

MICHIGAN FARMER

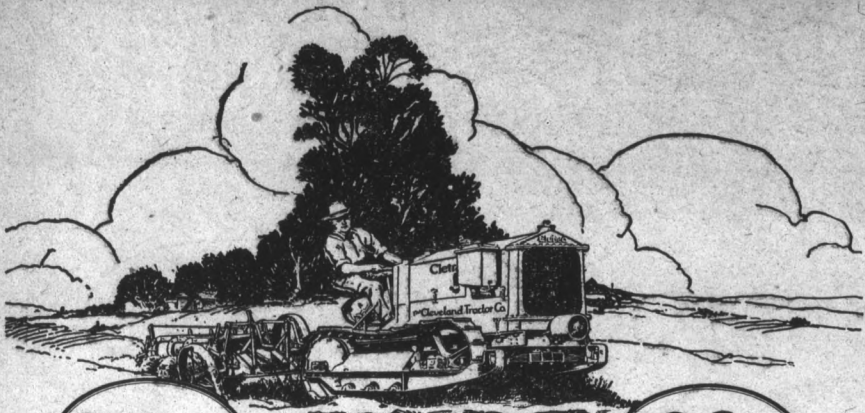
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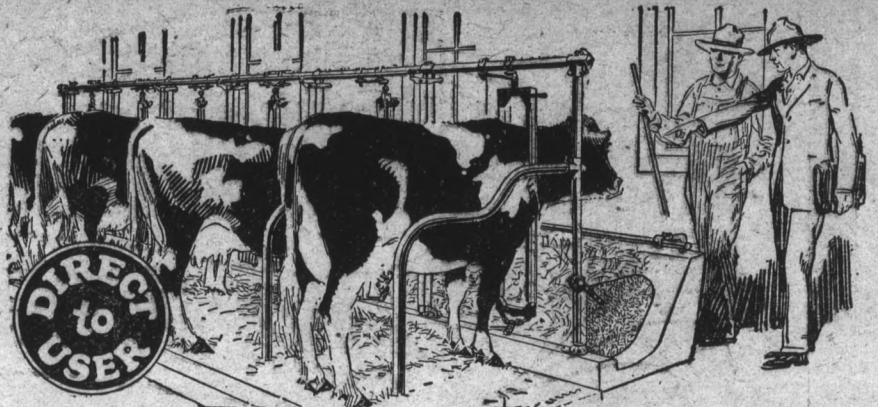
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VOLUME CLXII

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 SEVEN

Planning the Farm Vegetable Garden

The Planned Garden Gives the Most Satisfactory Results

By E. P. Lewis

THE farm garden in Michigan seldom receives the attention it should have. With careful planning and proper care the garden can be made to furnish a much greater source of food supply and income than any other like area on the farm.

In order to obtain the best use of the land and to have a continuous supply it is essential that the garden be planned in advance. Also the work in planting and caring for the crop will be greatly simplified. This plan should be carefully drawn on paper with all details and made a permanent part of the equipment. From year to year it may be altered to suit the needs and desires of the owner.

In planning the garden one of the first things to consider is the arrangement which will reduce the labor to a minimum. The vegetables should be grouped according to their cultural methods and the number of plantings made as small as its consistent with the temperature requirements of the various crops. The planting should begin at one side of the plot with the earliest crops, such as onions, lettuce and peas, and proceed across the area as the season advances. This makes it possible to keep the unplanted area free from weeds and in a moist, friable condition.

In the accompanying plan the rows are all three feet apart with the exception of the last five, and planted the long way of the garden. This makes horse cultivation possible and reduces the turning to a minimum. In the city or suburban garden, closer planting would, of course, be more economical of space. In the average farm garden, however, the time required in tending the crop is more important than the conservation of space.

Another important point in a well planned garden is the provision for a continuous supply. This is accomplished in two ways; first by the use of succession plantings of the same vari-

ety, and second, by planting early, mid-season, and late varieties at the same time. In the plan illustrated provision is made for a continuous supply of some of the important vegetables. Two plantings of peas are made, one two weeks after the other, using early mid-season and late varieties. This makes it possible to have a fresh edible product throughout the normal season for peas. Likewise three varieties of sweet corn, each maturing

the home garden is the corner grocery store. Many people neglect to buy their seed until the day it is planted and for this class it is a convenient source. Many gardens would not be planted if it were not for this handy supply. The corner grocery store is not always, however, the best source of supply. Usually the assortment offered is small and those which are offered are frequently the common sorts and not adapted to the local con-

ditions and are not the highest quality varieties for the home garden. A much surer way is to order the seed through a reputable seed house which makes a specialty of growing good seed. The varieties listed in the catalogue should be carefully studied, the selections made, the necessary amount of each kind of seed computed, and the order placed early. The problem of selecting varieties

for the home garden is often a very difficult one for the amateur gardener. Upon the examination of any seed catalogue one will be confronted with long lists of varieties of each kind of vegetable. These are accompanied by long descriptions of the special merits of each which mean but little, since they all say the same thing. For one who is not familiar with varieties this condition is unfortunate. Varieties differ as much in quality as they do in size, color and shape. The commercial gardener often sacrifices quality for such other characteristics as earliness, disease resistance, productivity, or shipping quality, but the home gardener is primarily interested in the highest quality possible. As an aid in the selection of high quality vegetables for the home garden the following list is presented:

Washington asparagus, Stringless Green Pod beans, Detroit Dark Red beets, Copenhagen Market (early) cabbage, Danish Ball Head (late) cabbage, Chantenay carrot, White Plume (early) Giant Pascal (late) celery, Mam-mid-season, and late varieties at the tam (mid-season) Evergreen (late) sweet corn, White Spine cucumber, Black Beauty eggplant, Grand Rapids leaf lettuce, May King head lettuce, Osage muskmelon, Kleckley Sweets watermelon, Nott's Excelsior peas, Scarlet Globe radish, Victoria spinach, Hubbard winter squash, John Baer tomato, White Egg turnip.

Besides planning the garden in the best way possible and using varieties of the highest quality, it is essential that proper care be given throughout the entire growing season. Frequent cultivation to kill weeds and conserve moisture is necessary. Many insect and disease pests must be controlled. But with a little extra time and money spent the home garden may be made not only to provide a large income to the family budget, but will be a source of satisfaction and pride to the owner.

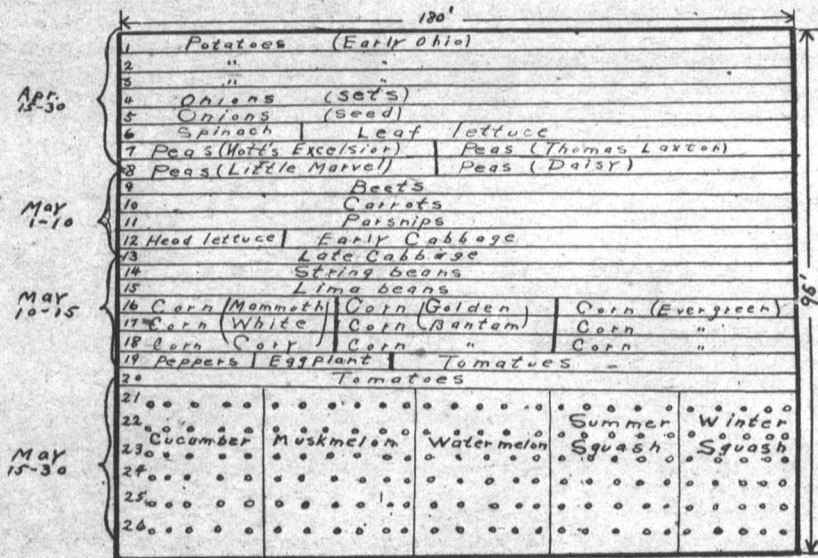


Fig. 1 A Model Farm Garden

at the same time, which covers the season very nicely. In the same way provision could be made for a continuous supply of many other vegetables according to the desires of the individual.

One frequent cause of failure in the home garden is the use of poor seed or the indiscriminate selection of varieties. There are several sources of seed supply. The most common for

the home garden is the corner grocery store. Many people neglect to buy their seed until the day it is planted and for this class it is a convenient source. Many gardens would not be planted if it were not for this handy supply. The corner grocery store is not always, however, the best source of supply. Usually the assortment offered is small and those which are offered are frequently the common sorts and not adapted to the local con-

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A Lasting Triumph In Cooperation

A Michigan Dairy Association that Has Stood the Test of Time

By J. A. Kaiser

IN action, at least, Litchfield stands in the forefront, in relation to the cooperative movement. The first cooperative shipping association ever formed east of the Mississippi river, was organized at Litchfield. Not only this, but one of the oldest and most successful cooperative dairy associations in America, was organized and has achieved success in this town. It is with the achievements of the Litchfield Dairy Association that this article has to deal.

At the annual meeting held in February, 1923, it was voted to erect a new creamery building and to equip it with the most up-to-date machinery. The old plant was no longer adequate to meet the needs of an extensive and rapidly growing business. The new creamery is now in operation. It is one of the finest in the state, and stands a monument to the practicability of the cooperative idea.

The main building is 60x140 feet, and of brick construction, the outside

being of old mission face brick. The work-rooms are painted white, which, with the large windows make the new building very light. It is of fire-proof construction.

In the front are two large offices, behind which is the print room in which the butter is done up in one-pound packages. It is expected soon to install a print machine that will take care of the entire output of the creamery. Near the print room and off the main room, is the refrigerator room, 16x32 feet, capable of holding three carloads of butter at one time.

In the large main room which is 40x60 feet, are the two large churns, one of 1,600 pounds capacity, and the other one having a capacity of 1,000 pounds. There are three pasteurizers with a capacity of 400 gallons each. There is also room for one additional churn and three additional pasteuriz-

ers. The receiving room, 18x40 feet, and testing room, 18x20 feet, are next to the main room, and contain the latest appliances for the expeditious handling and testing of cream.

As the cream comes into the receiving room, it is first weighed and then a sample is taken out for butter-fat. The cream is then dumped into a fore-warmer, and the can is automatically washed, scalded and dried, inside and out, by a mechanical can-washer, and is returned to the patron, sweet and clean. The cream is then pumped into the pasteurizers, cooled, and held till the next morning when it is pumped into the churns and comes out, finished butter. There are three other rooms in the rear of the building, engine room, boiler room, and storage room, all spacious.

The power and light used throughout the building is electricity, generated

from the creamery's own steam plant. A sixty-five horsepower engine is the motive power. Two sixty horsepower boilers are installed so that one or both may be used. A 70x3-foot outside brick flue coupled with a hand stoker, does away with the smoke nuisance, for those living near.

Refrigeration is furnished by a ten and a six-ton ice machines, either one, or both, being in use at any time. A centrifugal pump with a capacity of 100 gallons per minute, pumps water under sixty pounds pressure, from an eight-inch well, 137 feet deep.

The heating of the building, pasteurizing of cream, and heating of feed water for the boilers, is taken care of by the heat from the exhaust steam from the engine, thus cutting down the cost of power. The building is equipped with modern ventilators to carry out the steam and keep the rooms sweet and fresh at all times. Locker rooms add to the comfort and convenience of the workers.

(Continued from page 219).

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DETROIT, FEBRUARY, 1924

CURRENT COMMENT

Cow-testers are proving themselves pioneers in a new age of dairy production.

State Income Tax

THE federated legislative committee, made up of members representing the several farmers' organizations of the state, have agreed on the form of a proposed amendment of the state constitution, authorizing the enactment of a graduated income tax law in this state. The text of this proposed amendment to section Three of Article Ten of the constitution reads as follows:

Section 3. The legislature shall provide by law a uniform rule of taxation, except on property paying specific taxes, and taxes shall be levied on such property as shall be prescribed by law. The legislature shall provide by law a scheme of taxes upon the net gains, profits and incomes of all citizens and inhabitants of this state, from whatever source said gains, profits and incomes are derived, which tax shall be graduated and progressive as follows:

There shall be an exemption of \$4,000 per annum of all incomes.

Incomes of from \$4,000 to \$20,000 per annum shall be taxed at the rate of five per centum.

All incomes above \$20,000 up to and including \$40,000, shall be taxed at the rate of six per centum.

All incomes above \$40,000 up to and including \$60,000, shall be taxed at the rate of seven per centum.

All incomes above \$60,000 up to and including \$80,000, shall be taxed at the rate of eight per centum.

All incomes above \$80,000 up to and including \$100,000, shall be taxed at the rate of nine per centum.

All incomes above \$100,000 shall be taxed at the rate of ten per centum.

The Income Tax Law, herein authorized shall be administered by a Board of State Tax commissioners.

All monies paid to a Board of State Tax Commissioners under the provisions of this Amendment shall be paid into the State Treasury and shall then be credited to the general fund of the State, and shall be used for defraying the general expenses of the State Government and for the payment of principal and interest on State Bonds.

On or before the first day of September of each year, the Auditor General shall deduct from the total amount directed by the Legislature to be included in the State Tax, for that year, the amount of money received under the provisions of this amendment and credited to the general fund of the State for the current year and the balance if any shall be deemed to constitute the State Tax to be apportioned among the various counties of the State in accordance with the provisions of the general tax law.

Initiative petitions are now being circulated in these organizations and the rural communities of the state for the submission of this proposed amend-

ment to the electors of the state at the general election next November.

That the farmers of the state are practically a unit in favoring the passage of a state income tax law has been demonstrated in previous efforts to this end. The reason for this attitude is obvious. Their property has high visibility. It gets on the tax rolls with certainty and regularity. Statistics show that real estate holdings represent about thirty-five per cent of the wealth of the state, against which is assessed about eighty per cent of all taxes. In recent years the taxes on this class of property have increased tremendously. They have doubled, and redoubled and doubled again in many cases. And in addition to this the state has accumulated a bonded indebtedness of some \$65,000,000 on which interest must be paid and provision made to meet the principal, which means still heavier tax burdens for the future. There is good reason why the farmers of the state want a portion of this burden shifted from real estate which represents the great bulk of their holdings.

Objections may be offered to the form of this amendment which seeks to fix the rate as well as the principle of this form of taxation by constitutional provision, as well as to the rates and exemptions fixed in the proposed amendment. But as it stands it represents the best judgment of the federated legislative committee of our leading farmers' organizations after a thorough and careful study of the situation.

Farmer's Week Program

WE desire to congratulate those who were responsible for the program of Farmers' Week, given at the Agricultural College during the five days ending February 8.

Visitors may not have had their vanity satisfied, nor their passions aroused by clever jugglers of adjectives, but they found a lot to take home and make a real part of their life and business.

The program was a sane, sensible, seasonable, satisfying schedule of addresses, lectures and discussions, which will go a long way in helping farm folks forward to the high ground of agricultural service.

In the years immediately ahead, it is plainly evident that self-help will be the big help in putting individual farmers on a compensatory basis. To get there, those who depend largely on well directed individual effort, are the ones who are likely to arrive.

In extending aid to such individuals, our Farmers' Week program certainly delivered the goods. So again we say, congratulations.

Another Step In Marketing

MUCH has been done in the way of standardization by the cooperative associations, but the co-ops. can not carry their work through to the ultimate consumer. Therefore, there remains that weak point in the marketing system after the product is passed by the co-op, or individual farmer, to the distributor.

The producer is required to meet every economic need, by law or through necessity, in the growing, grading, packing and shipping of his products, but after they leave his hands they go to those who are not required to follow standard practices in their methods. Right here is the weakest link in the chain of marketing.

To strengthen this link there is being introduced in congress by Representative Hayden, of Arizona, a bill entitled, "Farm Products Trading Rules Act," which proposes to authorize the secretary of agriculture to establish and put in force approved rules for trading in farm products.

It is not implied that dealers of

farm products are dishonest, but such a law would bring standardization throughout the whole system of handling and marketing of farm products. With the market handlers guided by similar rules and regulations as the growers of the products they handle are, they will become as honest as the farmer now has to be. And there is no doubt but that honest food products grown by honest farmers, packed by honest people and sold by honest dealers, will be of benefit to all.

We feel sure that it will be of advantage to Michigan farmers to give a bill of this kind their moral support.

The Agricultural Dept

WE are under the impression that the farmer is quite heavily in debt, and the way some farmers are short of cash it seems very convincing that such is the fact. But a study of the agricultural indebtedness as compared with the indebtedness of industry makes the contrary look true.

It is estimated that the total agricultural property of the country is worth seventy billion dollars. The total amount of farmers' debt secured by mortgage is about eleven billion dollars. Thus American agriculture is operated on about fifteen per cent borrowed capital, whereas, industry is run on over fifty per cent, and sometimes as high as seventy-five per cent, of borrowed capital.

In accordance with these figures, agriculture is on a much firmer basis than industry, but while industry has fewer net assets, it has more ready cash to work with. The trouble with the farmer's situation is that under present conditions it is hard for him to convert his assets into cash, and therefore he often is hard pressed.

Mortgage bankers, insurance companies and others, however, realize the situation and consider the farm mortgage a much safer investment than most other forms because it has real value behind the investment.

The apparent difference between industry and farming is that you can start business on a worn-out shoe-string, but to start in farming you need a whole pair of shoes and then some.

However, with the coming recognition of the value of the farm mortgage and the ability of the farm to borrow on his harvested crops he will be able to work on a larger margin of borrowed money. But, it is our sincere hope that for the good of the country, and farming as well, the borrowing facilities of the farmer will not be extended to a degree which will enable him to start on the shoe string basis. If that condition should come, agriculture would cease to be the bedrock of America's prosperity.

Grade The Pure Breds

PROBLEMS will never end. When the solution of one is well on the way toward completion, more difficult problems appear. That, however, is the way of civilization and of improvement in all lines of endeavor.

Improving our live stock is an example. It took much energy to get the scrub sire moving from the farm and the pure-bred introduced. But that program is now getting a real swing to it in the more progressive live stock communities.

This is, however, leading the trail-blazers to another problem. The scrub-pure-bred sire is getting in the road. He is heading a herd that should be led by a pure-bred of high individuality—a certified pure-bred, if you please.

Will not breeders' associations be obliged to adopt some inspection service where sires worthy to head herds can be certified and others sent to the block? Various types of sire certification work are now in vogue in European countries. It may be none too early for American breed associations

to make a careful study of the practices abroad to prepare themselves to meet the situation.

The Fount of Youth

THE fount of youth discovered by our modern Ponce de Leons' does not resemble at all closely the image in the mind of the early Spanish navigator. Instead of being a pure stream of water gushing from the bowels of the earth, they have found it to be white streams, filled with all the nutrients needed to give you to every tissue of the body. They come from the udder of the humble dairy cow.

The discovery of modern scientists does not bring the presto changes that the Spaniard hoped to find in the fountain he searched for, but they do know that the regular use of the fluid from the udder of the healthy dairy cow is a real elixir of youthfulness. Not only does its constant use keep the body functioning with the vigor of youth, but it restores vitality to those whose energies have been wasted, and invariably with such restoration, hope and courage creep back into the lines of worried faces.

Pitter Patter

THERE was two what you call important days in the last week. One was fer the celebratin' of Abe. Lincoln's birthday, 'cause he showed us how you kin get to be president of the U. S. by splittin' rails and gettin' up at three o'clock in the morning, and goin' to work instead of goin' to bed at that time to go to sleep.

The other day is fer the festivities of Mr. St. Valentine who, the book says, made hisself a Christian martyr in about 300 A. D. Just 'cause he did that, folks send what you call comic valentines to tax collectors and such like, and nice ones with lots of sediment to other folks of the opposite sect they kinda like.

Now, I ain't interested in splittin' rails, or gettin' up or goin' to bed at three o'clock A.

M. I ain't never heard three o'clock strike in the dark since our kids is old enuf to know nights is fer sleepin' and not fer hollerin'.

I ain't been much interested in Mr. Valentine's day, but this year is a exceptshun, 'cause I got a valentine and it is one of them sedimental kinds too.

On the outside this valentine is got the picture of a sweet girl and a red-haired boy. The girl is looking down at two hearts what is been punctured by a arrow, and there is flowers all around. Looks like the girl is thinkin' about the arrow, or somethin' like that. Inside of this valentine is this, which I give confidenshully to the public:

Dearest Hy:—

In Cupid's Thrall!

Mercy me! Am I in love?

Do tell me what's the matter,

Every time I look at you

My heart goes pitter-patter.

"Another High School Girl."

Now, ain't that romantic fer a man what is rheumatic? I wanta tell that girl she is gotta look out fer that heart of hers, 'cause if lookin' at me makes it go pitter-patter, there must be other faces in Mt. Pleasant where she lives, what would make it thumpity-thump.

When I was lookin' up about St. Valentine I see about St. Vitus. When you get what you call St. Vitus dance you can't make your feet behave. Now, my scientific conclusions is that there is a St. Valentine's dance in which you can't make your heart behave. St. Vitus dance is hard to cure, and St. Valentine's dance is too, if it is let run too long. So, High School Girl, be careful, or the St. Valentine's dance will get you if you don't watch out.

HY SYCKLE.

A Giant Who Works For You

There is a giant who works tirelessly to lighten the labor on the American farm, to make the farm more productive, and farming more profitable.

He is personified by the vast resources of the Ford organization, whose herculean labors are directed primarily toward lowering the cost and increasing the efficiency of Ford cars, Ford Trucks, and the Fordson Tractor.

The larger this giant has grown the lower the prices of Ford products have fallen, and the more valuable they have become from the investment standpoint as farm equipment.

To the farmer this has meant lower and lower farm costs, better arrangement of farming activities, more money crops, all with less effort and therefore with greater net profit—proof enough that it is to his interest to standardize on Ford equipment.

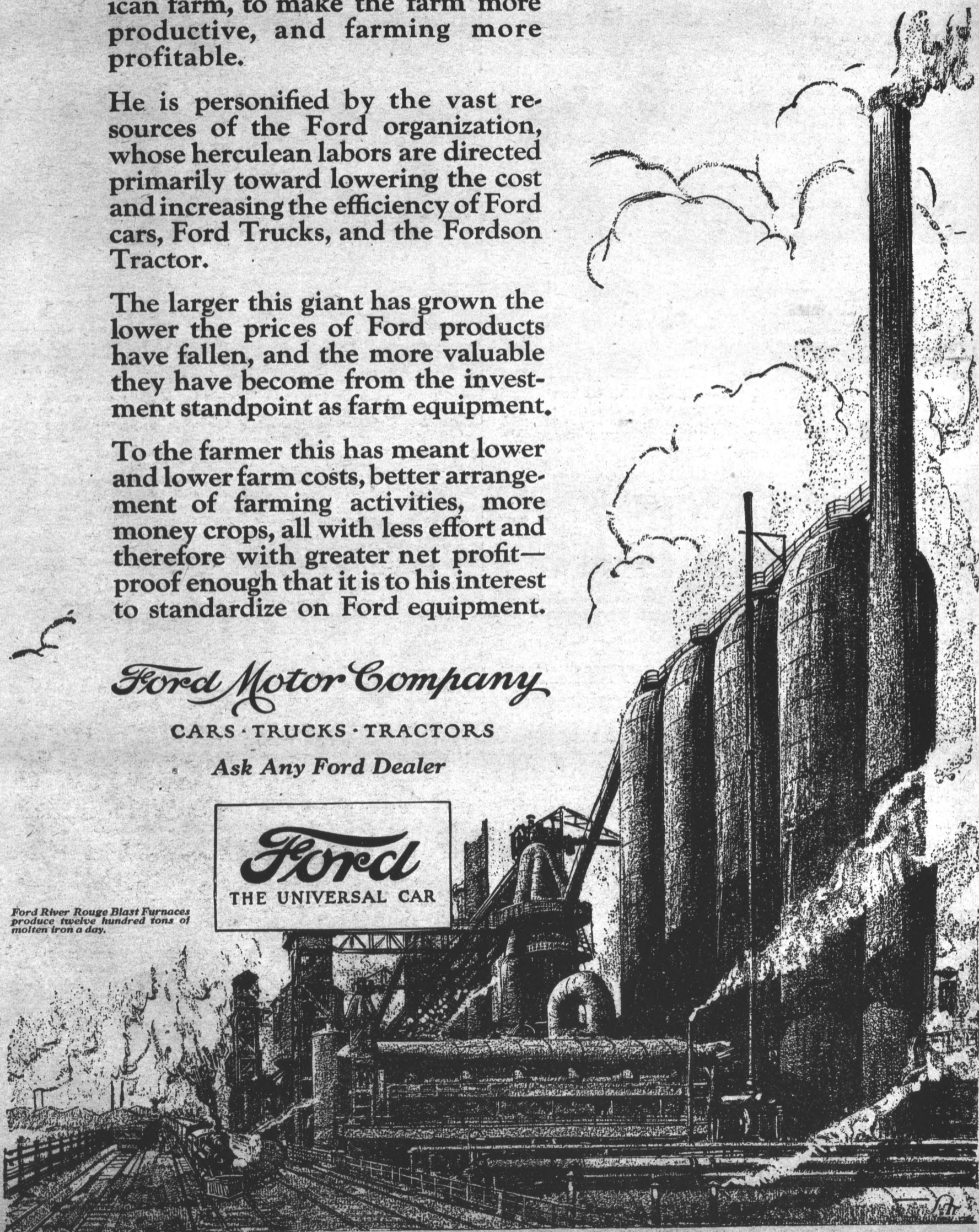
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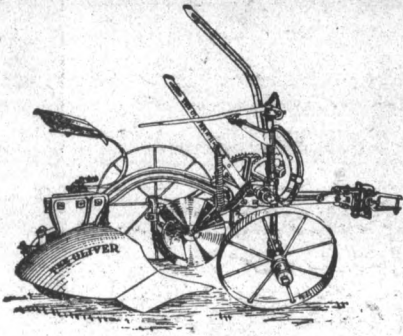




The Early Bird

Looking ahead is always advisable and time spent now in making sure your farm equipment is complete may mean much at harvest time.

For many years the quality plowing and ease of operation of the James Oliver No. 11 Sulky have caused farmers to regard it as the standard sulky design. A bottom for every plowing condition is available.



For full information and name of your Oliver dealer write the nearest Oliver Branch.

OLIVER

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Farmers' Week Goes Big

The Program, Practical and Prophetic, Was Attended by Thousands of Our Farm Folks

WITH the theme, "The Future of Agriculture," as the keynote around which the entire program was built, the annual Farmers' Week conferences held during last week at the Michigan Agricultural College, gave to nearly five thousand farmers who attended the various meetings, a message of optimism and encouragement in regard to future conditions.

Men familiar with every phase of Michigan agriculture took part in the programs of the various sessions, and without exception; armed their faith in the basic soundness of the farming industry of the state and its ability to weather satisfactorily the period of depression of recent days.

Dr. R. S. Shaw, acting president of M. A. C., advanced the fact that the state agricultural college is one of the two or three agricultural colleges in the country which has not suffered an appreciable decrease in enrollment for this year as an indication that Michigan, for various reasons, has been less severely affected than many other states with recent conditions, and that our state is among the first to achieve the road to recovery.

The two reasons of prime importance for the more favorable condition of Michigan, according to President Shaw, are the solid principles of diversification which are practiced by the farmers of the state, and the fact that the industrial and financial interests of Michigan have not suffered depression to a great extent.

Prices of the products of certain of the agricultural industries of first rank in Michigan have not reached the low level of the grain crops of the western states. Our poultry products, our extensive dairy industry, our horticultural industry, our bean and sugar beet industries—all these have commanded returns above those received by grain-growing farmers, and the extent of these industries have scattered the favorable results into practically every farm and agricultural community in the state.

In the financial indebtedness incurred during recent conditions by Michigan farmers, our state has been in far from the most undesirable conditions, according to the M. A. C. president, who asserts that a tremendous development of the wonderful agricultural possibilities will follow the depression period, in much the same manner as the agricultural development of the western states succeeded the panics of the seventies and nineties.

The ultimate balancing of conditions through a gradual working out of economic laws as the method through which agricultural prosperity must return which was advanced by President Shaw as the necessary procedure, was concurred in by every prominent speaker and leader who was present.

Dr. Eugene Davenport, former dean of agriculture at the University of Illinois, urged the development of a stronger spirit of cooperation and mutual assistance between the financial and agricultural interests as a means of recovering prosperity. He also showed the necessity of increasing the degree of efficiency of the farming industry as a means of arriving at a state of production above that of the average of world conditions.

Acquisition of the knowledge of business methods and the application of them to agriculture was urged by Louis J. Tabor, of Columbus, Ohio, master of the National Grange, who advanced the slogan of "Organize, standardize, merchandise and advertise," as the watchword of success, and asked for "cooperative production as well as cooperative marketing, guided by intelligence and information" on the part of farmers.

Standardization and marketing

through proper grading was emphasized by W. P. Hartman, director of the bureau of foods and standards of the State Department of Agriculture, while Verne Branch, Detroit director of municipal markets, pressed the need for consideration of the time and form of placing agricultural products upon the market.

The importance of eliminating bovine tuberculosis in Michigan, and of making the state "clean" in respect to this dangerous disease, which was discussed by H. R. Smith, commissioner of the National Live Stock Exchange of Chicago, was emphasized by Dean Hugh Cabot of the University of Michigan school of medicine. The noted doctor also pressed the necessity of eliminating contamination and pollution of milk and dairy products as a means in the wiping out of typhoid fever and septic throat and other infectious diseases.

M. A. C. department heads also advanced their beliefs for return to prosperous conditions, Professor Gardner, of the horticultural department, declaring for "placing fruit products upon the markets at the time, in the place, and in the form desired by the consumer," and pressing the necessity of greater efficiency in production as a means of reducing costs.

Professor Foreman, of the poultry department, urged the development of flocks of hens possessing the characteristic necessary for egg-producing, and the elimination of the "flapper" and "star boarder" types. The importance of dependable seed of known origin and quality was emphasized by Professor Cox, of the farm crops department, while Professor Brown, of the animal husbandry department discussed the value of proper rations and feeds and the development of the desirable type of live stock.

Professor Reed, of the dairy husbandry department, asserted the value of testing work, and the importance of the development of pure-bred herds of high-producing animals, with the elimination of low producers.

The attendance and interest in the various breed and crop associations, and in the extensive and valuable exhibits staged as a very valuable adjunct to the speaking program attested the optimism and confidence of the farmers in attendance, and their determination to bring the return of prosperity.

Boys' and girls' club contests, Smith-Hughes high school judging contests, the Housewives' Congress, conducted by M. A. C. home economics experts and specialists, and other features in addition to the regular farmers' program emphasized the importance and possibility of improvement of educational, social and rural home conditions, together with the requisite technical agricultural progress.

The universal consensus of opinion of the farmers attending the sessions and the officials of M. A. C., is that the 1924 Farmers' Week fittingly assumes its rank among the most valuable of the annual conferences, and unquestionably ranks as the outstanding event of the year in the movement toward agricultural progress and prosperity in Michigan.

ADDITIONAL REPORTS.

THE story of the sessions of the State Farm Bureau, the Potato Producers' Association, the Muck Farmers' program, Poultry Producers' Association, will appear later in these columns. There is much in these programs to commend them to the practical farm folks of the state, for which reason we are giving them more of the space they deserve.

A Page of Fence History

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WOVEN WIRE
FENCE



J. Wallace Page

Way back in 1883 J. Wallace Page built the first woven wire fence ever made.

In those days the fence was woven by hand, and an order for fencing a feedlot looked as big as an order for fencing a county would look today. But fences don't come any stronger than that first one was, and twenty-one years later the owner wrote that it was still as good as ever.

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PAGE FENCE

World's Standard for 40 Years

Stick to Sugar Beets

Where Conditions are Favorable No Crop Has Made Better Average Returns to Our Farmers

By J. F. Cox
Farm Crop Dept., M. A. C.

THE greatest profits in sugar beet growing generally go to growers who get high yields per acre, but considered from the standpoint of the return from the average crop, this crop gives the largest gross return of any cash crop grown on an extensive scale in Michigan. Sugar beets are listed by V. H. Church, crops statistician of the United States Department of Agriculture, as being worth \$72 per acre in 1923, exceeding any other cash crop grown in Michigan. The potato crop ranks next, with a gross return of \$57 per acre; the bean crop third, at \$31 per acre.

The high acreage valuation of the sugar beet crop means money to the grower, pays good return to laborers, and markedly increases community wealth. This is the strongest argument for sugar beets—the high returns per acre. The net returns to the grower depend, of course, on his ability to produce at a low cost per ton.

You probably know men who secured fourteen, sixteen and eighteen tons per acre. They were able to make profits away and above that secured from the average yield. Expenses involved are more or less fixed—the rental of land, the cost of preparing the land, cost of planting, blocking and thinning, hoeing, cultivating and harvesting. The grower who gets the large yield gets the most profit. Our average of eight tons per acre is too low. Every now and then the Creator gives us a good season with a resultant yield of ten tons.

Large Acre Yields Pay Biggest Profits.

I am sure that with constant attention to the education of all beet growers along the line of the best methods of production, such as beet growers employ, we can add two tons per acre to the average yield, in a very few years.

Sugar Beets Well Adapted.

The annual acreage in Michigan has ranged from 73,000 acres in 1922 up to 150,000 acres in 1920. Last year we came back to 96,000 acres. We are on the up-grade again.

The soils of Michigan are usually well suited to the production of beets. In discussing the possible increase of sugar beet growing, this point is one that gives us a firm foundation. Dr. McCool showed this great acreage to be very fertile, with large areas of lake bed soils high in organic matter, consisting of silt and clay loams with subsoils well supplied with lime. A class of soils ranking as one of the richest soil areas of the United States, and ideally suited to beet growing. A strong and interesting correlation has been made between profitable sugar beet production and the seventieth degree isotherm (line of average temperature) for June, July and August. This line passes through our sugar beet area. Had this been known years ago, it would have prevented the failure of many sugar beet factories started in Pennsylvania, the southern corn belt and other regions. We get an

ample supply of rainfall for beets making this whole region a great beet region from the standpoint of soil, climate, temperature and rainfall.

Much Sugar Imported—we Can Grow Our Own.

There is opportunity to extend the beet acreage. The acreage in Michigan could easily be extended to 300,000 acres if needed. The present factories, with little expansion, could handle an acreage of at least 200,000. We are ready for a marked increase in acreage if economic conditions continue to demand it.

In considering this crop, it is in a class that is entirely different from wheat, corn and potatoes. Sugar is still largely an imported commodity. We are securing about one-fourth of our sugar from Hawaii and the Philippines (part of the United States) and in addition we are importing about one-fourth from foreign countries. Sugar is protected by a tariff, which aids the industry and protects the grower.

There are no present adequate reasons blocking the reasonable expansion of sugar beet growing in Michigan and in other adapted sugar beet states. Importation is not necessary.

Domestic Production Stabilizes Supply.

Another prime reason that I think growers and people in general should have in mind, in regard to increasing the sugar beet crop, is that our sugar supply is not only more dependable in time of peace, but in time of war a highly developed sugar industry is a great asset in national preparedness.

In the expansion of beets, the larger part of it can take place in the sugar beet areas. The lighter soils of Michigan are not as well adapted for profitable yields of sugar beets and they will never be good sugar beet lands. It is a mistake to encourage the growing of this crop outside of adapted areas.

Costs Should Be Lowered.

In producing sugar beets at less cost per ton, higher yields per acre are necessary. In the first place, beets must be grown on the best suited fields. Pick out those fields that have the best natural drainage or put your beets on tile-drained land.

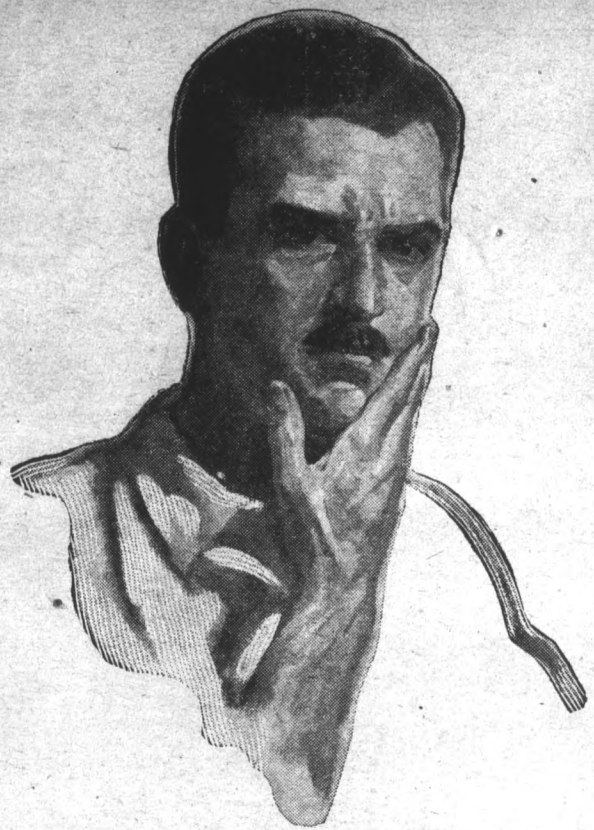
Sugar beets are a crop that must be grown in proper rotation, after good crops of clover, meadow or pasture sods, or alfalfa. The best tonnage of beets and the less damage from insects and diseases is usually secured after fall-plowed clover sod. It is not always advisable to follow beets immediately after clover or alfalfa, or pasture that has been allowed to run for a long time. It may be advisable to put on a crop of corn or beans to clean up the weeds and lessen risk of insect injuries.

Fall-plowed clover sod, given a good dressing of manure, paves the way, as a rule, for a highly profitable sugar beet crop. The season often prevents

(Continued on page 230).



A Wood Pile Warms Twice, in Cutting it and in Burning it.



Five Mistakes

We corrected for you in a Shaving Cream

By V. K. Cassady, Chief Chemist

GENTLEMEN:

The five main complaints men made about some shaving soaps were these:

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So we made a Shaving Cream to act in one minute. Within that time the beard absorbs 15% of water. And that makes a hard beard wax-like.

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The lather of Palmolive Shaving Cream maintains its creamy fullness for ten minutes on the face.

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—Don't Use It

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Palmolive shaving cream is kept pure and safe by its protecting tube. This is reason enough to use it, even if it didn't give you the quickest, most comfortable and generally most satisfactory shave in the world.

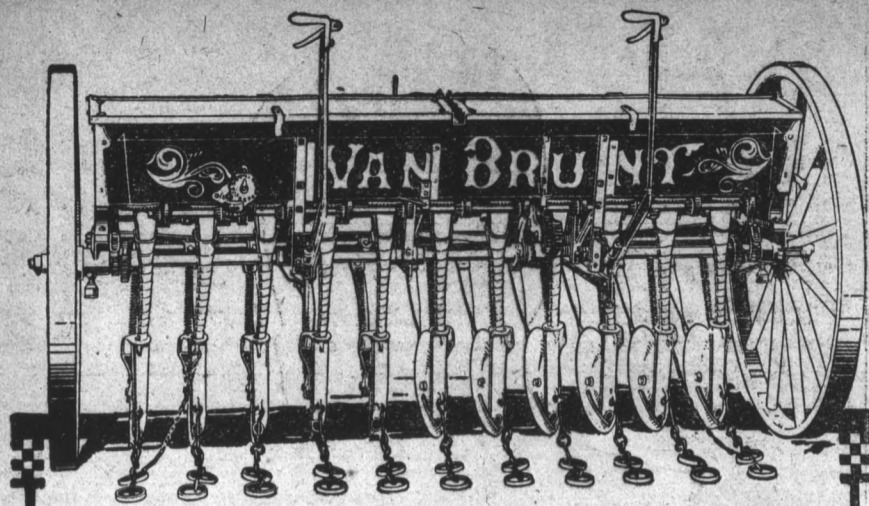
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Every seed is planted to best advantage and fertilizer placed where the growing crop easily gets the additional plant food which makes a bigger yield of better grain from the same field when you use a

John Deere-Van Brunt Grain and Fertilizer Drill

Plants seed properly—the famous Van Brunt adjustable gate force-feed compels seed to flow from grain box in even, continuous streams—no clogging or bridging—no seed or ground wasted. Finger-type feeder wheels handle fertilizer just as positively. Metal seed tubes and closed disc boot delivery protect seed until it reaches bottom of seed furrows of equal depth—an even stand of grain, all maturing at one time is the result. Covers the seed—tilting lever

enables you to set disc boots to plant and cover seed at the desired depth under all field conditions.

The discs pulverize the soil and make a good seed bed because set at the proper angle. They run easily and properly because equipped with dust-proof, oil-tight bearings that are guaranteed to last. Scrapers keep the discs clean.

Standard sizes and styles. Tractor hitch and grass-seeder attachment extra.

Get your share of increased yields per acre this season by using a Van Brunt Drill. Sold by John Deere dealers. Write today, address John Deere, Moline, Ill., and ask for free Booklet VD-6 22



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Let me send you this interesting free booklet, telling why Southern Md. farmland offers the greatest opportunities to the ambitious farmer. K. A. McRae, Exec. Sec. Southern Maryland Immigration Commission College Park, Md.

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Crop Improvers Meet

The Annual Meeting Held at Farmers' Week is Full of Practical Advice for Michigan Farmers

THE annual meeting of the Michigan Crop Improvement Association, held in connection with Farmers' Week at M. A. C., while not quite as well attended as in former years, due to adverse weather, was teeming with interest to Michigan crop growers. The session on Wednesday consisted of a program of discussion on general field seeds, particularly the clover and alfalfa seed situation which is so prominent in the eyes of the farmer today.

Professor C. R. Megee, in charge of forage crops investigations at M. A. C., told of the recent experiments which had been conducted with clover seed coming from various parts of the world, not only at the Michigan station, but at several others throughout the country. These experiments have universally shown the adaptability of Italian seed for practically every section of the United States. In Michigan, Italian clover is not only susceptible to severe winter-killing, which frequently causes the entire loss of the stand, but it is also very susceptible to anthracnose, which greatly curtails its growth and causes a shriveling of the plant and loss of the leaves. Clover grown from Italian seed rarely produces a second crop in Michigan.

Seed from certain other of the European countries, and one out of six strains of seed from Chile proved fairly productive in Michigan, but according to reports on importations of cloverseed, practically none is coming from the countries which produced seed adapted to Michigan. Cloverseed from Oregon has also proven dependable in this state.

With alfalfa, Grimm and the new Hardigan, developed at M. A. C., have proven the most productive. In 1923 under very ideal conditions the Grimm yielded seven tons per acre and the Hardigan yielded 7.2 tons per acre. The Montana common, a good strain of seed for Michigan, was somewhat behind the Grimm, producing 6.3 tons per acre under identical conditions, while the Utah common produced about six tons per acre. Seed from the south was very unsatisfactory, the Hairy Peruvian and the Common from Arizona producing less than a ton per acre after having come through two winters which had caused no injury to the Grimm or Hardigan stands.

Believes we Can Greatly Increase Our Alfalfa Acreage to Advantage.

Professor J. F. Cox, head of the Farm Crops Department at M. A. C., and largely responsible for leading Michigan to its present enviable condition in so far as alfalfa is concerned, told of the strides which Michigan farmers had made in the production of this crop in the face of the general opinion of ten and fifteen years ago which said that alfalfa was not adapted to this state. He said that while the most conservative census figures showed 334,000 acres harvested for hay in 1923, that undoubtedly counting the new seedings and alfalfa being used for pasture, Michigan had over one-half million acres of this crop and that it was his opinion that the state could well afford to have from one million to a million and a half acres of alfalfa without danger of over-production.

From experience at M. A. C., according to Professor Cox, alfalfa may be harvested very quickly after cutting with a new type of side delivery rake which turns eighty per cent of the butts outside. In some instances farmers who handle alfalfa in this way are able to put their hay in the barn the same day they cut it, and even in adverse weather the windrows can be turned with this same side delivery rake in such a way as to make the curing of high-quality hay practicable.

Professor Cox also quoted the experiments of the animal husbandry department, which has exploded the idea held by many that alfalfa was not a desirable feed for horses. Horses fed on alfalfa ration with grain, and another group fed on timothy ration with grain, were used in an exhibit put on by the horse department and everyone who saw the splendid condition of the alfalfa-fed horses, as compared to the other group, was fully convinced that alfalfa is proving as desirable as a horse feed as it has always been for other classes of live stock.

Canadians Emphasize Good Seed.

Professor L. H. Newman, Dominion Cerealist, in charge of plant breeding, of Ottawa, Canada, gave the principal address of the day. The Canadians have taken a lead in crop improvement work and for over twenty years Professor Newman was secretary of the Canadian Seed Growers' Association. Professor Newman told how they were able to take advantage of their northern location because of the desirability of northern-grown seed in sections further south, and it was his belief that Michigan farmers could take equal advantage of their similar location. He outlined the seed standards as adopted by the Canada seed growers, standards which have become so important commercially in that country that they have recently been made legal by the Dominion government. Many of the standards are similar to those followed by the Michigan Crop Improvement Association.

Describes Plant Breeding Work.

Other interesting discussions were given by H. M. Brown, assistant plant breeder at M. A. C., who told of the time required to bring out a new variety, and D. F. Rainey, extension specialist in charge of varietal demonstrations, told of the performance of pedigreed varieties of grain throughout the state. According to an accumulation of years of tests, the most productive varieties in tests supervised by Mr. Rainey have been the Wolverine and Worthy oats, the Wisconsin Pedigree and Michigan Black Barless barley, the latter particularly for the the very heavy soils, the Manchu soybeans for seed and the Wilson variety for forage, the Grimm and the Hardigan alfalfa, and the Robust bean, the latter variety in particular has been outstanding in its performance, having averaged five bushels per acre more than the average of all other varieties tested, and having no competitor which has consistently yielded anywhere nearly as much as the Robust bean.

Many of the objections which elevator men claim to have against this variety were found to be baseless, since the variety tests showed that weather and harvesting conditions alone caused poor color and a wrinkling and shriveling of beans. Variety tests showed this to be just as characteristic of common varieties as of the Robust. A picker on demonstration at M. A. C. during Farmers' Week handled all kinds of beans with equal facility.

(Continued next week).

LIVE STOCK ON FEED.

THE number of cattle on feed in the states east of the Mississippi river are about three per cent larger than last year, and the number west remains practically the same, according to estimates made by the federal government.

Of sheep and lambs, there is a decrease of about four per cent in the corn belt and western states and a slightly larger decrease east of the Mississippi. Michigan is among the states having fewer lambs on feed than a year ago.

QUAIL MAY NEED FEED.

WHILE considerable snow fell during the preceding three winters, it lay loose upon the ground, presenting no great obstacle to the efforts of wild life to reach the grain, seeds and nuts that lay on the ground beneath the fluffy canopy. And rarely did the temperature drop to zero. So plentiful did quail become that during the past summer every woodland, meadow and even dooryard, from early morning until the lengthening shade of twilight came, resounded to their jubilant call.

The year 1924, however, commemorated its entry into the regency of years by covering woodland and meadow with a glacial blanket through which no bird could hope to scratch or animal to dig. This remained about two weeks, when warm weather changed it to slush and water, upon which a quantity of soft snow fell, to be congealed again into a thick, almost unyielding crust. While practically the only food for birds during the month of January has been the seeds that have clug to weed stalks that protruded above the crust, the mercury in the thermometer has a number of times reached unexplored localities in the lower end of the tube.—G. Everitt.

CHANGES IN TYPE OF RURAL SCHOOLS.

CONSOLIDATED schools are increasing in number, according to reports presented at an educational conference recently held in Washington. Data on consolidated schools show that 1,628 were formed in the school year 1921-22. The most accurate figures to be had show that there were 11,890 consolidated schools in the United States in 1920. Estimating an increase of at least 3,000 in the next two years, there were in 1922 approximately 15,000 consolidated schools. Ohio, Indiana and Louisiana each reports over 1,000 such schools.

There were 187,450 one-room schools reported in 1920. Two years later the estimated number was 179,450, a decrease of 8,501. Most of this decrease is said to have been due to consolidation. Some of it is due to a natural growth of small schools into larger two and three-room schools.

The amount spent for transportation was \$14,514,544 in 1920, with eight states not reporting. For 1922 it was \$20,624,805, an increase of more than \$6,000,000, with no reports from eight states. Ohio spent over \$2,000,000 for school transportation.

EXTENSION WORK GROWS.

AN idea of the extent of the extension work movement in this country may be gained from the statement that in 1923, a total of \$19,000,000 was spent in extension work by the federal government, by states and county farm bureaus. In 1914, all the money spent in this movement amounted to \$3,500,000.

More than 4,500 persons are now engaged in extension work, of whom 2,200 are county agents, 1,100 are home demonstration workers, 225 are doing boys' and girls' club work, and 750 are extension specialists employed cooperatively by the land grant colleges and office of extension work in the department of agriculture.

Of the \$19,000,000, upwards of \$1,100,000 was spent in New York, \$630,000 in Ohio, \$660,000 in Pennsylvania, and \$580,000 in Michigan.



Mortgage Lifters Preparing to Lift.

Where the Farmer's Dollar Buys the Greatest Value



The chart below shows the prices per pound of the basic farm machines and other articles the farmer buys.

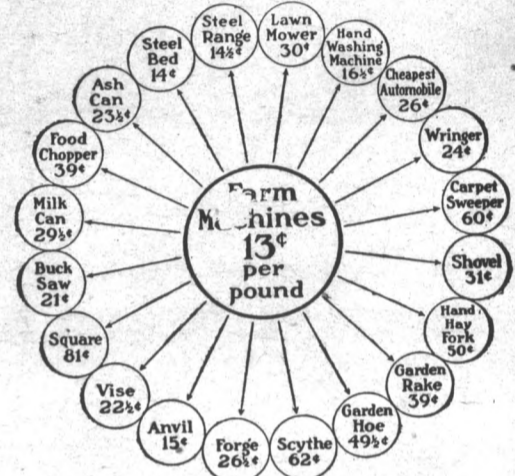
Ignore for a minute the low figure in the big circle and study the pound prices of the miscellaneous articles. You will see that they range all the way from 14 cents up to 39, 60 and even 81 cents per pound. Yet these are not high-priced goods; they are ordinary, everyday articles made of the same materials that go into farm machines, and the prices are accepted as fair by all buyers. The articles are of a standard line sold practically everywhere.

IN some of the stores of any town the farmer's dollar buys the necessities of life; in others it buys physical comforts; in still others it buys pleasures. In the farm equipment store the farmer's dollar buys the means to make many more dollars. It buys the equipment which, like the land itself, is responsible for his progress and prosperity. When the farmer invests in modern farm machines, he is really buying clothing and education, electric lights, automobiles, radio outfits, etc., because these things are purchased with the money made by farm machines.

Of all the stores in town, the farm equipment store is the one where the farmer gets the greatest return for his money. This is true not only on the basis of the foregoing but it is found true also by comparing the prices paid by the farmer for different articles made of similar materials.

An interesting comparison has been made by the Research Department of the National Association of Farm Equipment Manufacturers. They took, First, a group of eleven basic farm machines: Sulky plow, peg tooth harrow, disk harrow, grain drill, corn cultivator, corn planter, corn sheller, grain binder, mower, hay rake, and farm wagon—and, Second, a list of common articles used on the farm but not classed as farm equipment. Then they obtained the pound prices of these articles by dividing the retail prices by the weights. The pound-price basis is the only practical way to compare these articles and it is entirely fair since the materials go through the same machine shop and factory processes and are handled by the same class of labor. Freight to the dealer's store was not included, since it applies to all articles the farmer buys and varies with the distance from point of manufacture.

Now note the low average retail price per pound of farm machines. The average pound price of these basic machines and implements, needed by every grain-growing farmer, is less than the lowest in the other group. Some of these farm machines have com-



plicated parts in their makeup and all of them are built to stand years of hard use, yet the average price the farmer pays for these necessary farm machines is only 13 cents per pound.

The above comparisons, which can be duplicated in any community in this country, prove the statement that the farmer pays less money, pound for pound, for the machines that do his work than he pays for any other similar manufactured article he buys.

This shows what farm machines would cost if they were priced like other articles the farmer buys:

- A sulky plow, priced like a wringer, would cost about \$45 MORE
- A peg-tooth harrow, priced like a forge, would cost about \$30 MORE
- A disk harrow, priced like a buck saw, would cost about \$50 MORE
- A grain drill, priced like a food chopper, would cost about \$390 MORE
- A corn planter, priced like a forge, would cost about \$60 MORE
- A corn cultivator, priced like a vise, would cost about \$40 MORE
- A corn sheller, priced like a milk can, would cost about \$20 MORE
- A 7-ft. grain binder, priced like the cheapest automobile, would cost about \$200 MORE
- A 7-ft. grain binder, priced like an ash can, would cost about \$150 MORE
- A 5-ft. mower, priced like a lawn mower, would cost about \$80 MORE
- A hay rake, priced like a garden rake, would cost about \$110 MORE
- A wagon, priced like a hand washing machine, would cost about \$50 MORE

The National Association of Farm Equipment Manufacturers has issued several bulletins on subjects similar to the above. We will be glad to see that the full set is sent to those interested. Drop us a line.

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Sour soil means poor crops. Experts agree fertilizer is useless on sour soil—it must have lime. The "Holden" Spreader makes bigger crops. Guaranteed to handle lime in any form, fertilizer, phosphate, gypsum, wood ashes or crushed shells.

Soil Tested-free. Cannot Clog. Try Spreader 10 days Free.

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Now is the Time to Buy. Crop very short. Buy before ad-free samples of our pure Iowa grown, New Crop, Re-cleaned 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.

CLOVER CHEAP

Samples Free—with lowest wholesale prices. We expect much higher prices later. We can save you money on best tested seed. We bought early big stocks on lower markets. Our prices amazingly low. Don't buy your seeds until you write for our prices and samples on Clover, Alfalfa, Timothy, Sweet Clover or any seed needed. Our Big Seed Guide Free.

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Big Profits Selling Hardy Michigan Grown Trees also grape vines, berry bushes, roses and shrubs, spring delivery. Our stock is fast selling, healthy and true to name. Write now for our handsome color catalog and liberal Agency proposition. Prudential Nursery Co., Box 306 Kalamazoo, Mich.

An Amazing Fact

TO many people it may seem incredible that a habit so common as coffee-drinking can be harmful. Yet if your doctor were to enumerate the common causes of indigestion, headache, and run-down condition, he would be likely to mention coffee.

If you are troubled with insomnia, nervousness, or are inclined to be high-strung, try Postum in place of coffee for thirty days, and note the difference in the way you feel, and how much better you sleep.

Postum is a pure cereal beverage, absolutely free from caffeine, or any harmful drug.

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Your grocer sells Postum in two forms: Instant Postum (in tins) prepared instantly in the cup by the addition of boiling water. Postum Cereal (in packages) for those who prefer the flavor brought out by boiling fully 20 minutes. The cost of either form is about one-half cent a cup.



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Always Give Name and Address When Sending Inquiries as Satisfactory Service Cannot be Given to Unsigned Letters

REMOVAL OF SILAGE.

Can a tenant sell and remove from a farm his half of ensilage left when his lease expires? Contract states that no rough feed, such as cornstalks or straw shall be sold. Is ensilage classed as rough feed when it contains all the corn grown on the fodder?—C. C.

Undoubtedly stover is roughage and it would be no less so when converted into ensilage. I am not aware of any decisions upon the points and believe there are none, but feel confident that the restriction would prevent the removal of the ensilage.—Rood.

FEEDING BREEDING EWES.

I have 136 head of sheep. They are due to lamb in January and February and I have good corn silage, barley and pea hay, and alfalfa hay and oats for feed. Now, how shall I feed and how many pounds to a sheep?—T. N.

All the feeds you mention are suitable for feeding breeding ewes, but I would not feed corn silage to excess. Not more than a moderate feed once a day, say one bushel of corn silage for ten sheep. The barley, pea hay and alfalfa hay can be fed liberally, giving them all they will consume without waste. Oats for a grain food is splendid for breeding ewes, in fact is for all kinds of stock, and they can be fed liberally if you desire to do so. It is not necessary to grind oats for sheep. A small amount of oil meal with oats would help furnish a little more desired protein in the feed. Ten pounds of grain per day per 1,000 pounds live weight would be a good liberal ration for these breeding ewes.

LAW ON LINE FENCE.

What is the law regarding line fences? Does each party have to build his fence to keep out sheep?—A. L. D.

The statutory definition of the legal fences Compiled Laws 1915, Section 2206, does not declare what animals shall be excluded thereby, but the supreme court in interpreting the statutes has said that a legal fence is intended to be such as would turn the domestic animals usually kept on farms. It is therefore believed that upon the division of a line fence that respective occupants are entitled to such a fence as will turn sheep.—Rood.

AUTHORITY FOR CATTLE TESTS.

Is there any state law to force a farmer to let the state authority test his cattle, against his wishes? We understand that this testing is all a graft. Is there any danger of inoculating tuberculosis from one to the other with their method of testing? We understand there is danger.—W. E. N.

Public Acts 1919, No. 181, as amended by Public Acts 1921, No. 286, empowers the State Live Stock Sanitary Commission to condemn animals found affected by contagious or infectious diseases, and prescribes the method of procedure. It is understood that suits are being prosecuted in Wayne county to test the constitutionality of the statutes.—Rood.

DUTIES OF MAIL CARRIER.

Rural mail carrier says he is not obliged to turn up the flag on the mail box, and wants to keep the lock off. Last year we had another postman, and he always turned the flag up when there was mail, and this one said that there was a new law passed that rural mail carriers do not have to have this bother. Is that so?—E. G.

The conduct of mail carriers in regard to the method of depositing mail in the boxes and giving signal is entirely regulated by the post office department and not by statute, and the conduct of the carriers is determined

by these regulations. The method of determining the matter is either by inquiring of the postmaster, or by letter to the fourth assistant postmaster-general at Washington.—Rood.

BEANS AFTER SUGAR BEETS.

I have a twelve-acre field which was in sugar beets last fall, and I had first intended to sow oats in spring as it is not plowed, but now I would rather sow beans. Will beans do well on beet ground? Must I use any fertilizer? What kind? Must it be plowed? Most of the field was matured the year before. The ground is low, black clay and all well drained.—H. J. M.

On fertile land in good condition, beans may follow beets with profitable results. The practice is not one to be recommended as a common practice, since it often exhausts the soil fertility rapidly to follow cultivated crops in succession.

The use of from 200 to 300 pounds of acid phosphate or 300 pounds of a high-grade complete fertilizer, such as a 2-12-4, is advisable. In fitting the land for beans, a better seed-bed will be secured by plowing in early spring and harrowing at intervals until planting time.—J. F. Cox.

COVERT LAW IN FORCE?

Is the Covert road law still in force? If so, how far each way from the road do they tax? Do they have to get a per cent of all those taxed, or just a per cent of those living or owning land on the road to be built? What per cent of taxpayers do they have to get for it to carry? Are we taxed on the amount land is assessed for, or so much per acre?—E. H. D.

Public Acts 1923, No. 213, amends Sections 5 and 82 of the Act, but I do not find that it was repealed or otherwise amended by the state legislature. The provisions of the act will be found in Compiled Laws 1915, 4671-4745 as amended by Public Acts 1919, No. 107.—Rood.

SOY-BEANS.

How about soy-beans in Oakland county, and what variety will do best and ripen? Do they require as good soil as other beans? I would like something to build up the soil and produce a lot of cow feed. Would they make a paying crop to thresh, and they will stand up so you can cut them with a mowing machine?—H. P.

Adapted varieties of soy-beans are well suited to growing in Oakland county. The Manchu is the highest yielding, both for seed and forage. Next to it is the Michigan-grown Ito San and Black Eyebrow.

Soy-beans are very similar in their soil requirements to the common bean but are frequently grown on poorer land for soil improvement purposes. For feeding purposes, they can best be handled as a hay crop, planting from six pecks to two bushels per acre with an ordinary grain drill on clean ground. If ground is weedy, drill in rows twenty-eight inches apart, and cultivate, using one bushel of seed per acre. For hay, soy-beans should be cut when the pods are formed and beginning to fill. They can best be cut with a mowing machine. The crop is cured for hay in much the same way as alfalfa is handled, allowing to wilt in the swath and throwing into wind-rows or small cocks for curing.

For grain, yields of from fourteen to twenty-four bushels can be expected, according to the fertility of the land.

Certified seed can be secured from the Farm Bureau Seed Department, 221 North Cedar St., Lansing, Michigan, or through Secretary H. C. Rathner, of the Michigan Crop Improvement Association, East Lansing.—J. F. Cox.

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THE BROWN FENCE & WIRE CO. Dept. 2510, Cleveland, Ohio

MAKE IT SAVE INTEREST IN WINTER.

EVERY farmer who owns a tractor should plan to use it as much as possible during the winter season. Sawing wood, grinding feed, shelling corn and hauling are among the duties to which the tractor can now be put. It is much easier and warmer to grind one's own feed at home than it is to drive several miles to a feed mill in cold weather. Naturally, the number of jobs available to the tractor in winter time is limited the same as is true of the horse.

FEEDING THE CALF.

EXPERIENCE has taught the importance of feeding the calf milk of uniform temperature from day to day. Best results are obtained when this temperature is kept between eighty and 100 degrees Fahrenheit. A young calf should not be fed milk that has started to sour. The pail should be thoroughly cleansed after each feeding in the winter time as well as during the summer season.

APPOINTS MICHIGAN'S REPRESENTATIVE.

TO keep headquarters of the National Dairy Union at Washington in the closest possible touch with the dairy industry and agricultural interests of the country, it has been deemed advisable to appoint a vice-president from each of the recognized dairy states for that purpose. R. F. Frary, secretary of the Michigan Association of Creamery Owners and Managers, has been appointed in this capacity by President N. P. Hull, of Lansing.

CLAIM POLITICIANS HINDER RELIEF.

THE Federal Council of Churches and other large religious organizations are making efforts to raise funds for the relief of the starving children of Germany. The German government has been trying to negotiate the purchase of vast quantities of foodstuffs in the United States to feed the German people, but is forbidden to make such a deal without the consent of the reparations commission. According to Dr. Hess, who was with the commission for several years, and is now in this country, the reparations commission is largely composed of politicians who are playing politics instead of attempting to reach a settlement that would be fair to all the nations interested, and it is not likely that they will give their consent to the proposal of Germany to buy foodstuffs in America.

OFFERS PROTECTION TO FARM LOAN SYSTEM.

TO offer for sale as federal farm loan bonds any securities not issued under the terms of the farm loan act would be prohibited under a bill introduced by Representative McFadden, of Pennsylvania. The bill also prohibits banks and trust companies not in the federal reserve system from advertising or representing in any way that they are members of the system.

Representative McFadden has introduced a bill to extend for nine months the power of the War Finance Corporation to make advances on farm products. The corporation may from time to time extend the time of payment of any advance made under the War Finance Corporation act; but the time for the payment shall not be extended beyond January 1, 1926.

Several other bills extending the life of the War Finance Corporation have been introduced in the house.



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ALL Superior planting machines are *precision tools*. All are designed for *utmost accuracy in planting*. To deposit a given quantity of seed *uniformly*—into *every* hill or row—at a *measured depth*—and to *cover every seed perfectly*—these are the features you can

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The Superior line is a *line of leaders*—each machine, we firmly believe, the best for its purpose that money can buy. Any Superior dealer will take pleasure in showing you the many points of outstanding superiority that make these highest-quality implements worthy of their name. Or—if you will write—or mail the coupon—we will mail literature covering all machines in which you are interested. *There's a Superior for every planting need!*

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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—you cannot afford to lose! This year, play safe.

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This latest Planet Jr. seed drill was designed particularly for muck land growers. It overcomes every difficulty offered by muck soils. It has an opening plow of special design, with extra long wings extending back from the point to protect light seed from wind. The feed wheel, also special, has proved in our trials the most satisfactory thing of its kind we have ever used.

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FIFTY-SIXTH ANNUAL STATEMENT

OF THE

Michigan Mutual Life Insurance Company

FOR THE YEAR ENDED DECEMBER 31ST, 1923.

PAID-FOR BASIS

ASSETS

Cash in Banks	\$ 190,015.71
First Mortgage Liens on Real Estate	13,494,738.87
Amount invested in New Home Office Building	602,228.10
Amount invested in Old Home Office Building Sold on Contract	95,000.00
Other Real Estate	10,198.47
Loans to Policyholders secured by Reserves	2,811,097.84
U. S. Government Liberty Loan Bonds	226,678.00
State of Michigan War Loan Bonds	35,000.00
Loaned on Collateral	900.00
Due from Reinsuring Companies	14,229.00
Interest due and accrued	286,269.36
Net Outstanding and Deferred premiums secured by reserves	253,016.74
Total Assets	\$18,019,372.09

LIABILITIES

Reserve Fund (including Disability Benefits)	\$16,295,458.13
Premiums and interest paid in advance	30,052.19
Installment Policies not yet due	70,608.14
Other Policy Claims	137,449.76
Accrued taxes, salaries and expenses	96,648.97
Surplus	1,389,154.90
Total Liabilities	\$18,019,372.09

During 1923 the assets increased over \$1,225,000.00.
 Insurance in force increased over \$9,000,000.00.
 Surplus increased over \$188,000.00.
 Paid death claims amounting to \$739,970.00.
 Returned to living policyholders \$823,646.00.
 Total amount of insurance in force (paid for basis) \$103,703,000.00.
 Total amount paid to policyholders since the organization of the Company \$37,815,158.00, which is more than twice the amount of the present assets of the Company.

A RECORD OF ACTUAL RESULTS WHICH SPEAKS FOR ITSELF

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| W. G. HUTCHINSON, M. D.,
3d Vice-Pres. & Med. Director | A. H. MASLEN...Asst. Secretary | FRANK M. HAYES,
General Agent for Detroit,
Home Office Building. |
| A. F. MOORE.....Secretary | GEO. A. STEWART.....Cashier | |

Late Agricultural News

PRESIDENT'S CONFERENCE.

UPWARDS of eighty bankers, farm organization leaders and farmers attended the President's conference on February 4 to consider the agricultural and financial needs of the northwest. President Coolidge told the conference that he was in favor of any sound measures of relief that could be devised. Among the steps which he said the federal government could take as its share of the work to be done, was the enactment of the Norbeck-Burtness bill providing an appropriation for the purpose of promoting the diversification of agriculture in certain sections of the country which heretofore have been devoted primarily to the production of wheat, enabling the farmers to purchase live stock and poultry, and thus equip their farms for dairying and general farming; and extending the time during which the War Finance Corporation may make advances for agricultural purposes to the end of the present calendar year.

IMMIGRATION BILL.

A SELECTIVE immigration bill which will form the basis of immigration legislation during this session of congress, has been reported favorably to the house by the immigration committee. This bill would restrict immigration to this country to two per cent of the foreign born of each nation here in 1890. But each nation will be allowed a quota of 200 immigrants in addition to the two per cent basis.

This bill provides that all prospective immigrants shall get certificates of entry from United States consuls before embarking, which will insure a selective system. Persons not eligible to citizenship would be excluded. The number of immigrants would be limited to 169,093 annually, instead of the 357,000 as at present.

PROHIBITION FAVORED.

THE eighteenth amendment and prohibition enforcement are still strongly favored in congress. The house has approved a section of the treasury appropriation bill providing \$10,629,770 for prohibition enforcement during the coming fiscal year. This is \$1,629,770 more than has been available for enforcement of the Volstead act this fiscal year. An attempt by the "wet" forces to amend the bill was lost by a vote of fifty-three to three.

PESSIMISM HURTS.

IN contradiction to the walls of distress coming from the northwest, there were conservative bankers and farmer representatives who frankly stated that the spring wheat belt was being hurt worse by pessimistic advertising than by anything else; that most of the bank failures were due to bad management; that there were too many marginal farmers on marginal farms; that the farmer's troubles were quite largely a state of mind; that the real farmers were helping themselves back to pre-war stability and did not want government aid through such proposals as the Burtness-Norbeck bill. The pessimistic stories of agricultural distress in the northwest are resulting in loss of confidence in the local banks, and the people are withdrawing their deposits and buying treasury certificates or hiding their money, thus further crippling the banking resources of that part of the country.

To counteract this tendency the sale of treasury savings certificates in seventeen western states has been stopped by Postmaster-General New, with the consent of Secretary of the Treasury Mellon.

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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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A million successful treatments given each year. Directions with every bottle. \$1.50 per bottle at druggists or direct upon receipt of price.

ALSO GOOD FOR HUMAN USE
 An excellent remedy for sprains, bruises, cuts, burns, sore throat, muscular and inflammatory rheumatism, sciatica and lumbago. The Lawrence-Williams Company, Cleveland, Ohio.

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THOUSANDS of farmers have paid for their farms on money made by storing their silage in Indiana Silos. More than 80,000 are now in use. They pay for themselves in a short time—and build up your soil.

Save your dry grain and mature corn in an Indiana Metal crib. Strongly built, thoroughly ventilated—it is a permanent improvement on the farm. Write today for our special low price early buyers' proposition. Just a few Agencies left.



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We will make you a heavily re-inforced jacket to fit your kettle, provided with large fire door, flue, handles, pipe. Price according to size. Send measurement of kettle around outside one inch from top. If kettle has flange, measure under it. Ask for chart of standard sizes.

Heesen Stock Feed Cookers

For cooking stock food, scalding hogs, rendering lard, etc. Handiest article on farm. Famous for years. Seven sizes. Write for folder and prices.
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HOW HE GETS STRONG LAMBS.

A GREAT deal of success in raising early lambs lies with the care and feeding of the ewes during the time just previous to and just after the lambs are born. A sheep is not a difficult animal to raise or feed when the proper management is followed, in fact, I know of no animal that requires so little attention for the net return received for both the feed and labor put into it.

One practice we have always tried to follow with the breeding ewes was to provide them with stalk pasture all through the winter. They do not do so well when kept housed all winter. They require plenty of exercise in the open to properly develop the fetus, but we always provide shelter for them during rainy and snowy weather or extremely severe cold. That is just as essential as keeping them out in the open in good weather, for if the fleeces get very wet and they are then housed they take very heavy colds from which they do not quickly recover.

If the stalk pasture is good they require little else except plenty of salt and perhaps some clover hay. We feed very little if any corn, because it pro-



This steer, raised and owned by S. W. Hempy, of Ingham county, is probably the largest steer in the United States. He weighs over two tons and will probably be sold for show purposes.

duces excessive fat, limiting any grain feeding to oats. Ewes in thin flesh, however, need some corn or sufficient other grain to put them in good flesh, and plenty of clover hay. Sheaf oats is an excellent winter feed for sheep. As we sow plenty of soy-beans with our corn we find that during the winter the ewes will pick up many of them in the stalk fields which supplies a good quantity of protein in their feed. Many of the soy-bean plants will stand up during the winter and retain a good many beans in the pods.

Two to three weeks before the lambs are due to arrive we like to give a good feed of oats to the ewes each day so that they will provide plenty of milk for the new-born lambs which, if they happen to be twins or triplets, will demand a great deal of milk to start them off right. We have never found any feed that would answer this purpose so well as oats, because of their combined bulkiness and protein content. Then they also help to develop a strong lamb which will require little close attention after it has received its fifth or sixth meal. I would rather feed corn after the lambs arrive than before, though if too much is fed it has a tendency to make them lose their wool.—J. L. Justice.

HANDLING BULLS.

IT is usually a so-called "gentle" bull that hurts people. This is because more precaution is taken with an ugly bull than a tame one. A "gentle" bull is likely to suddenly become ugly and if he is not properly secured he will hurt someone.

Two things are worth observing in handling mature bulls. First, make their environment such that they are not likely to become ugly, and second, have them where they can't do any damage if they do get mad.

The ideal conditions are to have plenty of exercise in a stout enclosure, a chance to see other cattle, good rations, and gentle but firm handling, with no teasing. It is best to have a good strong staff to lead the bull with.—H. Thomas.



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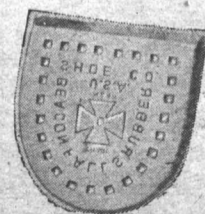
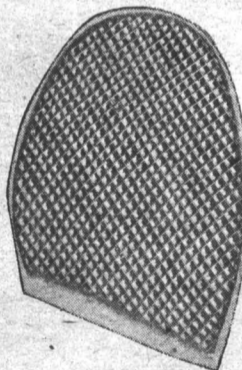
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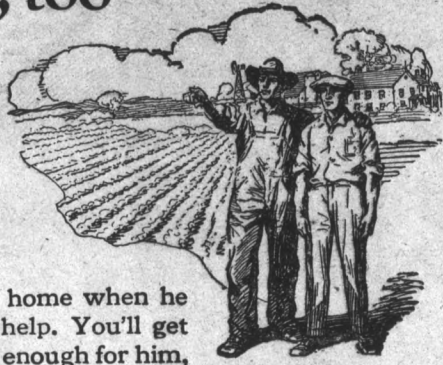
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Grape Vines At Lowest Prices
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Our New Plan of selling the famous Peerless Fence direct from three big factories is "glad news" for farmers. It means the cutting out of all "in-between" profits and a slash in prices that will save farmers thousands and thousands of dollars. Now you can get this well-known, high-standard fence, also gates, steel posts, barb wire, smooth wire, paints and roofings, at the

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Steel Farm Gates, each . . . \$3.65	Lawn Fence, per ft. . . . 7/10c
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Stick to Sugar Beets

(Continued from page 223).

early spring plowing and delays getting the seed-bed fitted, thereby reducing possible yields from two to four tons. Fall plowing and early spring plowing give opportunity for the thorough settling and proper early fitting of the seed-bed.

Good Seed-Beds Lessen Production Costs.

The cultipacker and roller are necessary implements in preparing the seed-bed for beets. The crop starts best on a seed-bed which is firm and well compacted, with the lower part of the furrow slice well firmed and the surface in a fine condition of tilth. If the seed-bed is cloddy, a spotted stand will result. The thorough fitting of the seed-bed reduces the cost of weed control. Proper harrowing gets weeds just when they start to grow, and greatly reduces the number which must be killed later by cultivating and hoeing.

In general, the safest planting time is when the seed-bed is well warmed up—from the fifth to the twentieth of May, in most Michigan beet areas. Many like to get their plantings made just a little ahead of the corn planting time. The sugar beet stands more frost than most plants and there is ample chance for a replant. Early crop failures are rare, but when they do occur, can be followed with beans or corn. In Michigan fifteen to twenty pounds of sugar beet seed is usually planted in rows twenty to twenty-four inches apart.

The matter of blocking and thinning needs more careful attention. The average laborer who is doing the work wants to cover as much ground as he can. Block to the best bunches and thin to the strongest plants, ten to twelve inches apart in the row. There is a possible reduction of two or three tons in the crop if carelessness is allowed in blocking and thinning.

Use Enough of the Right Fertilizer.

The men who are making the most from beets are making good use of fertilizers. The main point is to use enough—250 to 500 pounds instead of the usual 100 to 150 pounds. Use a high-grade, complete fertilizer—or if ample manure is used, 300 pounds of acid phosphate. Let us base our judgment on field tests and buy the best grade of fertilizers made. The big thing is to use enough fertilizer for the most profitable returns.

The control of sugar beet diseases and insect pests is not difficult in this area if proper cultural methods are employed. Total eradication may be practically impossible but with proper fertilization on well-drained soil, there is much less loss. Good rotations and the growing of beets not too frequently on land, will control insect pests and sugar beet diseases.

The Best Methods of Growing Beets Should be Common Practices.

A campaign directed along the line of the best methods of growing sugar beets is necessary. Fall and early spring plowing, best methods of preparing the seed-bed, fertilization, growing in rotation, etc. The best growers know and employ these methods; get them to all growers and the crop will grow in strength.

The practices necessary for the most profitable production of the sugar beet crop, benefit other crops in rotation. You do not get all of your return out of the beets—you get a good return out of the following crop for the beet crop cleans up the land, leaves a fertility residue, provides an excellent seed-bed for small grains and clover seeding made with them.

One point often brought forth by those who, for some reason, are antagonistic to beets, is that sugar beets take large amounts of plant food from the soil. Sugar beets take less nitrogen from the soil than potatoes. A 200-bushel (six ton) crop of potatoes takes 47.0 pounds of nitrogen from the

soil, 76.5 pounds of potash and 21.5 pounds of phosphoric acid. A ten-ton per-acre crop of beets removes thirty pounds of nitrogen, seventy pounds of potash and fourteen pounds of phosphoric acid.

Apparently beets take out slightly more potash than other crops. They take out less phosphoric acid, and less nitrogen. If the pulp goes back on the land, or manure from feeding it, the beet crop takes away less fertility than any other crop grown in Michigan. Return the tops or feed them to the live stock, return the manure and sugar beet pulp and grow clover or alfalfa in rotation and thus keep the land in good shape.

Like the corn crop, beets need good land; they need organic matter and nitrogen and should not be grown continuously. The sugar beet is an important crop in the rotation and if properly handled is really an introduction to better methods of farming. The crop is one that automatically will make a man a good manager.

In order to handle the beet crop right he should fertilize properly and lime soils where acid. Refuse lime from the sugar factory is a valuable source of lime. Another thing that he must do is to grow this crop in rotation, the beet crop occurring every five or six years. The sugar beet grower will find it advisable to couple beet growing with live stock raising, to feed the tops and supply manure for the crop.

He will find that this crop aids in getting rid of weeds. Beets are just about as effective and much more profitable than summer fallowing in cleaning up weeds. As a weed-cleaning crop it ranks as one of the most effective. As a cash crop sugar beets bring good returns, greater than any other cultural crop and made more dependable by the contract guaranty.

There is much to say in favor of beet growing on soil areas where the crop is adapted. As long as our home markets need more home-grown sugar, the sugar beet crop rightly handled will stand forth as a community builder—furnishing profit to growers and laborers, maintaining large industries, increasing the material welfare of communities and contributing toward national stability and independence.

HOLSTEIN ASSOCIATION FORMED.

THE Danforth Holstein-Friesian Association of Delta county, has completed organization. The organization is interesting as representing a combination of farmers of the Danforth settlement of Delta county, and business men of Escanaba in a co-operative arrangement whereby business men assist in the financing of an improved dairy movement in that county. The Escanaba Chamber of Commerce has been active in promoting the association. It is stated that ninety-nine shares of stock were represented at the organization meeting. It was also announced that Mr. J. G. Hays, Holstein extension specialist for the Michigan Agricultural College and for the Michigan Holstein-Friesian Association, will select and purchase the cows that will be bought by the association.—Chase.

Wallace Fulton says that daylight saving is a great benefit to farmers that live on state roads. It makes the city fellers drive home and go to bed earlier. They think it's midnight when it's only eleven o'clock and this stops the requests for gas, oil, tire pumps and telephone service about an hour earlier than under the old time.—Sunshine Hollow.

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A TRIUMPH IN COOPERATION.

(Continued on page 231).

ience of the men who are employees. The new building is located on a spur of the railroad, thus making the loading and unloading of products and materials easy and less expensive. The location near the river is also convenient for the disposal of sewerage and drainage.

This new creamery is the result of a dozen years of successful operation by the Litchfield Dairy Association. The success is due in large measure, to the progressive spirit of the stockholders, to the faithfulness and business ability of the directors, and to the energy and efficiency of the manager and the butter maker. C. S. Bater has held the position of manager for nearly seven years. Fred C. Mergenthaler has been the butter maker for about five years. In a truly cooperative spirit, these two men have worked always for the best interests of the association.

In the past, much of the butter made by the association has been packed in tubs for shipment. In the new plant, practically the entire output will be put up in pound prints. It is expected that this improvement alone will, in time, result in increased profits sufficient to pay the cost of the new building.

Litchfield creamery butter is so well known for its excellence, that there is always a demand for the entire output, at the highest market price. During the late war, the concern made 110,000 pounds of butter for the United States Navy.

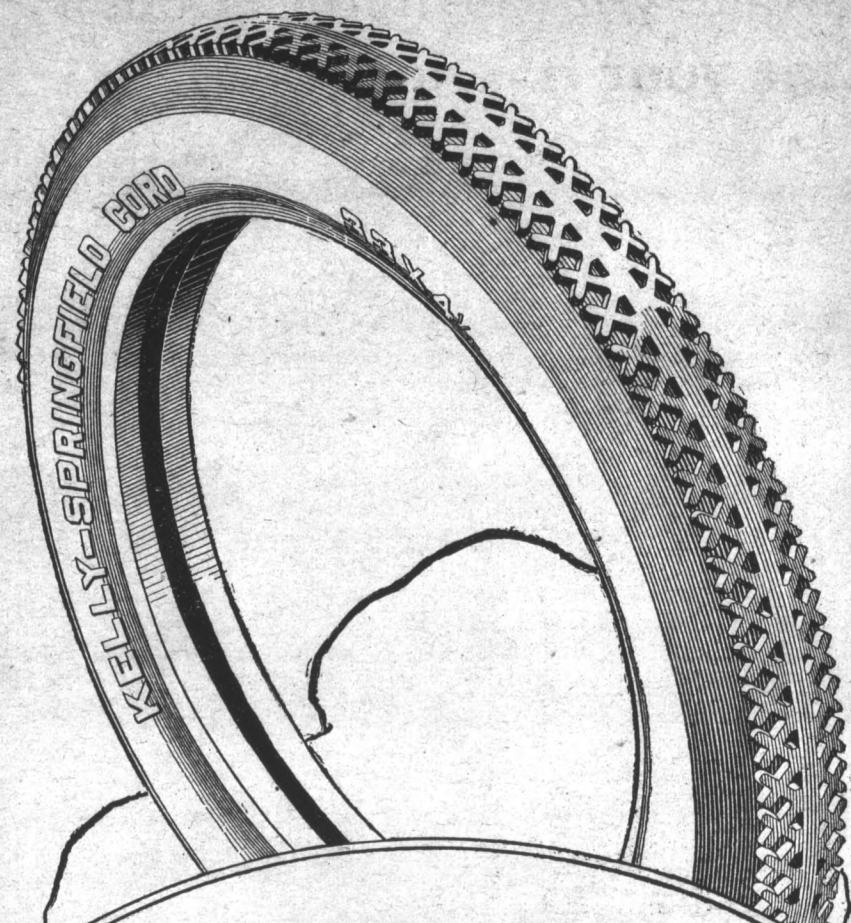
Its Effect Upon Dairy Farming.

No account of the achievements of the Litchfield Dairy Association would be complete without mention of the effect which the organization has exerted on the dairy phase of general farming. The tendency among local farmers is to keep more and better cows. Some of the finest herds of pure-blood Jerseys to be found in Michigan, are owned by Litchfield farmers. The new creamery with capacity of more than a million pounds of butter per year, and with its ability to command the highest price at all times, will tend, more than ever, to augment the dairy business among local farmers.

According to the thirteenth annual report of the Litchfield Dairy Association, recently issued, the concern did a business last year amounting to \$333,000. The total output of butter amounted to nearly three quarters of a million pounds. The price received for butter during the year ranged from forty-three to sixty cents. The average price paid for butter-fat was fifty-one cents. Cost of making per pound of butter, 3.65 cents. Average over-run for the year, 23.2 per cent. Average test of cream for year, 39.3 per cent.

LEAF-ROLLER CONTROL.

TIMELY action on the part of the growers whose plantings show even light infestations of the apple tree leaf roller will assist greatly in preventing an increase in numbers of the insects with a consequent loss of fruit and the establishment of a pest which is difficult to control, according to G. L. McLeod, of the Geneva station. Miscible oil sprays assisted materially in decreasing the numbers of the pest, and are to date the most effective egg spray. Lead arsenate at the rate of four pounds of powder in 100 gallons of water, applied about the time of the pre-pink stage, was also of value in protecting the fruit and the foliage. No noticeable advantage was obtained by increasing the amount of lead arsenate. Attempts to combat the insect in its larval stages with dusts containing nicotine sulphate and free nicotine proved the inefficiency of these materials for commercial use.



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All horses have four legs. All tires are made up of rubber and layers of cotton cord or fabric.

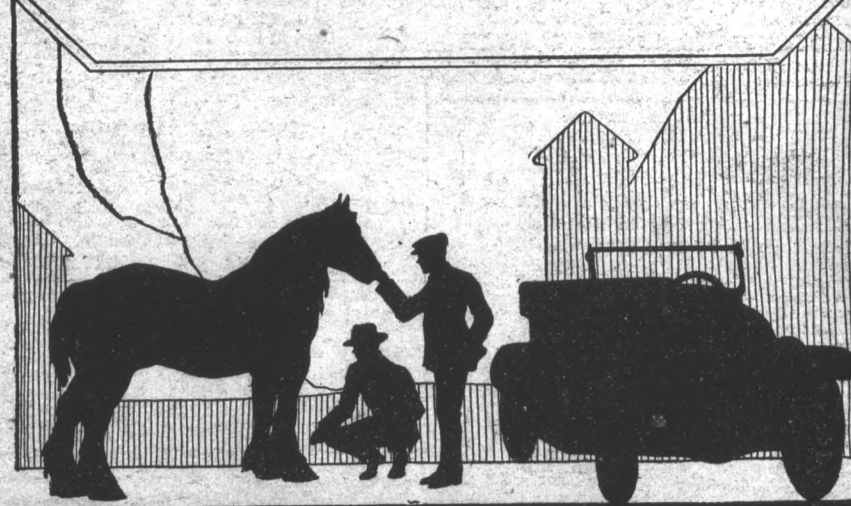
But all horses are not equally valuable—and neither are all tires.

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KELLY SPRINGFIELD TIRES

NEWS FROM CLOVERLAND

AN EXPERIMENT IN FORESTRY.

IRON county owns eighty acres of land adjacent to state trunkline No. 12, between Crystal Falls and Iron River. This is a sandy stretch originally acquired by the county for gravel. It was once timbered but has been logged off and fire-swept, but the county intends to restore its forest cover if possible.

From the Michigan Department of Conservation there was secured 3,500 white pine transplants six years old, which have been planted on a piece of land three and one-half acres in extent, rowed six feet each way. These young trees were set out late in May and early in June of last year, which is somewhat later than would have been the case had the undertaking been started sooner.

The earliest plantings suffered somewhat from drought but late in September an examination of the tract indicated that about sixty per cent of the trees were still alive.

The cost of this effort at reforestation is given as follows: For the transplants, \$35; for transportation, \$60.93. Labor and other items bring the aggregate expense up to \$206.74. This cost, it is stated, would have been reduced somewhat if more experienced labor had been procurable and had less pains been taken to row the trees.

It is pointed out that the express charges on the shipment of these trees from the state tree nursery in the southern peninsula was nearly twice the cost of the trees themselves and this is taken to indicate that, if reforestation is to be pushed in this way in the Upper Peninsula, it is desirable that a tree nursery should be established at the Straits, as has been done in the case of the agricultural experiment station. The Iron County Board of Park Commissioners has now been placed in charge of this forest tract, with directions to maintain a fire-break and re-plant where this is necessary, next season.

HOW TO STORE SODATOL.

THOSE who did not use up their last year's stock of sodatol are advised by Mr. Livingston, land-clearing specialist, to store it in a dry, well-ventilated place. It should not be placed in a root-cellar or other damp place. Moisture deteriorates sodatol, but freezing does not hurt it and it ought not to undergo a thawing-out process, says Mr. Livingston. The man who thawed some sodatol by hanging it in a pail over a fire is gone to the happy hunting-grounds in several pieces, it is reported.

DESTROY MANY NOXIOUS ANIMALS.

A COMPILATION of results of the efforts that have been made by the State Department of Conservation to effect the destruction of predatory animals in Michigan, shows that wardens of the department destroyed seven wolves in the Upper Peninsula in 1923. In addition there were destroyed in this territory two bob-cats, while twelve were slain in the Lower Peninsula. Fifty coyotes were killed in the Upper Peninsula and three south of the Straits. In the Upper Peninsula seventy-nine foxes were taken and 228 in the Lower Peninsula. The total for the Upper Peninsula was 138 animals of all kinds, and for the Lower Peninsula, 243.

In addition to these predatory animals there are listed 655 porcupines for the Upper Peninsula, and 267 for the Lower Peninsula. Woodchucks number 115 in upper Michigan and 301 for lower Michigan. Of skunks, there

were eighty-eight taken in the Upper Peninsula and fourteen in the Lower Peninsula. Weasels numbered forty-eight and 217 for the two sections; crows, 373 and 2,271; hawk, 216 and 741; owls, 103 and 359. Forty-three deer-running dogs were slain in the Upper Peninsula and nineteen in the Lower Peninsula. Similarly fifty-one house-cats were disposed of in northern Michigan, and 205 in southern Michigan. These figures show the work done by game-wardens.

WILL HAVE TESTS MADE, HOWEVER.

THE expense of maintaining a cow-tester has discouraged Dickinson county farmers and the cow-testing association there has been discontinued, it is reported. This does not mean, however, that there will be no testing in this county, for arrangements have been made whereby the county agricultural agent, Mr. Arthur Lonsdorf, will conduct tests at a nominal cost of five cents per cow per month. Farmers will weigh and sample their milk each month. These samples, with feed records, will be assembled by the agent each month, who will test them and report to the farmer furnishing them. The fee charged simply covers the cost of acids, etc., used in the tests.

SIRUP CONSISTENCY.

EVEN if the law didn't require it, common sense would tell you to have maple sirup weigh not less than eleven pounds to the gallon. If the sirup is lighter than that, it will be too thin, and will ferment and sour, while if it is heavier, it will be too thick and will crystallize.

"How can I tell when my sirup weighs just right?" you ask. Simple enough. You should have a thermometer—not the kind you hang on the side of the house to tell the temperature of the air, but a thermometer made specially for telling the temperature of boiling liquids. Your druggist can get you one, or you can order it from a mail order house.

With this thermometer, note at what temperature water boils in your locality. The school books say 212 degrees F., but it will boil at a lower temperature if you are up in the mountains. Add seventy degrees F. to the temperature of boiling water, and this will be the temperature of boiling sirup that weighs eleven pounds to the gallon. It is a pretty wise plan to have the sirup a little heavier than eleven pounds, so add about one-fifth of a degree more. So, if water boils at 212 degrees F., the temperature of the boiling sirup should be 219.15 degrees F. This sirup will weigh 11.15 pounds to the gallon.

A Baume hydrometer, which you can get from the same source as the thermometer, will indicate the weight of sirup. Insert the hydrometer in the sirup and let it float. The depth to which it sinks indicates the density of the liquid. It is not best to use the hydrometer in boiling sirup. Here are readings for 11.15-pound sirup at different temperatures:

At 60 degrees F., the reading is 37.1; at 70 degrees F., 37.4; at 80 degrees F., 37.6; at 200 degrees F., 40.3; at 219 degrees F., 41.3.

If you are shipping sirup outside your state, your label should state the net weight in the container. There is likely to be shrinkage in weight of sugar between the time it is packed and the time it is presented for shipment.—E. A. Kirkpatrick.

The best source of protein for children is milk.

Poor replacement parts can ruin a good mechanical job

When your engine needs re-conditioning it pays to use the best replacement parts you can buy. The new low prices on McQuay-Norris Leak-Proof and Superoyl rings put them within reach of everyone. For example, the Leak-Proof and Superoyl combination for such cars as Fords and Chevrolets is now only \$8.00.

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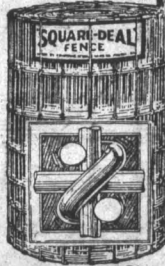
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Oil Emulsion for Scale Control

By L. R. Taft

DURING the past season the lubricating oil emulsion has been extensively used by fruit growers in Michigan, and even more generally in Indiana, Illinois, Missouri and Arkansas where the San Jose scale is very difficult to control with lime-sulphur solution. Not only were the results obtained from the use of lubricating oil emulsion very satisfactory, but it is a cheaper spray than lime-sulphur solution. It is also far more pleasant to apply than lime-sulphur solution of the dormant strength.

New Method Satisfactory.

While we still regard two per cent lubricating oil emulsion prepared with liquid potash fish oil soap to be all that has been claimed for it, it has been found during the past year that a slight modification in the method of preparing it reduces both the cost and labor required without lessening its efficiency. In fact, it gives a more stable emulsion.

The lubricating oil, rather than the soap, is the active scalecide, and Prof. A. M. Burroughs, of the Missouri Experiment Station, has found that a very weak Bordeaux mixture alone will act as the emulsifying agent and that there is no occasion for using soap of any kind. Boiling of the mixture is not required. All that is needed is to mix lubricating oil and Bordeaux mixture and emulsify in the same way as when soap is used.

Formula for Stock Emulsion.

Diamond paraffin or Red Engine oil, 20 gallons; copper sulphate (blue vitriol), 2 to 5 pounds; hydrated lime, 4 to 8 pounds; water, 10 gallons.

Especially if a considerable quantity of emulsion is to be used, it will be worth while to make a stock solution of copper sulphate in the same manner as when preparing Bordeaux mixture. This is done by suspending twenty-five pounds of copper sulphate in a coarse sack, free from lint, in a barrel containing twenty-five gallons of water so that it will hang just below the surface. Especially if in small crystals, it will dissolve in twelve to fifteen hours and will give a solution containing one pound in each gallon.

Making Stock Emulsion.

To make the stock emulsion, place twenty gallons of Diamond or Red Engine oil in a barrel and add eight pounds of hydrated lime, which has been made into a paste with five gallons of water and five gallons of stock solution of copper sulphate. The materials should then be thoroughly mixed, either with a paddle or by pumping back into the barrel through a nozzle with a large orifice. The emulsion should be made by pumping the mixture into another barrel or tank. A fine nozzle should be used for this, with pressure at about sixty pounds. When copper sulphate is used the emulsifying should begin at once. Running it once through a pump will answer, but twice will be better, though if any of the oil separates it will only be necessary to repeat the operation. When ready to use the emulsion, add six gallons to 200 gallons of water, making sure they are thoroughly mixed before spraying begins.

Best Time For Spraying.

If an orchard is badly infested with San Jose scale it will be advisable to spray the trees with lubricating oil emulsion, either in the fall after the leaves have dropped, or early in the spring, to be followed with a second application when the trees are in the pre-pink or cluster bud stage. In cases where trees are but slightly infested, one thorough application will suffice for controlling San Jose scale, and if applied at the cluster bud stage it will do much to control other scale insects, as well as aphids, or plant lice, and plant bugs. Such insects as win-

(Continued on next page.)

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(Mail this coupon to our house nearest you) Please mail me my free copy of Montgomery Ward's complete Spring and Summer Catalogue.

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"Nebraska" all rubber over-shoe. Warm and dry in snow or mud. Cannot leak! Reinforced to prevent chafing of buckles. Solid comfort! "Stubgard" toe and heel prevents scuffing and snagging.

Refuse imitations. Insist upon the White Top Band and the Big "C" on the White Tire Sole, distinctive marks of Converse quality. If your dealer hasn't the big "C" Line write us for information.

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Converse all rubber shoes are made in red or black rubber, but we recommend black for service. Try them on TODAY!

Converse Rubber Shoe Co. CHICAGO BOSTON NEW YORK

OIL EMULSION FOR SCALE CONTROL.

(Continued from preceding page).
ter on the trees in the egg or larval form will also be kept in check by lubricating oil emulsion.

Use with Lime-Sulphur.
Oil emulsion may be applied with lime-sulphur solution, and for the application just as the buds are opening, a very effectual fungicide will be secured by the addition of five gallons of commercial lime-sulphur solution, or eight gallons of stock solution containing eight pounds of copper sulphate and ten pounds of hydrated lime made into a paste with five gallons of water to 200 gallons of diluted emulsion. This, if used as a delayed dormant or pre-pink spray will also control apple scab.

Delayed Dormant Spray Best.
Best results are obtained against San Jose scale when the emulsion is applied as a delayed dormant spray. At that time it will do no injury to the foliage. Later on, it will burn the edges of the leaves, provided it is used on a hot day, but if it is noticed that young scale insects are becoming numerous on the fruit in July or August, it will be advisable to spray on a cool day.

When lubricating oil emulsion has been prepared with any degree of thoroughness, we have never known it to fail in destroying the San Jose scale, and even if the scale is not present, we believe it should always be used in the pre-pink or semi-dormant spray, which all fruit trees should have.

Cost of Making.
The materials for making 200 gallons of diluted lubricating oil emulsion will cost seventy-five to eighty cents, while most of the proprietary miscible oils will cost from \$9.00 to \$12.00; and 200 gallons of dormant strength commercial lime-sulphur solution cannot be prepared for less than \$3.50, or about \$5.00 if black leaf 40 is added for aphids. If to the above emulsion we add five gallons of lime-sulphur solution, or use a 2-3-50 formula of Bordeaux mixture, the most of the combined insecticide and fungicide will be \$1.60 for 200 gallons. If a 4-5-50 Bordeaux formula is used the cost for 200 gallons would be about \$2.25.

GRAPES NEED SPRAYING.

Have a large grape vine (Niagara variety) that bears heavily, but about the time the fruit begins to ripen, they crack open and become sour and rot. What can be done?—N. W. D.

There is no doubt but what your Niagara grapes need spraying, as your description indicates that the rot or mildew are attacking the grapes.

The best way to control these diseases is to spray with Bordeaux mixture, which is made of four pounds of copper sulphate and four pounds of lime to fifty gallons of water. The copper sulphate is usually dissolved, and the lime slaked, and then both diluted to about twenty gallons before pouring together. When the lime and copper sulphate are put together in concentrated form, the mixture becomes curded like sour milk.

The usual spraying program is to put on the first application when the third or fourth leaf is unfolding; the next after the blossoms have fallen; the third when the berries are the size of a pea, and the last about two weeks later.

PORK RIND AND RABBITS.

I WISH to inform H. J. D., who seems to know all about the value of a certain German remedy to protect the trees from rabbits, that his remedy is about as low and useless as the value of the German mark. I wonder if Mr. D. ever painted trees with smoked pork rind in the old country? If so, it must of been some time ago, as to my notion they are not troubled with smoking pork these days.—J. J. Hillman.

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For Truck Crops and Small Orchards

High pressure potato spraying means bigger, better, more profitable crops. The Bean Universal with a capacity of 5½ gallons a minute at 250 pounds pressure, delivers a dense, powerful, driving spray that insures thoro coverage of the plants. Steady even pressure assured by the sturdy 2 H. P. Novo Engine. The spray boom is easily and quickly adjusted up and down or sidewise to meet all conditions, and wheels are adjusted to fit varying rows. Not only takes care of your potato and truck crops perfectly, but can be converted into an orchard outfit in 5 minutes. Just remove the boom, attach the hose and rods or gun, and go to work! Bean Simplicity Power Pump with Bean Porcelain-lined Cylinder; Dependable Pressure Regulator; Rotary Agitator; Steel Platform; and many other Bean features.

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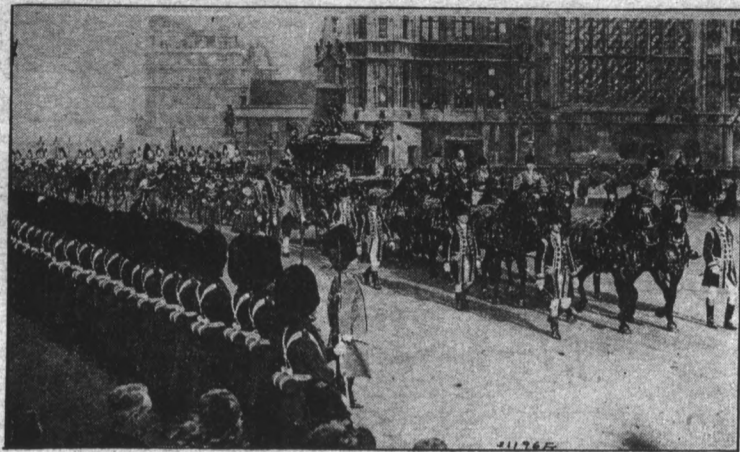
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WORLD EVENTS IN PICTURES



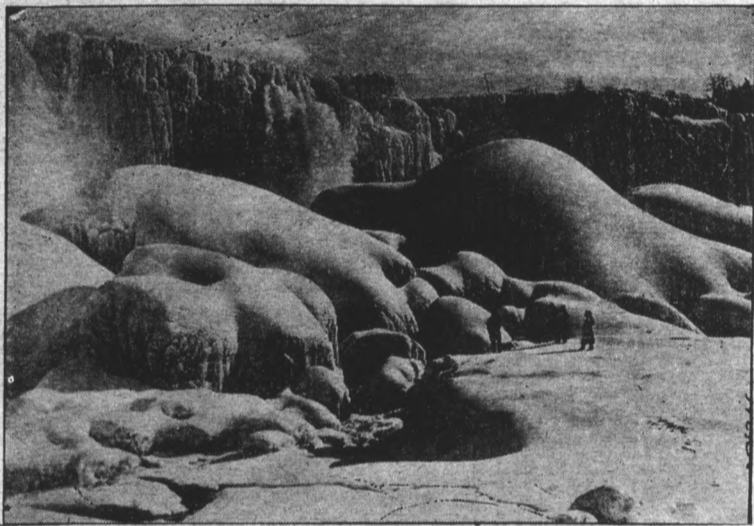
First Minister Seifoullah Yousry Pasha raises the new Egyptian flag in Washington.



The royal procession arriving outside the House of Parliament for the King to open the first Labor Majority House in the history of Great Britain, the House of Commons that recently turned a Conservative Cabinet out and assumed the reins of government with Labor "on the driving box." It is predicted that the appointment of the King in the first Labor cabinet presages the end of pomp and majesty shown here.



Miss Helmar Liederman never gets "tired" of this kind of a swing at Palm Beach, Florida.



The stern beauty of the Niagara Falls in zero weather is shown by this scene in the Cave of the Winds, with the ice-clad rocks looking like huge monsters asleep in depths of a chilly cavern.



Edward W. Bok, extreme right, testified before the Senate Committee regarding his peace plan, and said that the \$100,000 peace award was his "own affair."



This extraordinary bit of Nature's sculpture gives the name to Teapot Dome, in Wyoming, the sight of the former Naval Oil Reserves.



With the death of Lenin, President Kalinin will probably be the next chief of Bolshevism.



In all the United States, only two women pilot hydroplanes, and here is one of them, Mrs. Randall McFarlan, of Cincinnati.



After belated permission by the governor, Mexican Indians of the Waqui and Maya tribe are allowed to pass through the state of Texas. Group of Federal troops on way to Mexican revolution.



The Ex-Kaiser and his wife, self-styled "Queen of Prussia," and her five children, are starting for a winter walk from Doorn House with one of the village notables.

"I will not quit!" Barry Houston said the words slowly, in a voice heightened by feeling and by a new strength, a sudden flooding of a reserve power that he did not know he possessed. "That is my absolute promise to you, Ba'tiste. I will not quit!"

"Bon! Good! Golemar, you hear, eh? Mon ami, he come to the barrier, and he look at the trouble, but he say he will not quit. Veritas! Bon! He is my Pierre! He speak like my Pierre would speak! He will not quit!"

"No," and then Houston repeated it, a strange light shining in his eyes, his hands clenched, breath pulling deep into his lungs. "I will not quit."

"Ah, oui! Eet is now the, what-you-say, the swing-around point. Tonight Ba'teese go out. Where? Ah, you shall wait an' see. Ba'teese go—Ba'teese come back. Then you shall see. Ah, oui! Then you shall see."

For an hour or so after that he boomed about the cabin, singing queer old songs in a patois, rumbling to the faithful Golemar, washing the dishes while Houston wiped them, joking, talking of everything but the troubles of the day and the plans of the night. Outside the shadows grew heavier, finally to turn to pitch darkness. Ba'tiste walked to the door.

"Bon! Good!" he exclaimed. "The sky, he is full of cloud! The star, he do not shine. Bon! Ba'teese shall go!"

And with a final wave of the hand, still keeping his journey a mystery, he went forth into the night.

Long Houston waited for his return, but he did not come. The old, creaking clock on the rustic ledge ticked away the minutes and the hours until midnight, but still no crunching of gravel relieved his anxious ears, still no gigantic form of the grizzled, bearded trapper showed in the doorway. One o'clock came and went. Two—three. Houston still waited. Four—and a scratch on the door. It was Golemar, followed a moment later by a grinning, twinkling-eyed Ba'tiste.

"Bon! Good!" he exclaimed. "See, Golemar? What I say to you? He wait up for Ba'teese. Bon! Now—alert, mon ami! The pencil and the paper!"

He slumped into a chair and dived into a pocket of his red shirt, to bring forth a mass of scribbled sheets, to stare at them, striving studiously to make out the writing.

"Ba'teese, he put eet down by a match in the shelter of a lumber pile," came at last. "Eet is all, what-you-say, scramble up. But we shall see—ah, oui—we shall see. Now," he looked toward Houston, waiting anxiously with paper and pencil, "we shall put eet in the list. So. One million ties, seven by eight by eight feet, at the one dollar and the forty cents. Put that down."

"I have it. But what—" "Wait! Five thousand bridge timber, ten by ten by sixteen feet, at the three dollar and ninety cents."

"Yes—" "Ten thousand feet of the four by four, at—"

"Ba'tiste!" Houston had risen suddenly. "What have you got there?" The trapper grinned and pulled at

The White Desert

By Courtney Ryley Cooper

his gray-splotted beard.

"Oh, ho! Golemar! He wan' to know. Shall we tell heem, eh? Ah, oui—" he shook his big shoulders and spread his hands. "Eet is—the copy of the bid!"

"The copy? The bid?" "From the Blackburn mill. There

drowning, he will, what-you-say, grab at a haystack."

"True enough. Go ahead. I'll mark our figures down too, as you read."

And together they settled to the making of a bid that ran into the millions, an overture for a contract for which they had neither mill, nor tim-

AFTER THE SALE

By Al Rice

We're all alone; the fam'ly ties
Are broken and forlorn;
We've sold our farming equities;
The stock and hay and corn:—
We're counting up the kale,
It lifeless seems, but fairly screams
A protest to the sale.

"The sale was good," the neighbors say,
Who came, three hundred strong,
To hear the vendor bark and bray
And sing his selling song.
They think of it as we should do,
But somehow can't just get the slant;
The sale has made us blue.

"Old Spot," the barking auctioneer,
Declared, "a cow of fame,"
It brings to us a feeling queer
To softly speak her name.
We sold her, anyhow.
The price we got for good Old Spot,
Won't bring us back our cow.

The money that we're counting now
Is all we have to show
For horses, pigs and sheep and cow,
The friends we used to know.
And Rover's gone, no town to harm;
For collie dogs, like sheep and hogs,
Should stay upon the farm....

Old Rover gives me deepest pain;
A watchful friend was he;
Somewhere he's fastened to a chain
And mourning now for me.
He doesn't understand the part
That brings a friendship to an end
And breaks a collie's heart.

Oh, yes, the sale was pretty good,
In dollars, I'll allow;
But we're not feeling as we should,
For we are lonely now.
The dollars somehow fail to charm:—
The auctioneer has sold us clear,
And we must leave the farm.

is no one aroun'. Ba'teese he go through a window. Ba'teese, he find heem—in a file. And he bring back the copy."

"Then—" "M'sieu Houston, he too will bid. But he will make it lower. And this," he tapped the scribbled scraps of paper, "is cheaper than any one else. Eet is because of the location. M'sieu Houston—he know what they bid. He will make eet cheaper."

"But what with, Ba'tiste? We haven't a mill to saw the stuff, in the first place. This ramshackle thing we're setting up now couldn't even begin to turn out the ties alone. The bid calls for ten thousand laid down at Tabernacle, the first of June. We might do that, but how on earth would we ever keep up with the rest? The boxings, the rough lumber, the two by fourteen's finished, the dropped sidings and grooved roofing, and lath and ceiling and rough fencings and all the rest? What on earth will we do it with?"

"What with?" Ba'tiste waved an arm grandiloquently. "With the future!"

"It's taking the longest kind of a chance—"

"Ah, oui! But the man who is

ber, nor flume, nor resources to complete!

CHAPTER XV.

TIME dragged after that. Once the bid was on its way to Chicago, there was nothing to do but wait. It was a delay which lengthened from June until July, thence into late summer and early autumn, while the hills turned brown with the colorings of the aspens, while Mount Taluchen and its surroundings once more became grim and forbidding with the early fall of snow.

The time for the opening of the bids had passed, far in the distance, but there had come no word. Ba'tiste, long since taken into as much of a partnership agreement as was possible, went day after day to the post office, only to return empty-handed, while Houston watched with more intensity than ever the commercial columns of the lumber journals in the fear that the contract, after all, had gone somewhere else. But no notice appeared. Nothing but blankness as concerned the plans of the Mountain plains and Salt Lake Railroad.

Medaine he saw but seldom—then only to avoid her as she strove to avoid him. Houston's work was now

in the hills and at the camp, doing exactly what the Blackburn mill was doing, storing up a reasonable supply of timber and sawing at what might or might not be the first consignment of ties for the fulfillment of the contract. But day after day he realized that he was all but beaten.

His arm had healed now and returned to the strength that had existed before the fracture. Far greater in strength, in fact, for Houston had taken his place in the woods side by side with the few lumberjacks whom he could afford to carry on his payroll. There, at least, he had right of way. He had sold only stumpage, which meant that the Blackburn camp had the right to take out as much timber as it cared to, as long as it was paid for at the insignificant rate of one dollar and fifty cents a thousand feet. Thayer and the men in his employ could not keep him out of his own woods, or prevent him from cutting his own timber. But they could prevent him from getting it to the mill by an inexpensive process.

From dawn until dusk he labored, sometimes with Ba'tiste singing lustily beside him, sometimes alone. The task was a hard one; the snaking of timber through the forest to the high-line roadway, there to be loaded upon two-wheeled carts and dragged, by a slow, laborious, costly process, to the mill. For every log that he sent to the saw in this wise, he knew that Thayer was sending ten—and at a tenth of the cost. But Houston was fighting the last fight—a fight that could not end until absolute, utter failure stood stark before him at the end of the road.

September became October with its rains, and its last flash of brilliant coloring from the lower hills, and then whiteness. November had arrived, bringing with it the first snow and turning the whole, great, already desolate country into a desert of white.

It was cold now; the cook took on a new duty of the maintenance of hot pails of bran mash and salt water for the relief of frozen hands. Heavy gumshoes, worn over lighter footgear and reaching with felt-padded thickness far toward the knee, encased the feet. Hands numbed, in spite of thick mittens; each week saw a new snowfall, bringing with it the consequent thaws and the hardening of the surface. The snowshoe rabbit made its appearance, tracking the shadowy, silent woods with great, outlandish marks. The coyotes howled o' nights; now and then Houston, as he worked, saw the tracks of a bear, or the bloody imprints of a mountain lion, its paws cut by the icy crust of the snow as it trailed the elk or deer. The world was a quiet thing, a white thing, a cold, unrelenting thing, to be fought only by thick garments and snowshoes. But with it all, it gave Houston and Ba'tiste a new enthusiasm. They at least could get their logs to the mill now swiftly and with comparative ease.

Short, awkward-appearing sleds creaked and sang along the icy, hard-packed road of snow, to approach the plies of logs snaked out of the timber, to be loaded high beyond all seeming

AL ACRES—Mike, The Lincman, Wishes He Were A Bird So He Coula Flit From Pole to Pole

By Frank R. Leet



regard for gravitation or consideration for the broad-backed, patient horses, to be secured at one end by heavy chains leading to a patent binder which cinched them to the sled, and started down the precipitous road toward the mill. Once in a while Houston rode the sleds, merely for the thrill of it; for the singing and crunching of the logs against the snow, the grinding of bark against bark, the quick surge as the horses struck a sharp decline and galloped down it, the driver shouting, the logs kicking up the snow behind the sled in a swirling, feathery wake.

At times he stayed at the bunk house with the lumberjacks, silent as they were silent, or talking of trivial things which were mighty to them—the quality of the food, the depth of the snow, the fact that the little gray squirrels were more plentiful in one part of the woods than another, or that they chattered more in the morning than in the afternoon. Hours he spent in watching Old Bill, a lumberjack who, in his few moments of leisure between the supper table and bed, whittled laboriously upon a wooden chain, which with dogged persistence he had lugged with him for months. Or perhaps staring over the shoulder of Jade Hains, striving to copy the picture of a motion-picture star from a worn, dirty, months-old magazine; as excited as they over the tiny things in life, as eager to seek a bunk when eight o'clock came, as grudging to hear the clatter of alarm clocks in the black coldness before dawn and to creak forth to the watering and harnessing of the horses for the work of the day. Some way, it all seemed to be natural to Barry Houston, natural that he should accept this sort of dogged, humdrum, eventless life and strive to think of nothing more. The other existence, for him, had ended in a blackened waste; even the one person in whom he had trusted, the woman he would have been glad to marry, if that could have repaid her in any way for what he thought she had done for him, had proved traitorous. His letters, written to her at general delivery, St. Louis, had been returned, uncalled for. From the moment that he had received that light, taunting note, he had heard nothing more. She had done her work; she was gone.

December came. Christmas, and with it Ba'tiste, with flour in his hair and beard, his red shirt pulled out over his trousers, distributing the presents which Houston had bought for the few men in his employ. January wore on, bringing with it more snow. February and then—

"Eet is come! Eet is come!" Ba'tiste, waving his arms wildly, in spite of the stiffness of his heavy mackinaw, and the broad belt which sank into layer after layer of clothing at his waist, came over the brow of the raise into camp, to seize Houston in his arms and dance him about, to lift him and literally throw him high upon his chest as one would toss a child, to roar at Golemar, then to stand back, brandishing an opened letter above his head. "Eet is come! I have open eet—I can not wait. Eet say we shall have the contract! Ah, oui! oui! oui! We shall have the contract!"

Houston, suddenly awake to what the message meant, reached for the letter. It was there in black and white. The bid had been accepted. There need now be but the conference in Chicago, the posting of the forfeit money, and the deal was made.

"Eet say five thousand dollars cash, and the rest came in a bond!" came enthusiastically from Ba'tiste. "Eet is simple. You have the mill, you have the timber. Ba'teese, he have the friend in Denver who will make the bond."

"But how about the machinery; we'll need a hundred-thousand-dollar plant before we're through, Ba'tiste."

(Continued next week).

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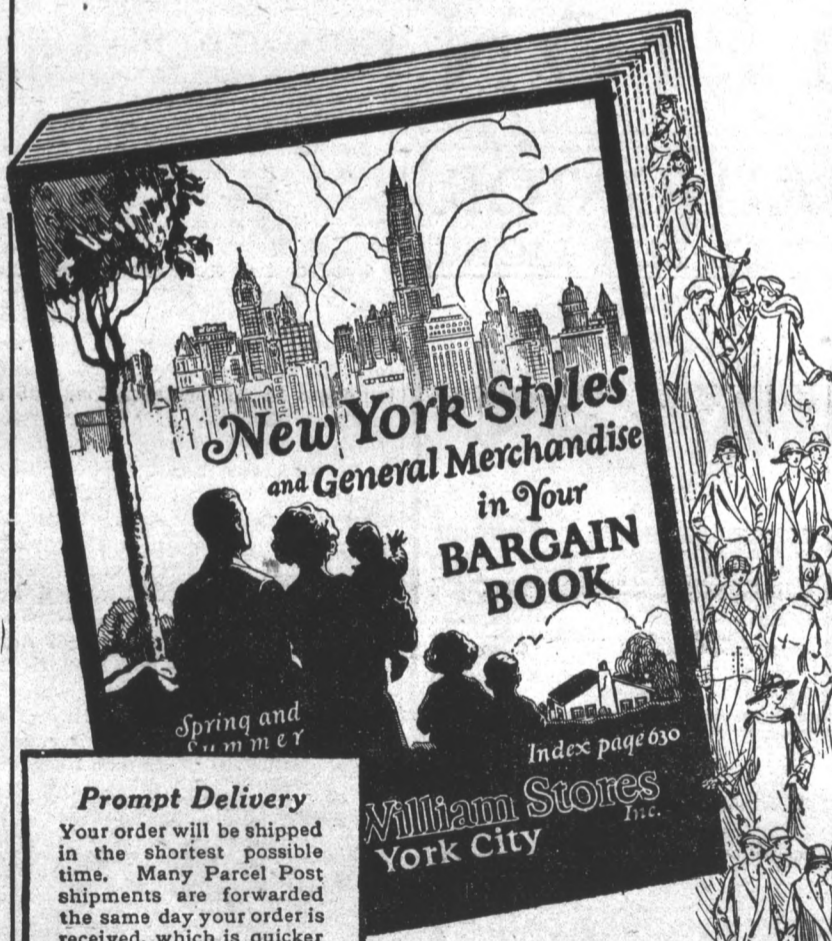
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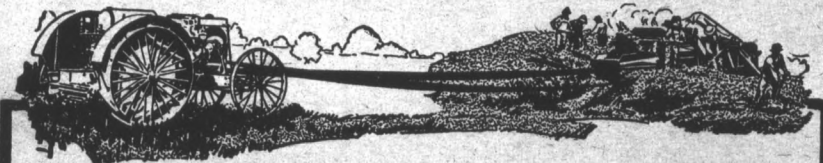
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Military and Moral Conquests

Our Weekly Sermon—By N. A. McCune

IT is easier to conquer territory than to conquer ourselves. It still holds, that greater is he that rules his spirit than he that taketh a city. The Israelites had been bidden to conquer Canaan, but inasmuch as they could overcome themselves only in part, they overcame Canaan only in part. They did not expel the Geshurites nor the Maachathites, and a good many more because they did not have the courage; and like other unexpelled enemies, these tribes were a perpetual source of irritation and weakness. One cinder in the eye can disable the bravest of soldiers.

The defeat of Ai is a perfect type of moral defeat. The spirit of devotion to an ideal was broken, for one man at least (and probably more), had made up his mind to do a little grafting. He put himself above the interests of the community. An army bent on pillage cannot maintain a high degree of discipline, and Joshua knew it. When a few members of the organization do not play square, the thing spreads. One cannot play fast and loose with moral forces, that is all. It looks as though you can, but it does not work. Carlyle, with his characteristically grim humor says, "Given a world of knaves, to produce an honesty from their united action! It is a distillation once for all, not possible. You pass it through alembic after alembic, it still comes out dishonesty, with a new dress on it, a new color to it." When the guilty parties had made confession and the community had been purged of the deceit, confidence was restored, and the march was resumed.



JERICHO is a type of what, as cities and villages, we do not want to be. It was overcome without a blow being struck in its defense. The perfect organization, the martial air of expected victory, quite overcame the flabby spirits of the Jerichoans. If you think that no city could be captured as the book of Joshua describes it, perhaps a word or two from Sir George Adam Smith, the greatest living authority on the Old Testament, will convince you. Of Jericho he says, "That her walls fell down at the sound of Joshua's trumpets is no exaggeration, but the soberest summary of all her history. Judea never could keep her. She fell to Bacchids and the Syrians. She fell to Aristobulus when he advanced on his brother Hyrcanus and Judea. She fell without a blow to Pompey, and at the approach of Herod and again of Vespasian her people deserted her." The incessant, enervating heat was responsible for the languor and flabbiness of the Jerichoans, says Smith. "No great man was born in Jericho; no heroic deed was ever done in her. She never stood a sieve, and her inhabitants were always running away." If we live in a climate like that, let's move on to delicious snow banks and freezing radiators. Cultivating orchards of lotus trees is as bad as taking opium.

and each is an endurance test of the farmer-adventurer. Years ago I sat in a farmers' institute and listened to T. B. Terry relate his experiences on a forty-five-acre farm (I think it was) in Ohio, which had been bequeathed to him. Reared in town, he knew little of the tricks of farming. The first winter he cut marsh hay on the ice, to feed his seven cows. In spite of his best efforts, one or two cows died. A considerable part of Terry's estate was marsh, and much of it was hard clay. He was reduced to such poverty that he wore a linen duster at the funeral of a friend in the month of March. People snickered when they saw him. Yet this man was a conqueror. He fought and won. He became one of the best lecturers on intensive farming in the United States, and was much in demand at farmers' meetings. His book, "Our Farming," may be somewhat out of date now, but to read it is a tonic, and such books never lose their relish.

ONE of the best sections in Joshua does not relate to victory by sword but by the axe and plough. The tribe of Joseph was displeased because they had not been given enough land, and the grizzled leader of Israel told them to go up into the timber lands of the Perizzites and clear a settlement for themselves. "To be sure," says Joshua, "there are giants up in that country, giant men and giant trees, but you tribesmen of Joseph are a great people, you can do anything. No one but you can drive out the Canaanites, though they have iron chariots, and though they be strong." The brawny, thick chested men of Joseph are well content with these words and we can hear the trees falling to the song of their axes, and see the fields of barley and wheat growing in the fresh stump lands, to the dismay of the Perizzite giants.

Personal conquest is the hardest and most baffling of all. There are captains of industry who cannot control their own tempers, or obey the prohibition amendment. A friend told me not long ago of a wealthy man in one of our cities. He was a church member, but his religious belief did not seem to do him much good, for he was given to much profanity. His wife chided him about it, and some of his friends remonstrated. He said he would stop swearing, but found it a large contract. One night he was killed by a street car. When the motor-man and conductor picked him up, there was not a thing on his person by way of identification. The body was not identified until the next day. But in each pocket in his trousers, vest and coat was a small card with these words written, "I will stop swearing." He found it easier to make a million or two, than to control himself. That is what St. Paul means when he cries, "O wretched man! who shall deliver me?" Of a pleasing young man it was said, "He could plead, expound and argue; fire with wit, with wisdom glow; but one word forever failed him, source of all his pain and woe. Wretched man, he could not say it—could not, dare not, answer, "No!"

SUNDAY SCHOOL LESSON FOR FEBRUARY 17.

SUBJECT:—Joshua and the Conquest of Canaan. Josh. Chaps. 1 to 11, 23 and 24.

GOLDEN TEXT:—"Not one thing hath failed of all the good things which Jehovah your God spake concerning you."

They had a community father and son banquet at Mort Higgins last Saturday night. Mort swatted Ben, their old Barred Rock rooster, and also one of Ben's sons which was a very promising and plump young cockerel. Sunshine Hollow.

AGRICULTURE is a vocation of conquest. Enemies face the husbandman at every step, and like snipers many of them cannot be seen. Hard soil, weather, insects, storms, drouth, animal diseases, plant diseases, falling markets, vanishing hired men, vanishing profits, all test the character and qualities of the farmer. Yet this kind of conquest is the most useful known, for it builds men and civilizations. The conquering sword is feeble compared to it. The stories of successful farming adventures are always interesting. No two are alike,



Doings In Woodland

Bruin Becomes a Cook

I HAVE promised Brother Jackie to come over and build him a new house today," said Rolly to Bruin one fine morning. "I hope you can manage with the housework.

"I'll get along very well," said Bruin. "Don't worry about me. I can always find something to eat."

So off Rolly started and left Bruin to be his own cook. He succeeded well in getting the house in order, and, in spite of his clumsiness, never broke a dish. Late in the afternoon he decided to make a fresh cake for supper.

"I'll just surprise Rolly, for he doesn't know I can bake cakes," he said to himself as he hunted for Rolly's recipe book.

Looking over the long list of cakes he finally decided to make a chocolate one.

"Rolly Rabbit is fond of chocolate," he thought as he stirred in the sugar, milk and butter and all the rest of the things and stirred it and stirred it and stirred it.

When the dough was ready for the little pans, something told Bruin that he hadn't put in the seasoning. He hunted a long time for the vanilla and finally found a big bottle with vanilla written across it, on the top shelf of the cupboard.

"Seems funny Rolly would put the vanilla on the top shelf," thought Bruin as he poured in a big tablespoonful.

In due time the cake was done and Bruin covered it all over with a nice sugar frosting.

"Oh, I'm so hungry," said Rolly as he sat down to supper that night. Proudly Bruin carried in the big chocolate cake. "Yum-yum-yum," said Rolly when he saw it. That looks so good. Chocolate cake is my favorite. Cut me a big piece, Bruin."

Bruin obeyed, and also cut a generous slice for himself. But with the first mouthful, each went running to the door. When their mouths were



empty, Rolly was the first to speak.

"Where did you get your vanilla, Bruin?" asked Rolly laughing.

"Out of that big bottle on the top shelf," said Bruin seriously.

"Ha, ha, hee, hee," Rolly laughed until his sides shook.

"But what are you laughing at?" asked Bruin.

"Chocolate cake flavored with skunk's cabbage juice is enough to make anyone laugh. Auntie brought that over for my cold in an old vanilla bottle," he laughed.

And then Bruin laughed too.

Why I Take Auto Insurance

I HAVE driven a car for eight years. In that time I have covered fully 100,000 miles, with no serious accidents, and only one that could be called such.

My driving has been about evenly divided between country and city. The above accident happened in the country and the majority of my narrow escapes were on the open country roads.

My conclusion is that I would be more particular about keeping my auto insurance paid up if all my driving was on open country roads. I think there are good reasons for this.

I have never been able to get comparative statistics on rural and urban auto accidents, but what reaction I get from drivers, together with my own experience and observation, leads me to the conclusion just made.

A driver of an auto bus recently recited that the majority of the accidents of his line occurred on the open country roads. He and others point

out the same reasons for this that I had observed from traveling over our rural roads.

In the first place, less provision is made in the country to give warning to the driver. Chief among these is the lack of lights. In cities lights are always burning at street intersections and frequently between. These lights aid in the identification of unlighted objects, either moving or standing. Not a few accidents happen in the country from lack of these lights which, of course, could not be economically provided. The end of a culvert that restricts the average width of the road, trees by the roadside, turns, unlighted vehicles, etc., all conspire to make driving dangerous and accidents easy.

Pedestrians walking on the highway, is another source of danger to the night driver. This is particularly true where one happens to meet the pedestrian at the same time a car is ap-

(Continued on page 249).



Only One Person Was Killed.



NEW YORK CENTRAL LINES

An engine terminal on the New York Central Lines in midwinter. Railroad men must keep the heavy traffic moving through all kinds of weather.

Achievement

THE American railroads in 1923 hauled the largest tonnage in their history—and with an efficiency of operation never before paralleled. To this achievement the New York Central Lines contributed a notable measure of public service.

The very heavy program in rehabilitation inaugurated by the New York Central Lines immediately following the termination of Federal control—involving the expenditure of many millions of dollars for new equipment and larger facilities—placed this railroad system in a position to meet the growing traffic demands of the great territory it serves.

While car loadings throughout the country for 1923 showed an increase of 26.7% over 1921, and 15.3% over 1922, the New York Central Lines gained 42.7% over 1921, and 16.8% over 1922.

The New York Central program of expansion—in anticipation of the greater traffic demands of the coming years—is going steadily on.

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SNOW PUDDING

Dissolve a package of Lemon Jell-O in a pint of boiling water. When cold and still liquid, whip with an egg beater to consistency of whipped cream. Let stand till firm, then pile it into sherbet glasses and serve with custard.

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SEND me FREE over 120 beautiful samples Peace Dale quality yarns. 14¢ to 27¢ per oz.

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Woman's Interests

Grow Old Gracefully

SOMEONE has said that the majority of persons dig their graves with their own teeth. Why are our appetites so hard to control? We resent being called greedy, but are we not greedy when we overeat?

A great-aunt of ours lived to be over ninety. When asked her secret, she said, "I never eat a mouthful more than I really want. I always stop eating before I feel quite full. I eat laxative foods." Her eyes were bright, her complexion clear, and she enjoyed life as long as she lived. Surely her recipe was a simple one. If you would live to a happy old age, you can do no better than to follow the advice of Great-aunt Mary.

What are some of the laxative foods?

Heading the list is bran. This can now be bought in a very palatable form, cooked and crumbled, and ready to eat. It is not only delicious as a breakfast cereal, but is wonderful to use for muffins, bread or puddings.

Other laxative foods are cabbage, sauer kraut, string beans, turnips, celery, onions, lettuce, spinach, oranges, stewed fruits, bran muffins, bran or whole wheat bread.

Precautions to take in order to grow old gracefully:

1. Drink plenty of water.
2. Take exercise in the open air, if possible, otherwise take setting-up exercises daily.
3. Plan to include at least one of the laxative foods in each meal.
4. Cultivate regular living habits.

Sample Menu for February.

Stewed Prunes	Breakfast Cereal
Toast	Bacon
	Coffee or Cocoa
	Luncheon.
Tomato Rarebit	Bran Muffins
Lettuce Salad	Tea or Milk
	Dinner.
	Beefsteak with Onions
Baked Potatoes	Mashed Yellow Turnips
	Celery Salad
	Steamed Pudding.
	Tomato Rarebit.
1 lb. cheese	1/4 tsp. paprika
1 tsp. salt	1 can tomato soup
1 1/2 tsp. mustard	

Cut cheese into small pieces. Put it into sauce pan and when melted add seasoning and soup. Cook, stirring until mixture is well blended. Serve on toast, crackers or with boiled rice.

Cabbage and Celery Salad.

Mix one and one-half cups of finely cut celery with an equal amount of shredded cabbage, and one chopped green pepper. Moisten with boiled dressing.

Mock Plum Pudding.

1 egg
1/4 cup sugar
1/4 cup molasses
1/4 cup stewed prunes
1/4 cup raisins
2 cups bran

2 tsp. mixed spices
1/4 tsp. soda
1/4 tsp. salt
2 tsp. lemon juice
1/4 cup flour

Beat egg. Add sugar, molasses, and other ingredients. Pour into greased mold. Cover tightly and steam two hours. Serve with hard sauce.—M. Barber.

GASOLINE LAMP BRIGHTENS

SOMEONE may be interested and helped by hearing about our gasoline lamp.

It doesn't matter how far we are from gas or electricity, we have a good light.

It makes the whole room bright with its white, soft light, and there is no glare and no eye-strain.

I used to feel that city guests must find the house unpleasantly dark. Now I know that I'll hear them exclaiming over "such a wonderful light."

It's so handy and easy to take care of, too. I fill it every second or third evening and the whole operation of filling, pumping and lighting takes five minutes or less. No dirty chimneys or wicks—always a clean, safe, beautiful light, without smoke.

Every one is delighted and we don't hear any more, "O, wait till daylight."

WHEN WINTER COMES.

DON'T forget the salad habit. In your cellar there are carrots, cabbages, celery, apples and other fine "salad timber."

Think of all the hot desserts you know, apple betty, warm gingerbread, rice and bread pudding, fresh pies.

Home Makers Need Funds

IT is a generally recognized fact that the girl of today does not receive in her home the sort of training that has formerly passed from mother to daughter. That the schools must assume the responsibility of supplying this training is evident and it appears that vocational training in home-making is a means for filling this need.

To aid in this and other vocational training, Senator Fess has introduced in the senate a bill which is an amendment to the Smith-Hughes Act of 1917. This earlier act provided funds for vocational education in agriculture, trade and industry. It stated that one-fifth of the amount devoted to trade and industry might be used to promote instruction in home economics. This one-fifth has been devoted chiefly to training teachers and for salaries of teachers conducting approved courses along these lines in public schools.

In 1921 there was available for this work \$300,000, and it will reach its maximum of \$600,000 in 1927.

The purpose of the amendment introduced by Senator Fess is to gradually increase the funds devoted to home economics until it is equal to that available for vocational training in other lines. It provides, for a beginning, a fund of \$500,000, with a gradual increase each year until at the end of ten years it reaches \$3,000,000.

To maintain the high standard of American home life and morale, demands that home-makers more carefully utilize the family budget and resources than the average woman can do without special instruction. But in 1923 the total funds available from both state and federal sources for home economics work were sufficient to train only 139,341 girls and women. Even though we grant the far-reaching influence of teachers and extension workers in this creditable work, when compared with the 27,000,000 of housekeepers in the United States, and the millions of young girls not yet managing a home, the number is insignificant.

We trust that this great state of ours will become so aroused of the social importance of this home-makers' instruction that the opportunity will be extended in the near future to every home-maker and her daughter to receive special training that will fit them for the management of America's greatest institution, the home.

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HOUSEWIVES' CONGRESS HELD IN THE NEW BUILDING.

HAVE you ever dreamed or experienced the anticipation, the thrill and the enthusiasm of moving into a beautiful, brand new house? If you have it will help you to measure up the feeling conveyed by members of the Home Economics Department to the host of visiting housewives who came to M. A. C. during Farmers' Week to assimilate the suggestions and receive an inspiration to aid in the execution of their daily job, the efficient management of a home.

The auditorium of the new Home Economics Building was crowded, and all standing room occupied at most of the women's sessions. "The Value of Salads in the Diet" was well explained and demonstrated by Miss Osee Hughes, associate professor of home economics. Miss Emma Garrison, also an associate professor in the same department, demonstrated in an interesting way, "What Hats Make of Us."

Prevent Rickets.

That a large part of the trouble we have with our teeth is probably due to the lack of bone-building material in our diet in infancy, is the belief of Dr. Marie Dye. That rickets, the most universal disease in infancy, can be prevented by the antirachitic vitamin found in direct sunlight, cod liver oil and egg yolk, has been proven by Dr. Dye in her nutrition experiments.

Important points in buying ready-made clothing were outlined by Miss Julia Tear, a new member of the home economics staff. She rather discouraged the buying of seconds, or goods behind which there was no manufacturer's guarantee, and of remnants, unless for special use, as they were usually costly in the end. Many women learned for the first time what the white or colored thread at the top or toe of some heavy silk stockings means. The yarn for such stockings have been dyed before they are knitted, and thus the manufacturer has opportunity to use a filling to make yarn heavier but not durable. Stockings dyed after knitting wear better and are cheaper in the end.

Save the Steps.

Miss Marian Rogers, extension specialist, gave an interesting talk on step saving in housework, illustrated by a chart. Her advice was, "Make your head save your heels" by using it in arranging your kitchen. The first thing to consider, she believed, was the grouping of small equipment so that everything was near the place where it was to be used most.

Appropriate furniture and accessories was given stress by Miss Adele Kock, assistant state home demonstration leader. The effect of "spotty" wallpaper as contrasted with neutral gray was demonstrated. She stated that women often ask if they should discard all they have and buy new, and her advice in most cases was to eliminate a large part and replace with nothing. The tendency is toward too much rather than not enough furniture and accessories.

"Fancy Work vs. Art Needle Work," was demonstrated by Miss Winifred Gittemy. She showed how impractical it was to spend hours making fancy things that did not wash well. Unless there was a feeling for color, she advised the avoiding of strong contrasting colors. Mrs. Louise H. Campbell created a good bit of enthusiasm in her talk about "Home Economics Here and There." She showed that M. A. C. graduates were doing some very constructive work in the field of home economics.

GOING, GOING, GONE.

An ancient car chugged painfully up to the gate at the State Fair races. The gatekeeper, demanding the usual fee for automobiles, called:

"A dollar for the car!"

The owner looking up with a pathetic smile of relief, said: "Sold!"

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Our Giant Washington Roots are sure to live—rust resistant, vigorous growing, big producers. Giant green stalks, 1" to 2" thick, exceedingly tender and delicious, always commanding a premium price.

A \$1.00 packet of seeds or 50 roots for \$5.00 will plant sufficient to supply an average family for 20 years. Or send \$3.00 for 25 roots. Orders post-paid, cultural directions included. Attractive prices for 1 to 10 acre plantings.

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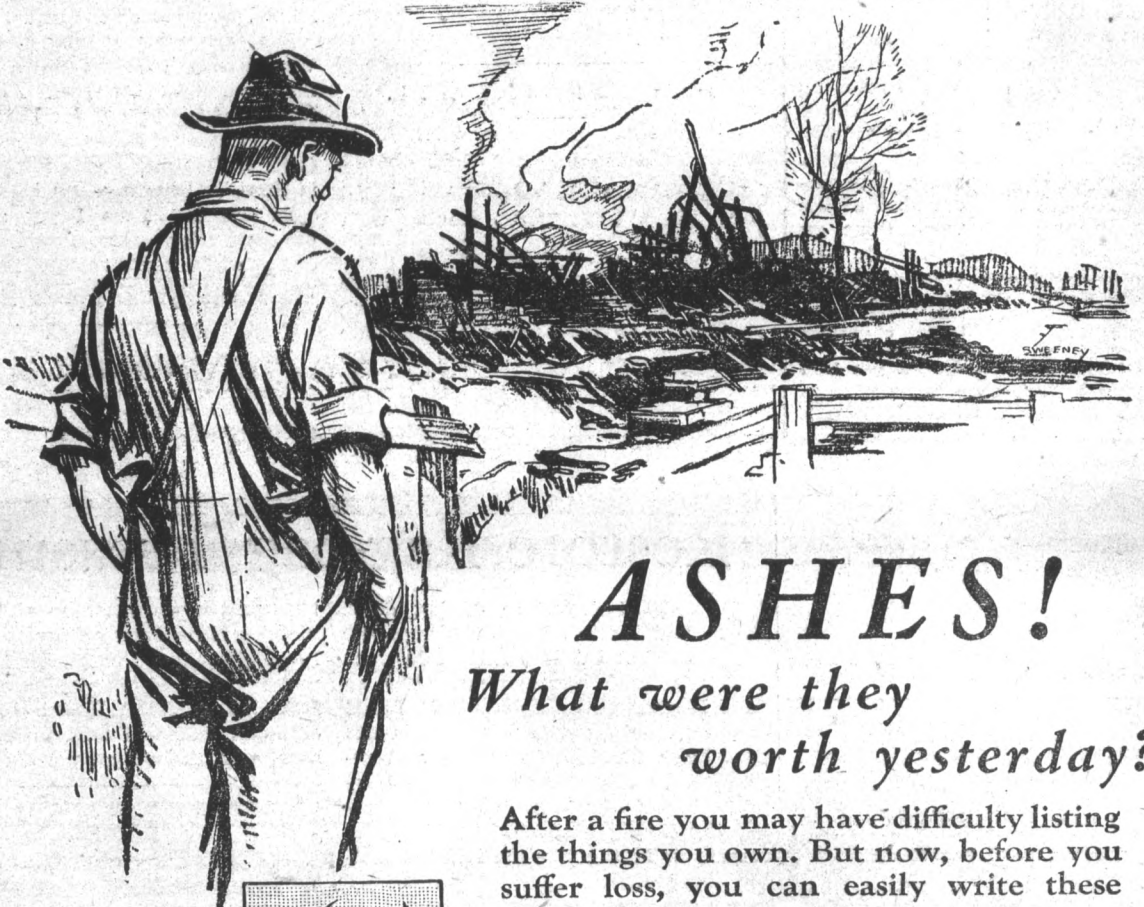
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After a fire you may have difficulty listing the things you own. But now, before you suffer loss, you can easily write these things down.

An inventory is not required by the farm insurance policy but one will help you to insure against all possible loss by fire.

The Hartford Fire Insurance Company, as a part of its broad, helpful service to owners and managers of farms, has prepared a valuable inventory booklet, called "My Property." It will be sent free upon receipt of your request. Use the coupon. Send for the book today.

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Wonderful Home Light

New Gasoline Lamp Gives 300 Candle Power Brilliance at Low Cost

A gasoline lamp that gives more light than 20 old style oil lamps at about one-tenth the cost is the leading product of the Coleman Lamp Co., of Chicago, Ill.

This remarkable lamp is known as the Quick-Lite. It generates its own gas from common motor gasoline and is so simple in construction that even a child can operate it.



The Coleman "Quick-Lite" is safe, dependable and economical. Unlike other gasoline lamps, the Quick-Lite lights with ordinary matches. Thousands are in use in homes everywhere. Thousands more are used to light stores, halls, churches, etc. The Quick-Lite is gaining wide favor in cities, too. Many claim it is superior to electricity because the light is soft and restful to the eyes.

The above picture shows one of several models. Dealers everywhere sell "Quick-Lites." Anyone interested in better light may see this lamp lighted at a nearby hardware or general store. Full information together with an interesting booklet may be had free by addressing the COLEMAN LAMP CO., Dept. M. F. 73, 3617 So. Ashland Ave., Chicago, Ill.



HOUSEHOLD SERVICE

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

KEEP HANDS SMOOTH.

I am bothered nearly all the year with chapped hands. I have tried a lot of things, which help for one day or so, but then they start chapping again. Is it caused from having my hands in water too much?—H. M. D.

I am inclined to believe that the trouble you have with your hands chapping so much is the condition of your skin, rather than the water you use. However, a continual use of hard water will cause the hands to chap.

I believe if you will use this lotion on your hands after washing each time, that the result will be satisfactory:

Combine two ounces of glycerine, two tablespoonfuls of water, the juice of two lemons, and six drops of carbolic acid. Bottle and shake well. This will keep for some time.

FRESH BRINE NEEDED.

Would it be all right to use a brine the second time over corned beef?—Mrs. A. J. C.

By all means, I would not advise the using of the brine for corned beef the second time. A fresh brine is needed to season the meat as well as preserve it.

MUSTARD PICKLES SPOIL.

I canned mustard pickles a year ago. White lime-like bunches form on the tops and run down the cans. Is there any danger of the pickles being poison? Also, what is the trouble with our drinking water? There is always a rust in it.—Mrs. P. R.

From your explanation, I believe that your mustard pickles may have spoiled. Any oozing out on the side of canned food would indicate this. Do the pickles taste tangy, or have a peculiar odor? If this is the case, the pickles are not fit for consumption.

Regarding the condition of your

drinking water, I believe it is due to an excessive amount of iron in the water, which would cause such a rust as you describe and the corroding of the pipes. This mineral in drinking water is healthful, and if this water is otherwise pure, I believe there is no cause to worry regarding this.

FINGER MARKS ON PIANO.

Please tell me what will take finger-marks off a mahogany piano.—Mrs. B.

If you will polish your piano well with the following furniture polish, it will remove the finger marks.

To a cupful of turpentine add a piece of beeswax the size of a walnut. Stir into this one and one-half pints of paraffin oil. Mix and shake well together and apply with a soft cloth, not using too much. Then polish with a soft cloth.

DINA SAVES STEPS.

ALTHOUGH our home isn't modern in all respects, we have a furnace, built-in cupboards, and so on, but the one I find helps me most is "Dina," or my dumb-waiter. It is built alongside of a chimney and connects with milk and fruit rooms below and kitchen above. I use it for left-overs from the meals, also for cream and butter.

We separate our milk and I find it very handy to send down water to flush the separator bowl. Also pitcher for cream, and plate for butter, and if fruit is wanted husband puts it on the dumb-waiter and sends it up when he is there to separate.

In canning time I put one dozen cans or more of fruit in it and send down while my husband is there to unload for me.—Mrs. J. C. D.

Madam Fashion tells us that the straight, one-piece frock will be much worn this spring. She still plans to avoid "the Mason and Dixon Line" between the north and south garment.



Our Spring Sewing Book

is just out. It contains new designs for women's and children's dresses, aprons, undergarments, hats, etc., also attractive and original ideas for utility articles and household decoration. All these can be made quickly and economically with

WRIGHT'S BIAS FOLD TAPE

which comes in a variety of fast color wash fabrics and in fine taffeta silks. You can find them at notion counters in best stores everywhere.

Send 10 Cents in Stamps for copy of book and 3-yard sample of tape in fast color percale in any one of the following colors: Gray, Pink, Light Blue, Brown, Reseda, Navy, Lavender, Linen Color, Old Rose, Alice Blue, Red, Black, Yellow. WM. E. WRIGHT & SONS CO. Mfrs. Dept. 404 Orange, N. J.

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You furnish the raw beef or horse hides or raw furs; we do the tanning in our own plant. We make up coats, robes, gloves, mitens, caps, vests. The finest kind of fur work done on ladies' fine furs coats, capes, chokers, horse hide shoe leather, coats, finest of sheep lined coats.

Send for circulars, tell us what you have to tan. We answer, W. W. Weaver, Reading, Mich.

Fine Fresh Frozen Round Carp, 4c; Dressed, 5c; Round Pike, 13 1/2c; Round, 9c; Round Perch, 6 1/2c; Dressed Pickersel, 12c; Round Blue Pike, 12c; Flounders, 10c; Sole, 14c; Salmon, 14c; Steak Cod, 12c; 10-pound Basket Smoked Bluefish, \$1.00. Packing Charge, 100 pounds, 35c; 50 lbs., 50c; 25 lbs. or less, 25c on Frozen Fish only. For finest Quality at right price Mail your Order or send for complete catalog of all kinds of fresh, salt, spiced, smoked and canned fish. Badger Fish Co., Dept. 5, Green Bay, Wis.

Restore Rag-bag Treasures

WINTER days are dyeing days. Old Mother Winter covers the drab and dreary fields and trees with a radiant white dress. Just so does Mother cover up the dull, faded colors in only partly worn garments that have filled the rag-bag, and restore them to a freshness and wearability that helps immensely in reducing the family clothing bill. But the results of Mother's work is more lasting than that of Mother Nature, because she uses the fadeless dyes.

In dyeing any kind of material, it is always more practical to use the best dyes. All fabrics dry at least two shades lighter than they appear when they are in the wet dye. It is safe to dye a sample first, dry it, and make changes in the dye after you have decided which color you like best. If you are dyeing a deep shade on a light colored material, it is best to build up the color, getting all you can the first time, and then beginning over again with a fresh dye bath. This will help to prevent crocking.

If you are buying new material to dye, buy the light shades rather than white, for any material that has been dyed will take color more readily the second time. Natural linen color makes a wonderful base for old-blue or rose.

Yellow velours dyed red give a rare orange. The old-fashioned damask table-cloth with a faded red pattern dyed

blue will come out blue and plum or violet. It will make lovely sofa pillows. If checked gingham in tan and white are dyed blue, they will come from the bath in unusual combination of blues that will look pretty for upholstery on the wicker porch-chairs.

GRAHAM PUDDING IS FINE EATING.

THOSE who are fond of graham should try graham breakfast mush, made by stirring graham flour into boiling water, salted to taste, until moderately thick, then allow to cook slowly for five minutes, stirring occasionally. Serve with sugar and milk or thin cream, as preferred.

Graham Pudding.

Two teacupfuls of graham flour, one cup of molasses, same of sweet milk, one teaspoonful of soda, same of salt, half cup of chopped raisins, one tablespoonful allspice. Stir thoroughly, turn into pudding pan and steam one hour. Serve with your favorite pudding sauce. Very much resembles suet pudding, with much less work. My recipe for pudding sauce is: One heaping tablespoon of butter, melted over hot water, mix in two tablespoonfuls flour, rub well together, then slowly add a pint of boiling water, beating continuously. When well cooked, flavor and pour over pudding.—Mrs. R. O.

95 LB. GIANT MELON
Exhibited at various state fairs and won prizes. After the fairs we cut them. Fed 100 people. Everyone said "most delicious ever tasted."
You Too Can Grow These Giants
No more work or care than ordinary melons. Lots of fun watching them grow. Very interesting. Only limited supply available. If you want some set quick. Fully described in my catalog.

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When sending for your catalog send names and addresses of 5 friends who buy seeds and I will send you free of charge three fine Gladiolas, best varieties, guaranteed to bloom the first season.

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Why waste time working hard planting uncertain seeds? Why be disappointed in your yield? Why not get best, purest, strongest germinating seed like my million customers are doing, and raise bumper crops? Make big-gain profits.

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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.

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125 Rochester Ave.
Kalamazoo, Mich.

Rural Health

By Dr. C. H. Lerrigo

INSULIN IN DIABETES.

THE men who won the forty thousand dollar Nobel prize of 1923 for the greatest medical discovery of the year were Doctors F. G. Banting and J. J. McLeod, of Toronto, Canada, for their work in the discovery of Insulin. Not only is this the most notable medical and scientific achievement of the year (it was given to the public the year before) but it is the most valuable discovery of all time for people who have diabetes. It means for many of them the difference between life and death and every person afflicted with any degree of diabetic severity will profit by this discovery.

Many readers have asked me to tell how Insulin cures diabetes. It does not cure. It is a preparation made from certain parts of the pancreas. Administered to the diabetic patient it makes up for the deficiencies of his own digestive organs by helping him to digest his sugars. With this help he can eat more food and greater variety, and thus build up in health and strength. But he is not cured, and perhaps will have to take Insulin occasionally throughout his lifetime.

Insulin is not a preparation that can be taken by the mouth. If swallowed the stomach digests it and spoils its action. So it has to be administered by the use of a hypodermic needle. However, this difficulty may be overcome by having some member of the family trained to make the injection. The material was very costly at first but the price has now been reduced some fifty per cent and may go lower. Every person who has diabetes should learn about Insulin. It is well to know that another name for the same preparation is Iletin.

DECAYING TEETH IN PREGNANCY.

Please tell me if pregnant women always have trouble with decaying teeth, and what is best to do.—G. D.

It is not a universal thing for women to have trouble with decaying teeth during pregnancy but it is common enough to be worthy of consideration. Unusual acidity of the mouth and the extra drain upon the bone-forming salts of the body are the causes usually assigned. The pregnant woman having tooth trouble should use an alkaline wash, and when possible consult her dentist at the first suspicion

Some Book Reviews

"The Lone Winter," by Anne Boswell Greene, \$1.50.

This is a delightful book portraying the joy and peace of country life, and also its toils. The author had been a sole occupant of a house on a Vermont hillside farm. The loneliness of living so alone was relieved by the company of a dog, a cat, a cow and a numerous herd of Shetland ponies. In a most interesting vein the author portrays how she mended fences, pitched hay, shoveled snow, milked cows, galloped along icy roads, scaled mountains on snowshoes, gathered wood, boiled the kettle, fed the cat, read Stevenson, and wrote. A good book to read at any time, but especially good these winter evenings.

"The Alaskan," by James Oliver Curwood, \$2.00.

Like all of Curwood's books, this is a delightful portrayal of the life in the part of the country in which the story's plot is laid, as well as a splendid weaving of romance around the lives of his hero and heroine. The Alaskan is Curwood's latest book, a story of Alan Holt and Mary Standish

of dental caries. Whole wheat bread, milk and eggs are helpful articles of diet, but dieting will not cure the trouble.

ROUND SHOULDERS.

I am fifteen years old and have round shoulders. Would wearing braces prevent it from getting worse or cure it?—L. M. P.

I do not advise shoulder braces. Your muscles depend upon the support of the brace and you find it hard to discontinue. You can conquer your round shoulders by regular calisthenics and a determination to reach up. Head up, chin in, chest out, abdomen in, should be your position.

SLIGHT HERNIA.

Occasionally, when lifting, I feel a strain in the left groin, and it sometimes pains for a day or two after the strain. I am a farmer twenty-six years old. Am not bothered except on these occasions. Can you advise me?—B. T.

I fear this is due to a slight hernia, or at least a tendency in that direction. It is best for you to have a careful physical examination.

NERVE TONICS.

Would you please tell me of some good nerve tonic. I have taken celery compound and a number of other remedies without doing any good. I am a real cripple from nervous breakdown.—Mrs. F. D.

There are no "nerve tonics" in the way of medicines that will do you any good. It is a vain waste of time and money to run from one advertised remedy to another, taking them because they are labelled as "nerve tonics" without the least idea whether suited to your case. Your remedy lies in finding out what caused your breaking down and striking at the root of matters.

THE SAME DISEASE.

What is the difference between scarlatina and scarlet fever?—L. B.

There is not any difference. The term scarlatina is sometimes applied to mild cases of scarlet fever, but it is a great mistake to do so because it leads to a false sense of security. One of these mild cases may spread an infection that will lead to the most malignant form of the disease.

(aren't their very names romantic), young folks in whose blood flows the very life and spirit of the north.

Mary Standish is as daring and as lovely as the dawn of that north country. If you have ever seen a northern sunrise you have never forgotten the sight, I know, neither has the writer, and when you read this Curwood book visualize what a lovely heroine lives between its covers.

"The Discovery of God," by Basil King, \$2.00.

This book is a most interesting addition to contemporary biblical comment. Few people, both at the present time and in the past, have read the Bible with a mind quite closed to its marvelous story. Basil King's book will set you reading your Bible with not only a new enthusiasm, but a new insight and a new delight.

"The School Book of Forestry," by Charles L. Pack, \$1.00.

This tree book should be in every home, for it tells the story of our forests past and present. It is forestry knowledge in a nutshell.



First we must gather the facts

A half million farms are already electrified. Millions are not. Why?

Because a light and power company cannot economically serve a few, scattered farmers, because farm equipment and farming methods are not yet adapted to the utilization of electricity, and because electric service cannot be intelligently rendered before the needs of farmers are known.

The first task, then, is to gather all the facts. In this a special committee is now engaged, which is composed of experts representing the United States Department of Agriculture, Department of the Interior, Department of Commerce, American Farm Bureau Federation, American Society of Agricultural Engineers, Power Farming Association of America and National Electric Light Association.

The first step toward electrifying our farms has clearly been taken. Electrification itself will follow when the Committee indicates what basis is sound both for the farmer and the light and power company.

A booklet has been published outlining the work of the Committee. Write to E. A. White, care American Farm Bureau Federation, 58 E. Washington Street, Chicago, Illinois, or to National Electric Light Association at 29 West 39th Street, New York City, for it. It costs nothing. Read it and pass it on to your neighbor.

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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, 65-C Security Savings & Com'l Bank Bldg., directly across St. from Patent Office, Wash., D. C.

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

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.**



Exposure

Soggy clothing and wet feet usually start a cold. Use Muco Salve as a preventive. Apply in nostrils. Makes you feel better immediately. Pleasant. Effective.

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Science's Latest Gift Poultrymen

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A New Discovery that Prevents Leg Weakness and Reduces Death Losses of Baby Chicks

For years the leg weakness scourge of early and late hatched chicks has been the thing that has robbed poultry raisers of a big share of their profits.

For more than 50 years scientists have been working on this problem—at last it has been solved! They have discovered that Cod Liver Oil, being extremely rich in A and D Vitamines, when combined with other health giving ingredients overcomes leg weakness and produces such strong bones and healthy, vigorous growth that chick death losses are greatly reduced. They also found that Cod Liver Oil had the same effect as May sunshine on chicks that were raised indoors—in short Cod Liver Oil proved to be "Bottled Sunshine" for baby chicks, making it possible to raise chicks in the early and late cold months as in May or June. After the discovery of this valuable aid to baby chick raising, we developed a method of including this wonderful life-giving element in Ful-O-Pep Chick Starter, which can now be had at any feed dealer's store.

We've taken Cod Liver Oil and combined it with other health giving ingredients and are now offering to poultrymen in Ful-O-Pep Chick Starter a feed that our research department has proved reduces death losses to the minimum and makes chicks grow and thrive in the cold winter and spring months just as if they were out of doors in the warm May sunshine with all the bugs and tender grasses they could eat. The Cod Liver Oil is so thoroughly mixed by our own process that it is completely absorbed by other ingredients. Ful-O-Pep Chick Starter is perfectly dry—not oily or gummy.

Feed Ful-O-Pep Chick Starter to your chicks this year—it will cut down your death losses by eliminating leg weakness. It will make your chicks grow this season as they never grew before. You will never know how much this latest gift of science means to you until you give it a trial. Your dealer can supply you with Ful-O-Pep Chick Starter.

Write for This FREE Folder Today

Write today for big illustrated circular telling all about this new and important discovery—how and why it will greatly reduce your baby chick losses. Just send name and this valuable circular will be sent to you 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. F. M. BOWERS & CO. 1423 W. Wash. St. Indianapolis, Ind.

New Low Prices On Miller Baby Chicks - Season 1924

Buy your chicks this season from an established hatchery. MILLER HATCHERIES is one of the finest in America. We hatch twenty popular varieties from stock which have been culled and bred for heavy egg production. 1,500,000 chicks via prepaid parcel post at the following low prices:

Varieties	50 chicks	100 chicks	500 chicks	1,000 chicks
Barred Rocks, R. and S. C. Reds, Anconas, R. C. Brown and S. C. Buff Leghorns	\$7.50	\$14.00	\$65.00	\$125.00
White and Buff Rocks, W. W. and Black Langshans	8.50	16.00	75.00	140.00
S. L. Wyandotte, White Orpington, S. C. Black Minorca	9.00	17.00	80.00	150.00
Buff Orpingtons	8.00	15.00	70.00	135.00
Golden Wyandotte	11.00	20.00	95.00	175.00
Light Brahmans and W. F. Black Spanish	13.00	25.00	115.00	200.00
S. C. White and S. C. Brown Leghorns	7.00	13.00	60.00	110.00
Assorted	6.50	12.00	55.00	100.00

Order direct from this advertisement or send for our FREE CATALOG. 21st SUCCESSFUL Season. Over 12,000 pleased customers in United States and Canada. Member, Missouri State, Mid-West and International Baby Chick Associations.

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Special Pure Bred Baby Chicks Low Prices NOW!

Baby chicks from strains internationally famous for egg laying and prize winning records now offered at bargain prices! Pure bred from trap-nested pedigreed Tom Barron and Hollywood imported White Leghorns. Not just a few 300 egg birds but a high flock average egg production—that's where you make your profit. Hatched in the largest and finest hatchery in Michigan at the rate of 150,000 eggs to a setting.

Send for Big 24-Page Catalog Today This handsomely illustrated book sent free for the asking—contains valuable information on chick raising and full description of all chicks hatched by us—Tom Barron and Hollywood White Leghorns—Barred Rocks and other popular breeds. Send for this catalog and prices today. Live deliveries and complete satisfaction guaranteed or your money back. Write today. Superior Poultry Farms, Box 200, Zeeland, Mich. U. S. A.



POULTRY BREEDING NOTES.

BY R. G. KIRBY.

IN mating poultry of the heavy breeds about one male to ten hens is considered satisfactory. A proportion of one male to fifteen hens produces good results with Leghorns. In large flock matings it is safest to allow one or two extra males in the flock in case there might be unexpected casualties or some of the males prove unsatisfactory breeders.

A larger proportion of females can be used in a flock on free range than when the birds are confined in small breeding yards. If hens have been running with birds of another breed they should be mated up two or three weeks before hatching eggs are saved in order to receive pure-bred chicks. Experiments have proven that the results of previous matings may show until the eighteenth or twentieth day after the male bird is removed from the flock. It usually holds up very well for eleven or twelve days. So the three-week period is usually necessary to avoid hatching a few cross-bred chicks.

In selecting breeding ducks for the farm flock it often proves that the two-year-old breeders produce more vigorous ducklings than young stock. One drake to seven ducks is a proportion frequently used, although a ratio of one to five seems to produce the best results very early in the season. Later in the season a ratio of one drake to eight ducks may give very good results.

The best results in breeding geese usually come from trios, although it is possible to mate a gander with three or four geese and obtain plenty of thrifty goslings. In raising Chinese geese, four or five geese to a gander are frequently used. There seems to be a great variation in the vigor of the Ganders and when successful mating have been made and proven good, it pays to keep them as long as they are useful for breeding purposes. The Ganders give the best results from the third to the fifth year, and breeders do not usually retain them after they are seven or eight years old. Geese can be kept for ten years and sometimes longer.

In mating geese the best results seem to be produced by young Ganders mated with old geese, or old Ganders with young geese. The eggs from very young geese will hatch but the goslings are not very thrifty as a rule, and it is unsatisfactory to try and raise a flock of geese from young matings, as is often attempted by new breeders who have purchased their first trio.

Good results are obtained from turkeys when one tom is used with a flock of twelve or fifteen hens. If the turkey flock consists of twenty-five or thirty hens it pays to use two vigorous toms and alternate them with the flock of twelve or fifteen hens. If the other is on the range. This prevents the toms from fighting, and helps in obtaining a higher per cent of fertility in the eggs.

No definite rule can be given for the mating of any kind of poultry because of the great variation in the vigor and individuality of the male birds. The proportions given are those that have been found to give good results and so are recommended.

WHY OYSTER SHELLS ARE NEEDED.

WHEN the hens are fed for eggs they obtain sufficient material for the whites and yolks but the grain feed they consume cannot furnish enough lime to make strong shells on all the eggs they can produce. A lack of lime results in soft shelled eggs which are often broken in the nests and this may lead to the egg-eating habit. Thin-shelled eggs are also produced and they often break in the crates and smear other eggs.

At hatching time it is necessary to

Get My Special Low Price — On This Wonderful Incubator

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have eggs with strong shells or eggs will be broken under the setting hens. It is much easier to handle eggs in artificial incubation when they have firm, strong shells. Oyster shells can be purchased in 100-pound sacks at a price close to one cent per pound. A dollar's worth of shells will furnish the hens with lime for many dollars' worth of eggs. There is no economy in doing without the well-filled oyster shell hopper. Eggs are produced in clean, sanitary packages, but we must give heavy-laying hens plenty of lime to construct these packages.—K.

POSSIBLY BLACKHEAD

We do not give our baby turkeys any food until they are at least forty-eight hours' old. Then bread moistened with milk the first day, afterwards two feeds of rolled oats, two of curd and one of hard-boiled egg per day. I am very sure they are not over-fed, as the food is quickly eaten. They seem perfectly well until about two weeks of age, when trouble begins. One looks droopy, walks stiff at feeding time, eats, but by the next feeding time is not able to stand, and soon dies. Have fresh water and sour milk to drink. The old turk is tied so they do not wander off in wet grass.—Mrs. J. F.

The young turkeys may have blackhead. In this disease the head often turns dark, but sometimes this is not the case. Perform a postmortem on a bird that dies and note the condition of the liver. Yellowish white spots on the liver are an indication of blackhead. Turkeys are also subject to various digestive disorders, cholera, etc., the same as chickens.

The best preventive of blackhead is to raise turkeys on clean ground where old turkeys have not been ranging. As this is seldom possible on the farm where turkeys have been owned for years the next best method is to use plenty of sour milk in the ration and keep the roosting quarters as clean as possible and use only vigorous unrelaxed breeding stock. The ipecac treatment, both as a cure and a preventive, is sometimes used. As yet I cannot locate a single instance in Michigan where this treatment has been of great benefit. As a preventive a teaspoonful of powdered ipecac for each twenty turkeys is given in the mash twice a week. Many believe that the old turkeys' practically always carry the germs of blackhead. Then any devitalization of the young stock due to chilling in storms, or poor feeding methods makes them easy prey to the germs of the disease.

TURKEYS WITH ROUP.

Will you please tell me what is the trouble with my turkeys? Five or six weeks ago several of them began to sneeze, and I have lost six. Just before death their heads are swollen under the eyes. I thought they had the gapes and doctored them for same. What can I do to save the rest of the flock? I use creolin in drinking water, and have given camphor gum. Do you think this is roup?—Mrs. B. D. P.

The turkeys probably have roup. When the cold first starts it can sometimes be stopped by removing the mucous which plugs the nostrils and then injecting a solution of permanganate of potassium or coal tar disinfectant with a medicine dropper. When the abscess has bulged out under the eye the lump must be opened and the cheesy accumulations removed. Then place strong disinfectant in the wound with a medicine dropper. It may be necessary to remove the accumulation and wash the wound several times before healing results.

During treatment keep the sick birds isolated where they are dry and protected from draughts. Keep the nostrils open by removing the mucus with tissue paper. Watch for the mites around the roosting quarters and the lice on the birds that will sometimes weaken them and help to start summer colds which later develop into roup.

A well-equipped desk is a labor-saver in the farm home.

A remarkable feeding discovery— means more eggs from any mash!

There isn't a flock of chickens in the United States that can't be made more profitable this easy, simple way

A HEN can't lay half an egg. If it doesn't get enough of the vital food necessities to form the shell, yolk and white, *it lays no eggs!* It puts on fat instead.

Yet that same hen can be made to lay more eggs, even with the same feed you are giving it now! Hens that are good layers can be made to beat their record.

The reason is very simple

Say you are feeding a standard mash feed. This mash has only those food elements found in the soil where the grain was grown. Some soils are poor in one or more of these food elements. Even at its best any mash must necessarily be limited in its ingredients and therefore lacking in variety of minor food necessities. Your hens can't lay heavily. It's not their fault, but yours.

Maybe your hens are getting everything necessary to form an egg but one or two of these precious health elements. If you are not getting all the eggs you ought to be getting, you can be sure some necessary elements are short. To get more eggs you must overcome this shortage.

Hens must think it's springtime!

In the wild state, no birds lay eggs in the winter. Spring and early summer is their season. Yet we can make a hen lay the year-around, by supplying springtime food

elements and artificially lighted poultry houses. What we are really doing is giving the hen springtime conditions when snow is on the ground. The more successful you are in doing this, the better the hen lays.

Fifty-one years ago Pratts discovered this remarkable feeding truth. Pratts Poultry Regulator was prepared, not as a tonic, not as an egg forcer, but as a corrective to any diet. It is made up of roots, barks,

herbs, rare seeds and vital elements from every quarter of the globe and in the same variety as they occur in the spring. Abundance of every one of the food essentials necessary to perfect hen health and production are in this Regulator.

For 51 years it has meant more eggs from any mash—even Pratts.

Money back guarantee

You simply add this regulator to any mash. 25 cents worth is added to each 100 lb. lot of feed—any feed. Mix it up and each hen gets its share. No work at all. Yet it means more eggs. The cost is less than a cent a month per hen. It is even less if you buy Pratts in the convenient 12 or 25 lb. pails.



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A hen can't help laying if you feed her right

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Lessons from Lincoln

By the Prize Winners

By Ethelyn Sprecksel, McBain, Mich.

On this subject I think there is no limit, or at least there should not be. Lincoln has always been, in my mind, the greatest man the United States has ever known. He was not born with opportunities within his grasp. He had to make opportunities. I think the lesson that Lincoln, the great man who so helped the United States, are all based on the very old, but nevertheless true saying, that, "Perseverance Wins." Everything we read or hear about Abraham Lincoln fairly shouts these very words at us. If he had not stuck to his great and wonderful mission, if he had given up before he had performed what every true citizen of the United States was so hoping, wishing and praying for, he would not have won out as he did. The United States would not be the free country it is now if our old President, Lincoln, the pride of every American's heart, had not skillfully carried out his work to the tune of "Perseverance Wins."

By Alvah Junior Metcalf, Remus, Mich.

I have learned that it isn't just because Abraham Lincoln preserved the Union, or emancipated the slaves, that his name is beloved of all mankind. It is not so much the brilliance of his accomplishments or the power of his personality, great as they both were, as it was the quality of his soul, and his refusal to accept defeat, and the courage to do the right as he saw it, that have made his memory and the study of his life a source of inspiration and encouragement to us all.

When he was a young man he ran for the legislature in Illinois and was badly defeated. He next entered business, failed, and spent seventeen years of his life paying debts of a worthless partner. He was in love with a young lady, to whom he became engaged, who died. Later he married a woman who was a constant burden to him. Entering politics again, he ran for congress, but was defeated. He then tried to get an appointment to the United States Land Office, but failed. He became a candidate for the United States Senate, and was badly defeated. In 1856 he became a candidate for the vice-presidency and was once more defeated. In 1858 he was defeated by Douglas.

One failure after another, and bad setbacks all his life, yet he became one of the greatest men of America, whose memory is honored and loved by all America. When I think of the great difficulties Lincoln had to endure, and yet he became such a great man, it makes me feel small to become discouraged, just because I sometimes think I am having a hard time in life.

By Thelma Skelton, Auburn, Mich.

Abraham Lincoln was born in Hardwin, county, Kentucky, February 12, 1809, and was the sixteenth president of the United States. He removed with his family in 1816 to Spencer county, and for the next ten years was engaged in hard work. This teaches us to be industrious.

On the breaking out of the Black Hawk war in 1832, he joined a volunteer company, which shows he was a true patriot.

In 1858 when defeated by Douglas, it only inspired Lincoln with fresh determination, which teaches us to not be discouraged if we are defeated in our first attempt to do a thing.

He was brave, gentle, kind, humorous, and in his judgment of men was shrewd and penetrating.

He was a faithful friend and worthy opponent, loved and honored by all who knew him.

Even those opposed to him in the political field respected his honesty and outspokenness.

By following his example we learn

we should not be deceitful or unkind, but be brave and industrious, and fair in our dealings with others.

By Anna Bliss, Bancroft, Mich.

The lessons I have learned from Lincoln's life are to be faithful, honest and true. There are many ways in which to be faithful, honest and true, in school, business and on duty. Some people think that you don't need to be honest in your studies, tests and examinations, that only in money dealings do we need to be honest, but Lincoln said be honest in all things, great or small.

He told us not to waste energy and courage wishing for things, but get out and earn them; always to make the best you had go till you could get

Drawing Contest

SEVERAL requests for drawing contests have come in recently. These make me think that it is about time to have another. This time we will make it an open drawing contest, that is, you can draw on any subject you wish.

The ten who send in the best drawings, made by themselves and without tracing or other aids, will receive prizes as follows: The first two best, handsome nickle fountain pens; the next three, tubular flashlights, and the next five, neat little boxes of candy. All who send in good drawings will receive Merry Circle buttons and cards if they are not members now. All who are members should be sure to put the usual M. C. after their names.

This contest closes February 21. Send your drawings to Uncle Frank, Michigan Farmer, Detroit, Michigan.

better, but never let your hopes drop. To always be above all unkind things or actions, and to be true to your father and mother for all the nice things they have done for you, and above all to respect folks older than yourself, is another lesson I learned from him. He did all these things and many more, that he might set an example for all those who wished to follow him.

He wished to share with all those poorer than himself and help them all he could, which we should all be willing to do.

When others are trying to be dishonest, we should always do right, and try to set an example for others to follow who do not know how to do right, and have to be influenced by another. Do you not think it pays to do right when others are depending on you?

We should go carefully over Lincoln's life, following all of his examples, if we can.

THE WASTE BASKET.

By Helen Shelby, Coleman, Mich. Of all baskets, great and small, The old waste basket leads them all. All the letters written by me Go in the basket, don't you see?

None of the contests have I won, Yet the trying is great fun; To fill that basket we must write— We'll fill it up 'till it's a sight.

The basket gets my letters each week: Why didn't I win? It was so neat! I'll stand by our motto, "Work to Win," I'll try and try and see if I "kin."

Quite a few write letters to me expecting Merry Circle cards and buttons. The only way in which one can become a Merry Circler is through answering the contests.—Uncle Frank.



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The real measure to work clothes value is the wear and comfort you derive from them. Van Wert Excelsior Work Clothes are cut large and roomy, from the best materials and made by skilled operators. You can actually measure the longer life of Van Wert Excelsior Work Clothes and be assured of added comfort.

Ask your dealer about them—he'll be glad to show you why Van Wert Excelsior Work Clothes are better.

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FREE GRAPE PLANTS—with order of Strawberry and Raspberry Everbearing plants. Concord Grape Plants, \$30.00 per 1000, all state-inspected and guaranteed. Free booklet. WESTHAUSER'S NURSERY, Sawyer, Michigan.

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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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Highest Quality Chicks
Feb.-March prices. Heavy broiler chicks 12c. Barred Rocks or Reds 17c; Anconas, Black Minorcas 16c; White or Brown Leghorns 15c; White Rocks, White Wyandottes, Buff Orpingtons 17 1/2c. Extra selected chicks, built directly from contest winners, 4c per chick more. Add 30c if less than 100 wanted. Hatching eggs. Catalog. Good reference. Beckmann Hatchery, T.M.F., 26 Lyon St., Grand Rapids, Mich.

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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.
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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. F. Rocks, H. L. Reds, W. P. Rocks, W. Wyandottes, Buff Orpingtons, Barron Leghorns, American Leghorns (Hollywood and Tanager Breeding). 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. Reference, The Allman State Savings Bank.
THE KEYSTONE HATCHERY AND POULTRY FARMS, Lansing, Michigan.

Why I Take Auto Insurance

(Continued from page 239).

proaching from the opposite direction. In turning off the strong light one often cannot observe a person walking as well as he should. This situation moved the writer to provide a spotlight which keeps the right hand side of the road well lighted, even when meeting other cars, and his own bright lights are off.

This decision was quickly arrived at after an experience on a country road. There was a slight turn in the road to the right. Just around the bend three men were standing. The head lights were angled to the left of these men naturally, and when I swung into the straightway it was only by the quickest redirection of the car that I saved myself from running them down. I then and there decided to provide a spotlight which I have since had in commission.

Glaring headlights are another great source of trouble on the open country roads. This has been recognized by the state, and our lawmakers have provided that all strong lights be turned off when approaching a car from the opposite direction. In spite of the statute, men do not always do this—usually it is due to carelessness, but occasionally, we think, to sheer meanness. Being blinded by these glaring lights one is likely to find himself in the ditch at the side of the road, or crashing into something he would have observed in time but for the presence of the blinding lights ahead.

Road intersections are often difficult to locate. In this respect traveling is much improved, but still there are many places where one cannot discern the crossroads and an oncoming auto hid by bushes or a corn field, or other obstruction may be unobserved until too late. The accompanying drawing illustrates an accident that happened in the central part of the state in this manner and in which one man was killed and another badly hurt.

We have mentioned ditches. These furnish a real source of danger to the country driver. In the cities the curb tends to hold one to the street. But during wet weather in summer, or icy weather in winter, the ditch is the bogeyman who keeps the driver wondering when it is going to happen.

I would mention the greatest menace to country driving, and that is the speedster. A few experienced people can drive hard and fairly safely; but, the majority of those who exceed the limit do not know how to handle cars, and, when the machine is traveling fast, they, too frequently, get a little excited and lose their head. Then things happen, and they are just as apt to happen to the other fellow as to the one who is at fault. Our laws cannot be too strictly enforced in this matter of speed. In spite of the good work our state and county authorities are doing, the fool speedster is the biggest menace to the open country driving that we now have.

Finally, the rate of speed allowed on country roads adds to the possibility of accident. When a car is going twenty or twenty-five miles it is easy to avoid smashups, but increase that speed to thirty and thirty-five miles, and the chances are increased by geometrical progression.

The accident mentioned in the first paragraph happened partly as the result of getting too near the speed limit. We were driving behind another car at a fair rate of speed. The car ahead turned out to pass two vehicles standing at the roadside. A car was approaching at a high rate of speed from the opposite direction. When fairly over in the left-hand track the driver ahead concluded he could not get by the two vehicles in time, and throwing on his brake stopped quickly. We were obliged to choose between colliding with this car or turn onto the ditch bank. We chose the latter, only to find it loose soft sand, which forced

us to direct our course straight for a telephone pole, with the usual results.

Recently, I was obliged to travel by auto some eighty miles at night, when a sleet was falling and freezing to road and windshield. The cleaner would not remove the ice from the glass, and, after many stops we were obliged to open the windshield and face the driving storm. The sensations and narrow escapes of that night made it real easy to extend my auto insurance for another year.—B. W.

ADVISES CATERING TO DEMAND.

GIVE people what they want, when they want it and in the condition they want it and you will usually get a profitable price, was the clincher statement of Prof. V. R. Gardner, horticulturist at the M. A. C., in his talk before patrons at Farmers' Week.

We can improve our income from the garden or orchard by reducing production costs, increasing the volume of profitable business or increasing the price we receive for our wares. These, he held out as the possible ways in which the fruit grower might look for an improved income.

Most fruit growers feel that production costs have already been reduced to their lowest terms. This may be generally true as regards to acre costs, but is not the case in bushel costs. The judicious use of proper fertilizers would materially increase production and quality of a crop, and thereby cut down the cost of growing a bushel, or pound. Since there is no general expansion of the fruit industry in this state, this is a fairly safe practice to follow.

There is possibility, too, of increasing the market price for fruit. Take apples, he said. Michigan apples are put up in about the same way that the second-hand dealer displays his worn goods. These apples naturally have about the same appeal to the thrifty buyer, who should be using Michigan fruit, as the goods of a second-hand store have to him. He simply passes by and purchases the fruit that is properly graded and packed.

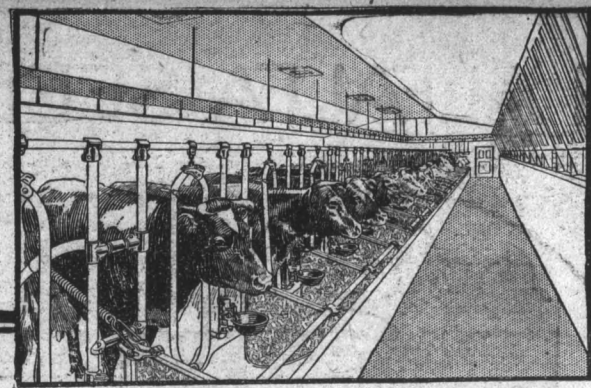
Mr. Gardner also suggested that if Michigan peach growers would plant varieties that mature ten days earlier or later than Elbertas, they would escape competition on the lowest days of the market and receive from twenty-five cents to a dollar more for their offerings.

LIVE STOCK JUDGES AWARDED.

IN the live stock judging contest held in connection with Farmers' Week, the following were winners in the classes mentioned: Sidney Smith, of Orion, too first place in the sweepstakes; Fred Weifenbach, of Beulah, was second. Others in order were: Wilbur D. Haskins, of Osseo, third; A. C. Lytle, of Gaylord, fourth, and D. W. Richardson, of Grand Rapids, fifth. Winners in the horse judging were Andy White, of Orion, first; James Currey, of Marlette, second, and Fred Weifenbach, of Beulah, third. In the sheep judging, Weifenbach was first; Haskins, second, and Hugh Lacey, of Springport, third. In judging dairy cattle, James Avery was first; Frank Thomas, of East Lansing, second, and W. E. Robb, of Flushing, third.

GRAPES FAIL TO BEAR.

IN issue of December 29, 1923, subscriber signed "J. T. G.", asks why grapes do not bear. Please advise him to look for cutworms. As long as the grapes bud they will bear fruit—providing the frost don't kill the buds, or the cutworms eat them out, or later the rosebugs destroy the blossoms. That's my experience in twenty years.—J. Steinhauer.



WM. LOUDEN
Exhibited in 1907, the first all steel stall ever displayed at a National Dairy Show.

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The Louden Swinging Stanchion is the most perfect cow tie made. Holds the cow in her place without worrying her. Allows her to lie down and get up naturally—no lunging and struggling, no jammed knees or bruised shoulders. She can easily turn her head to card her sides and can lie with her head at ease. And the Louden is the only stanchion permitting use of the High-Built-Up manger curb, which prevents cows from nosing feed back onto the stall floor and losing it in the litter—a saving for you that counts up to many dollars in a short time.

Louden Stalls last as long as the barn stands. Made of open-hearth high carbon steel—strongest and best. Built with the famous Louden Interlocking Dust-Proof Couplings (patented)—smooth on top with no open crack to catch and hold dirt or disease germs.

Cows make more milk when kept in Louden Stalls and Stanchions. Less work takes care of them. Year after year Louden Equipment will add to your pride in your barn and detract drudgery from cow-keeping work. Write for descriptive matter. Check the coupon.

Book on Barn Building and Remodeling

A handbook of building information for farmers—112 pages showing 50 model barns with floor plans, hog houses, etc. Ventilation explained, methods of framing, types of roofs, concrete work, etc. Tells how to save building expense and get a better arranged barn. This big Louden Barn Plan Book will be sent postpaid, without charge or obligation, to farmers who are figuring on building or remodeling. Mail the coupon now.

The Louden Machinery Company
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Louden Water Bowls increase milk flow within 24 hours. Lengthen the lactation period. Quickly pay big profits.

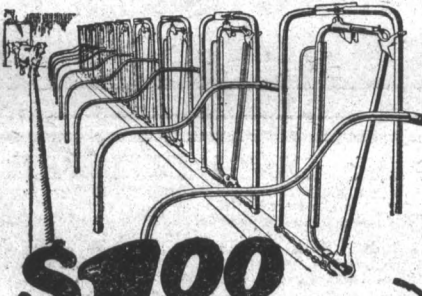


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Yes, you can now buy stalls, pens, anything up to a complete equipment for your barn, from Babson Bros., on a small amount down and easy monthly payments. Write us today—tell us what you are thinking of getting—let us make you our complete proposal.

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BUTH HERD GOOD PERFORMERS.

JOHN C. BUTH, of Kent county, has a herd of good dairy cows. He belongs to a cow-testing association. In this association the members have entered 293 cows. Of these, fifty-four cows produced 365 pounds, or more, of butter-fat during the past fiscal year of the association. Mr. Buth has twenty

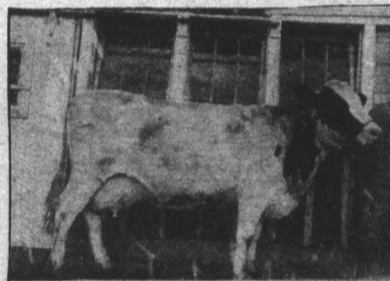


Utility Alto Hengerveld Leads in Milk Production.

cows in the association. Fourteen of these are numbered in this 365-pound class.

Furthermore, of the ten high cows in butter-fat production, five were from the Buth herd, and seven from his herd were in the first ten high producers of milk. An average of 13,231.1 pounds of milk per cow, and of 448.9 pounds of butter-fat placed his herd at the head of the list.

The high cow in butter-fat production was Utility Alto Hengerveld, a pure-bred Holstein, who returned 686 pounds of fat from 19,473.5 pounds of milk. She is a pure-bred Holstein. For each dollar invested in her feed she



Denver Beets Segis II, the High Butter Cow.

returned \$3.71. The wonderful udder capacity of this splendid cow is seen in the accompanying illustration. She was second in milk production.

Denver Beets Segis 2nd was high cow in milk production, with a credit of 23,314 pounds given her. In this milk there was 632.8 pounds of butter-fat which gave her second place in butter-fat yield. For each dollar invested in her feed she returned \$3.12. She is eight years old.

INCREASING THE MILK FLOW.

To get the maximum production it will be necessary to provide feedingstuffs that have a high per cent of protein. I have found that by grinding barley, oats and wheat, equal parts by weight, and feeding one pound of grain per day for every four pounds of milk produced, I get a good liberal flow of milk and by feeding all the alfalfa hay the cows will eat, the ration is a fairly well balanced one.

However, to make the cows produce to their capacity one can undoubtedly get an increased yield by adding two pounds of cottonseed or oil meal per day. One can stimulate many cows to still further increased production by feeding more of the high concentrates, cottonseed or oil meal. But this increase should be carefully done by adding no more than a half-pound extra per day and carefully watching each cow to make sure that the concentrates are not bringing on an unfavorable reaction.—L. C.

The acreage under field crops in Canada has almost trebled since 1900, nearly 37,500,000 acres of new land having been brought under cultivation during that time.



For HEALING the hundred-and-One INJURIES

Cows—and other livestock—are constantly receiving external injuries. To keep these hurts from becoming serious apply Bag Balm promptly. This great healing ointment cleanses and protects the wound, stimulates circulation and restores the injured tissues.

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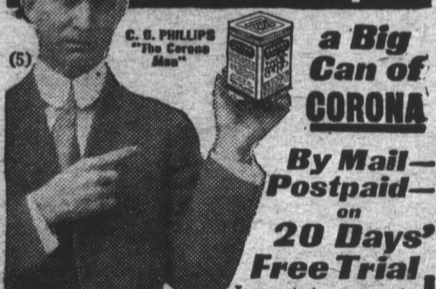
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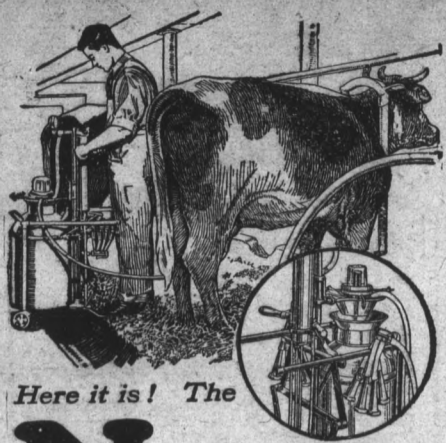


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\$30⁷⁵ DOWN after trial (and easy monthly payments) brings the hand-operated model. So easy to run a child can do it because of the patented automatic spring and vacuum. Extra charge only for gas engine and electric equipment. Just think of it! Astounding rock-bottom prices on this new, simple, easiest, best of milkers:

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ALLIED DAIRYMEN MEET.

IT was in Kalamazoo that creamerymen, cheesemakers, and ice cream manufacturers, together with the rest of the clan of dairy processors, gathered last week for their annual session to enrich their souls in fellowship and contemplate where the future may take them.

Shop talk predominated, of course. The bulk of this is superfluous to the farmer. However, these highly specialized and much machinized lines connected with the dairy industry offer, at least, remote suggestions for the man who daily pumps milk from the bovines' udders.

First, it can be truthfully said that the farmer knows dirt. Dirt is the foundation of his business. Likewise, do these manufacturers know dirt. But to them instead of its being a fundamental part of their business, it is a hindrance, an enemy which they must fight. Dirt breeds bacteria of the wrong kind—bacteria which steal away the dollars from the dairy manufacturers. So, of necessity, they have learned much about cleanliness. Cleanliness is a cardinal principle in handling dairy products, they say. It is equally important on the dairy farm. We must learn more of sanitation before we can call ourselves good dairymen.

Keeping out the dirt is one step toward making a uniform product. Uniformity opens the way to standardization, and standardization means the elimination of market wastes and the development of confidence. If the buying public knows the quality of product offered it can buy judiciously. Well, these dairy manufacturers, through making uniform products, have gone far in taking the guess out of market butter, cheese and milk. They really have done more in that line than the producers have done in standardizing the product sold off the farms.

We should not be surprised to learn that many managers of the creameries, cheese factories and condensers had found their life partners from among the daughters of dairymen. It would be most logical that these maidens would give favorable answer to the appeals of the men who had relieved the farm home of so much drudgery—the churning of butter and the making of cheese. These men have been able to do these tasks successfully in the factory because of efficient methods used.

Furthermore, they have performed a real part in broadening and stabilizing our market for dairy products. But for the cheese factory and the butter-maker's establishment the surplus problem in the whole milk trade would be a more pretentious shadow than it now is. They, therefore, become the shock absorbers of the dairy business—leveling to no small degree the ups and downs that otherwise would appear in the trade.

So the farmer has an interest in the annual meeting of these men and the development of the dairy manufacturing business to its highest perfection. It is to be hoped that, as time goes on, there will be a greater degree of cooperation between the producer and manufacturer of dairy products to the end that the products resulting will be of the highest quality, thereby making for the maximum consumption of the best food that the Creator has given man.—W.

MAKING GOOD BUTTER.

WHETHER the product is made at home or at the creamery, matters little, cream should be clean flavored to make good butter. To obtain practically all of the cream from the milk and have it in the best shape for butter making requires the use of a good cream separator. Further, the thorough cleaning and sterilizing of all dairy utensils is essential to the production of a product having a good flavor.

Get ~
more milk!
Use

Dr. LeGear's Stock Powders

You ought to see the hundreds of letters that people write in, like this: "One of my cows in her last milking period produced less than 40 lbs. of milk daily. This year she was started on Dr. LeGear's Stock Powders and is making over 60 lbs. daily." Frank J. Swantner, Valley Park, Mo.

The reasons for such results now are easy to understand. In spring and summer, green pasture gives cows, in natural form, the laxatives, tonics and purifiers needed to *turn the most feed into milk.*

Small, medium and large packages. 25 lb. pails. 100 lb. drums.

In winter, dry feed lacks these elements and much feed goes into *waste*, instead of milk.

DR. LeGEAR's Stock Powders give cows just what their winter feed lacks. Tonics to sharpen appetite, aid digestion and purify the blood. Laxatives to correct bowel troubles. Vermifuges to expel worms. Minerals for milk, bone and blood tissues.

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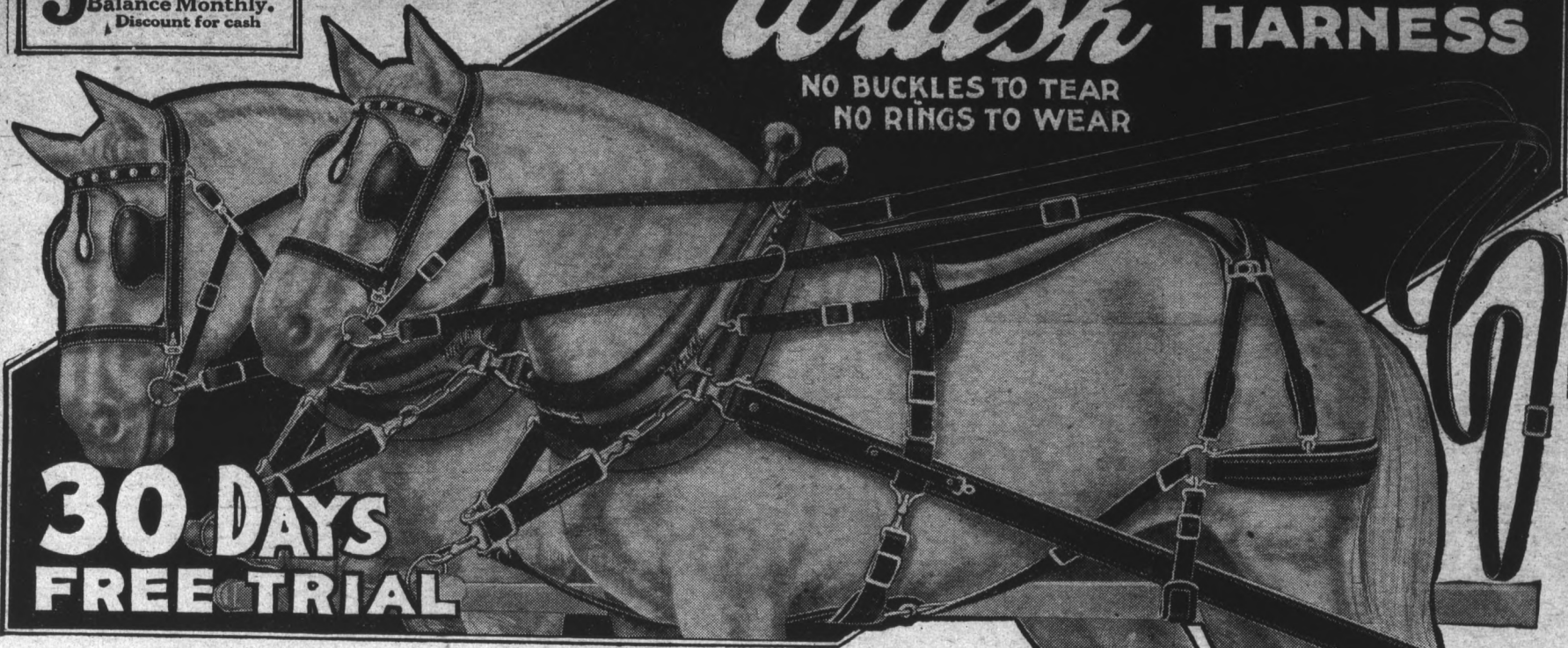
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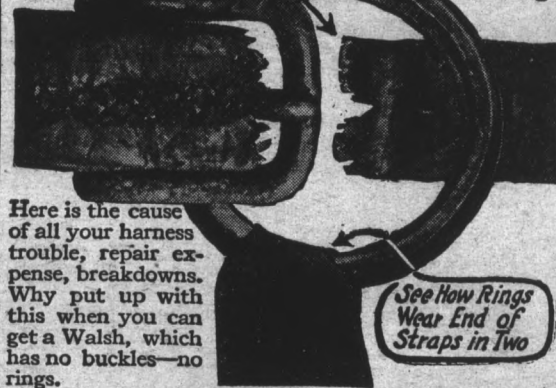
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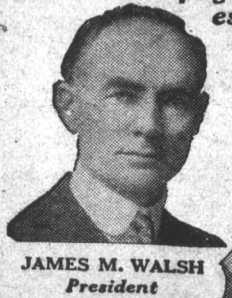
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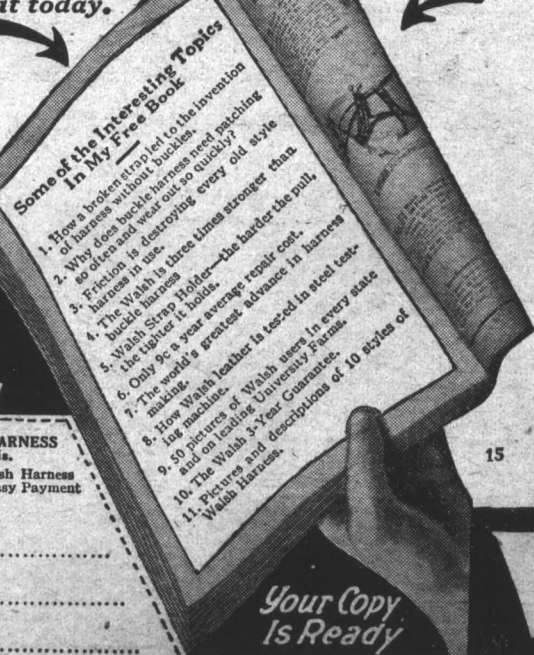
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