertisements bring best results under classified headings. Try it for want ads and for advertising miscellaneous articles for sale or exchange. Poultry advertising will be run in this department at classified rates, or in display columns at commercial rates. Rates 8 cents a word, each insertion, on orders for less than four insertions; for four or more consecutive insertions 6 cents a word. Count as a word each abbreviation, initial or number. No display type or illustrations admitted. Remittances must accompany order. Real estate and live stock advertising have separate departments and are not accepted as classified. Minimum charge, 10 words.

Rates in Effect October 7, 1922

Words	One time	Four times	Words	One time	Four times
10.....	\$0.80	\$2.40	26.....	\$2.08	\$6.24
11.....	.88	2.64	27.....	2.16	6.48
12.....	.96	2.88	28.....	2.24	6.72
13.....	1.04	3.12	29.....	2.32	6.96
14.....	1.12	3.36	30.....	2.40	7.20
15.....	1.20	3.60	31.....	2.48	7.44
16.....	1.28	3.84	32.....	2.56	7.68
17.....	1.36	4.08	33.....	2.64	7.92
18.....	1.44	4.32	34.....	2.72	8.16
19.....	1.52	4.56	35.....	2.80	8.40
20.....	1.60	4.80	36.....	2.88	8.64
21.....	1.68	5.04	37.....	2.96	8.88
22.....	1.76	5.28	38.....	3.04	9.12
23.....	1.84	5.52	39.....	3.12	9.36
24.....	1.92	5.76	40.....	3.20	9.60
25.....	2.00	6.00	41.....	3.28	9.84

Special Notice All advertising copy discontinuance orders or change of copy intended for the Classified Department must reach this office ten days in advance of publication date.

MISCELLANEOUS

FOR SALE—Improved 320-acre farm, located 1 1/2 miles east of village of Akron, Tuscola County, Michigan, on Trunk Line M 31, with concrete road to village affording good market for all farm produce. Has large apple orchard, wood lot, with all necessary farm buildings, including two-story house. For further information apply to F. A. Bach, Administrator, Sebawaing, Mich.

RADIO—All of the standard manufactured sets. All of the latest improved parts with blue prints for making your own set if you wish. Send for free booklet "How To Choose The Proper Radio Receiver And The Equipment Necessary For It's Operation." Home Radio Co., 1312 S. Washington Ave., Royal Oak, Michigan.

FOR SALE—40 acres, 24 acres first-class Concord grapes, good buildings. Lawton, 1 1/2 miles, Paw Paw 2 1/2, hunting, trout stream on place. Lakes near. \$1,900.00, half crop payment, deal with owner. E. H. R. 3, Box 12, Lawton, Michigan.

CHOICE GOVERNMENT LAND, coming under irrigation, easy payments. Co-operative Colony, Box C M 787, Grand Junction, Colo.

FARMS—40-60-100 acres, rent or sell. House, 2 acres, village, Dryden, Mich. Small thresher, Polled Shorthorn Bulls. Frank Bartlett, Dryden, Mich.

WANTED—To hear from owner of farm for sale. O. K. Hawley, Baldwin, Wisconsin.

STRAWBERRY PLANTS—Plants Right, Prices Right. Perry Wright, Fennville, Mich.

FOR SALE—Threshing outfit, nearly new. One-third price if sold quick. C. Smead, Grand Haven, Mich.

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