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DETROIT, SEPTEMBER 23, 1922

CURRENT COMMENT

THE MICHIGAN FARMER SAYS:

The bucksaw may have to solve the fuel question for many this winter.

The auto which makes the greatest noise is not necessarily the fastest goer.

It is coming to the time to figure the profits and losses of a season's activity. Have you the facts and figures to do it with?

The dictionary contains every word found in a good book on agriculture, but it is not as interesting reading, because it contains only words, instead of thoughts.

Chance Being Dethroned

AFTER next spring the Canadian government will send out qualified men to grade all dairy products manufactured within the Dominion. The object in undertaking this work is to improve the quality and to maintain the highest standard in these products. In order to put the work on a safe foundation, arrangements have been worked out whereby factories will be paid for dairy products according to the quality. This will furnish a real inducement to produce the finest grades.

It cannot be denied that the establishment of uniform grades for farm products is one of the most fundamental questions affecting the business side of American agriculture. It is of importance to the farmer, to the trade and to the consumer. It furnishes the means through which much of the waste and expense in distributing this class of products are to be eliminated.

The California citrus growers have been able to save the one and a half million dollar loss caused by decay which was the result of bad handling on the part of individual growers. They have also reduced the cost of distribution from fifteen to two and one-third per cent through standardizing methods. Our Canadian fruit growers have found that standardization of apple grades and packages have paid them well in the improved market which this has made possible. They have also learned the results of carefully grading and packing eggs. Now they will try dairy products.

Here is a subject in which farmers anywhere cannot become over-interested. It reaches way back to the question of better seeds and animals and

improved cultural methods as well as to the more immediate questions of carefully defined grades and specific packing requirements. Furthermore, it is a question that cannot be avoided if we expect to make progress on the business side of farming.

Ousting the Scrubs

THE number of Michigan cow-testing associations in which all the grade and scrub sires have been eliminated, is rapidly growing. According to the latest reports from the Extension Department of the Agricultural College, there are now nine associations that have accomplished this end. These are Kalamazoo, Wayland-Allegan, Wayne, Livingston, Lapeer, Calhoun, Antrim, Jackson-Rives Junction and Kent.

Judging from rumors we have recently heard, several other associations are working fast to clean out all the scrub and grade herd leaders. Apparently the cow-testing association furnishes one of the very effective ways of displacing inferior sires with purebreds, notwithstanding the fact that its direct purpose is to locate the non-profit cows.

Feed the Company Culls

ONE big disadvantage agriculture has been working under is the lack of exact knowledge of the season's results. In other words, farming has been run on the same basis as the little store which is operated without keeping books. In such cases the operator "did not know where he was going, but he was on his way."

Cows have, and are, being kept for milkers, but many produce meat instead. And hens have been kept to fill the egg basket, but have only emptied the feed box. Now, however, we have methods available which will enable us to pick out and eliminate those domestic farm inhabitants whose chief occupation is consumption. It is up to us to use these methods which are, incidentally, among the greatest correctors of flat pocket-books, known.

Chickens which have furnished the farm wife pin money from time immemorial, and incidentally paid the family grocery bills, are now gaining the attention of real he-men because it has been found that there is real money in the poultry business. The problem is to get it out.

Here we wish to give you a tip. Read the article in this issue by Mr. Foreman, Michigan's popular poultry picker, and you will learn how to make hens produce profits. Mr. Foreman's system of selection takes a lot of guess out of the poultry business, because it shows to us the hens which will never be accused of acquiring the egg-laying habit.

We suggest you read this comprehensive article, go out and pick the winners in your flock and give them the best of care. Next count the culls and if you do not want to sell them, invite the preacher to your house until they are consumed, for they are the best eating anyhow. After that feed him eggs, because you will have more eggs to spare than hens.

Window-Trimming the Farm

THE State Conservation Department has recently announced gifts of parks to the state by wealthy and public-spirited citizens, which bring up the total number of state parks to thirty-eight. Other parks are assured which will make available next summer to Michigan citizens and visitors, forty-two places in which they can get next to nature.

With this number Michigan leads

all other states in state recreation centers and camping spots. These, with her great lake boundaries and her numerous inland lakes, assures us that she will retain her position as the leading resort state of the middle west.

These factors which make Michigan a great state of recreation are indirectly of benefit to the farmer. The fact that we have within our borders visitors from all parts of the country at the time when much of our fruit and vegetable harvests are at their heights gives us an increased "home consumptive demand" which greatly helps to solve the marketing problem.

The great tourist travel on our highways will also bring to a greater development the farm roadside market, which is one of the easiest and most profitable methods of marketing existing.

Having become acquainted with Michigan and her products, these tourists are also likely to seek them in their home stores after the vacation period is over. This is effective advertising and it costs nothing.

To make this advertising still more effective Michigan should be dressed in her company clothes and have her shop windows attractive in appearance, for these things make a great difference in the impression made on the visitor.

Your farm and your roadside are one of Michigan's shop windows. Is it in the condition which would put pride in the heart of a good window trimmer, or does it look like the windows of the store which is "run down at the heels?"

It is possible that much benefit might result if we had some state-wide organized effort to give instruction in "window-trimming" the farm.

Something to Fight For

A MAN who fights for the sake of fighting is no hero. He should be censured and not worshipped. It is only through the merest accident that his fighting can bring him any good.

The man who fights best is the man who has some worth-while object to fight for. He has taken a survey of the situation and has convinced himself that the only way whereby he can accomplish this worth-while thing is to fight. He then loses himself in the struggle. Of all persons, such a one is the happiest. He is no four-flusher and while he may not live the spectacular life that some self-seeking persons are anxious to live, his is usually the most successful.

When I observe a farmer who has purposed in his heart to produce a better cow, or potato, or ear of corn, I say to myself, "Here is the man who has started well." It does not necessarily follow that he will attain his ideal, but nevertheless he will find much happiness in his efforts toward finding that ideal. In other words, he is in a state of mind to live an unselfish life, to fit into the mechanism of all sound cooperative enterprises, to become a community builder, and to live a life that others will desire to emulate.

Where Is the Honey?

A BOY who had taken to rob a bumble bee's nest, hoping thereby to secure a treat, was temporarily distracted from his purpose by the vigorous action of the aerial squad sent out by the swarm. While he was endeavoring to escape the attacks of the angry bees, two other lads pulled the comb from the nest and ate the honey. Returning, his first question was, "Where is the honey?"

At the present time the experiment stations of the United States are

studying either on actual farms, in field plots, or in laboratories fully four thousand five hundred specific problems relating to the general farming business. Of these problems there are about two thousand concerning the production of crops, nearly a thousand relating to horticultural or botanical troubles, while six hundred or more have to deal with animal husbandry and the remainder with a great variety of farm subjects.

Here is some "honey" that it would pay every farmer to go after. This is particularly true of those farmers who are not getting on as well as are their neighbors. In seeking this honey, however, one should not become excited and begin striking at the bees. If he does this he stands a good chance of getting stung and perhaps losing the sweets. Because a scientist may not fully appreciate all the details of actual farm work is no reason why he cannot discover for the farmer some worth-while facts.

S. O. S. from S. A. S.

I SEE you folks got a S. O. S. while I was helpin' threshin', from S. A. S., otherwise known as Sophia Abigail Syckle. Now, Sophie is my wife by marriage and is a pretty good kind of a wife, 'cept that she's got too much a appreciashun of work and not enough of thinkin'.

Now, thinkin' is great stuff 'cause you kin sit down on a hot day and do it without sweatin', and you don't need no tools to do it with either. I like to think things out and then work them out, 'cause it takes less work when



you do it that way, sometimes. One time this summer I was tryin' to figure out how I could get the corn cultivated without walkin' so much, but by the time I got it all figured out the weeds was so vigorous I had to hoe most of them out, and Sophie wouldn't help me a bit. So it seems like there's times when there's a savin' of exershun by doin' the thing first and then thinkin' about it afterwards.

But thinkin' is great stuff. For inst., if there was more thinkin' and less emotin' in love affairs, the divorce lawyers would have to use their legal educashun for diggin' ditches. It's the thinkin' of wrong thoughts what made war; it's the thinkin' of the right ones what will bring peace.

And now about what Sophie said. Well, there's two sides to everything but the truth, and that's got only one side. So there ain't nothin' for me to say. Only, I know those school girls is missin' awfully them mornin' rides the school.

I feel sorry for the girls, 'cause it makes lots of difference in how you start the day. For inst., when those girls walk through all the dust and dirt they get to school all tired out, but if they ride, what you call briskly and jovially up to the school door, they are full of what you call enthusiasm for the day. I sure gotta find some way of goin' to town about eight o'clock in the mornin' again, 'cause I am worryin' about those girls.

But speakin' of Sophie, she is all right. It takes a wife to handle a husband. Fact is, there wouldn't be no husbands if there was no wives.

We are what you call a pretty well balanced couple. What I ain't got in workin' inclinashun, Sophie's got, and what she ain't got in calmness, I got. So, you see, we average up pretty well as a couple.

Maybe you will get some more S. A. S. from Sophie sometime.

HY SYCKLE.

HOUSE NO.	HATCHED	CHICK BAND NO.	BIRD NO.
PEN NO.	VARIETY Banded Rock	BREEDER NO.	OUT OF MATING
DATE	1	2	3
NOV.			
DEC.			
JAN.			
FEB.			
MAR.			
APR.			
MAY			
JUNE			
JULY			
AUG.			
SEPT.			
OCT.			
TOTALS			

Record No. 1. The Laying Record of a Common Farm Hen.

HOUSE NO.	HATCHED	CHICK BAND NO.	BIRD NO.
PEN NO.	VARIETY Banded Rock	BREEDER NO.	OUT OF MATING
DATE	1	2	3
NOV.			
DEC.			
JAN.			
FEB.			
MAR.			
APR.			
MAY			
JUNE			
JULY			
AUG.			
SEPT.			
OCT.			
TOTALS			

Record No. 2. Showing the Score Made by a Real Egg Machine.

Poultry Culling and Selection

A Positive Method of "Picking the Winners" in the Poultry Flock

By E. C. Foreman,

Professor of Poultry Husbandry at M. A. C.



Figure 8. A Fat-Producing Hen.

THE economic advantages derived from systematic and intelligent culling, and selective breeding for increased egg production have been repeatedly demonstrated.

The superior laying qualities of the Michigan hens entered in a number of international egg laying contests, reflect the accuracy with which selection can be conducted if the subject is given the consideration it deserves. An analysis of the poultryman's problems reveals the fact that the weakest link in the chain of success, has been our lack of knowledge of the earning capacity of the individual hen. The hen is the unit of production, and the segregation and sale of culls do not solve the real problem of fecundity, although it does protect against unnecessary losses.

The earning capacity of either the individual hen or the flock depends primarily upon the intensity or rate of production and the seasonal distribution. In some respects hens are like automobiles: the mileage varies although the gas supplied is taken from the same tank. The motor equipment of hens reveals a striking contrast in speed, cost of operation, and durability. It is quite obvious that a hen laying six eggs a week produces them more economically than the hen whose inherent capacity limits her to three during the same period. Likewise, it does not require any mathematical skill to decide which hen will be more profitable: the hen that registers heavy production during the winter months, when eggs are high, or the hen that responds only during the spring and summer months.

Michigan is credited with having over eleven million hens. By actual count an average of thirty per cent of



Figure 4 Showing Pelvic Spread.

the hens on our farms are not returning a profit. In other words, over three million hens are annually consuming eighty pounds of grain each and are not returning a cent to the owner. This is surely a national and economic disgrace. In spite of this fact the poultry flock continued to yield a satisfactory profit throughout the entire period of depression, during and subsequent to the world war. However, it is obvious to large and small producer alike that more eggs from the same number of hens or as many eggs from fewer hens will greatly increase the net earning capacity of the individual or the flock, by reducing unless expenditures of time, labor, and capital, or unresponsive and unprofitable stock.

Record No. 1 is typical of the average farm hen. She is not built like



Fig. 5. Developing Eggs of a Producer and Dormant Ovaries of Non-Producer.

a Marathon runner, but specializes in short distance sprints. Her production is confined entirely to the spring and summer months, when eggs have their lowest value. This type of hen can be readily segregated by three common tests known as the pigmentation, moulting, and capacity methods of determining production.

Record No. 2 offers a decided contrast in production, although retained under exactly similar environmental conditions. This bird shows greater speed and persistency, both of which are necessary in building high records.

The two terms culling and selection should have ascribed to them somewhat different meanings, according to their general application. Culling of poultry is usually based on physical changes that the hen undergoes as a result of production. The weakness of the commonly advocated systems of culling is that the fowls must be retained from six to eight months before the tests become valuable, and during this period considerable loss may be registered. Selection for egg production contains greater possibilities but requires more skill. Selection involves a close study of type, conformation, and head character.

Now is the ideal time for the final

culling of the old laying stock. A combination of tests including the capacity measurements, the pigmentation, and moulting tests, should be used. The capacity test is quite accurate in determining the present production. Reference is here made to the capacity, measured perpendicularly from the tip of the keel to the pelvic bones, which are located on each side of the vent. Most of the culling work conducted throughout the country is conducted largely on capacity measurement, in conjunction with pigmentation changes.

Figure 6 illustrates the contracted condition associated with a dormant ovary. The yolks or ovules in this case are no larger than peas. When the hen approaches a laying condition the keel bone is forced downward by



Figure 7. A Good Egg Producer.

and undesirable condition. The degree of quality is determined by the flexibility of the egg sack. It should yield readily by pressure directly above the keel bone and below and between the pelvic arches. The egg sack should feel full, mellow, warm, and life-like to the touch. The skin should be fine and elastic, similar to the loose mellow hide common to the best dairy cows.

Recognized dairy breeders acknowledge that the cow with the finest handling qualities of the udder is the most persistent milker, maintaining more uniformity of milk flow. The same rule is true in egg production. Quality of egg sack is correlated with continued production over the greater part of the year and is associated with late moulting.

Normally, capacity of egg sack indicates the rate of yolk elaboration or the cycle of production, but quality of egg sack determines the persistence of rhythm or the number of months the hen will be productive each year.

Frequently, a method, commonly called the pubic bone test, is applied in culling. This gives practically the same information that can be secured by measuring between the keel and the pubic bones. The pelvic arches spread with production, which is merely one other physiological change that occurs with production. Figure 4 shows the contrast between the laying and the non-laying hens. Figure 5 shows the ovaries of the same hens. When the bones are spread it indicates that

(Continued on page 324).



Figure 6. A Star Boarder.

LATE AGRICULTURAL NEWS

ORGANIZE FEED-BUYING SERVICE.

A COOPERATIVE feed-buying service has been organized for members of the Michigan State Farm Bureau, which organization is contracting now at favorable prices for a winter's supply of dairy rations. Local feed buying service is being handled by local cooperative associations. The feed will be delivered by the State Farm Bureau in monthly shipments during the winter. Members are not investing any cash, according to local cooperative associations, but will pay for the feed as it is delivered.

Settling on a standard high milk producing dairy ration and finding out what quantities of feedstuffs members will need this winter, the Farm Bureau is putting these requirements together and buying feed for winter delivery.

The service is on a twenty-four per cent public formula dairy ration called Michigan Farm Bureau Milkman—a ration made up entirely from the milk producer's viewpoint—to get the most money for the least investment in feed. The ration has the approval of the Michigan Agricultural College Dairy Department.

The Farm Bureau's public formula is something new in the feed world. Every bag carries on the regular analysis tag the exact number of pounds of each of the milk-producing ingredients in the feed and shows that the ration carries no filler. This enables the dairyman to tell exactly what he is paying for and what he is feeding.

The Farm Bureau is buying Milkman ingredients in quantity at times of low seasonal prices as determined by records of previous years and when in the opinion of the best posted experts the markets look right.

This feed-buying service is offered to members on the basis that farmers and their cooperative associations will form local feed-buying service units on their winter dairy feed needs and will sign contracts to buy definite quantities of the Farm Bureau feed for monthly shipment from October 20 to the following March 20.

Headquarters of feed buying service are at the State Farm Bureau at Lansing. The local feed buying service campaign opened September 5 and closes October 20.—U.

CONFEREES REPORT ON TARIFF BILL.

THE conferees report on the tariff finally saw daylight last Tuesday, the completed bill as reported by the conferees being made public in printed form. The conferees in their fourteen days of deliberation had considered everyone of the 2,400 amendments, and had compromised nearly a quarter of them the senate or the house receding on the other differences. This gives a fair idea of the magnitude of the detail of the tariff bill, and the task which the conferees undertook.

Inspection of the bill indicates that the agricultural rates fixed by the senate prevail to a large extent. Meats, poultry and poultry products, dairy products, vegetables and cereals generally carry nearly if not quite the rates written into the bill by the senate finance committee, and those in general are very nearly the rates agreed upon by representatives of agricultural organizations. One change noted was the reduction of the tariff on corn to fifteen cents a hundred. Wheat remains at thirty cents a bushel. Butter

at eight cents a pound. Beans at one and three-quarter cents a pound. Potatoes at fifty cents a hundred. Hay at \$4.00 a ton.

BLOC WORKING FOR BETTER RURAL CREDIT LAWS.

THE agricultural bloc is hard at work on rural credit legislation, and a meeting was held last Thursday to hear Bernard M. Baruch explain his views as to the importance of better credit facilities for farmers and the importance of this legislation. "The most important business before congress today," he said, "is to enact legislation which will put farmers on a credit equality with other lines of business. The New York financier had been invited by Chairman Arthur Capper, to give the bloc, especially the special committee of the bloc appointed to consider credit legislation, the benefit of his views and his opinions regarding the four pending credit bills.

Any one of the four bills, the Lenroot bill, the Simmons bill, the Norbeck bill or the Capper bill would give a substantial measure of relief, according to Mr. Baruch. He suggested, however, that whatever bill was finally decided on should provide for three kinds of loans, and consequently three kinds of debentures to provide the funds: 1, loans for facilitating the marketing of agricultural products in an orderly manner and at discretion; 2, live stock loans, and 3, loans for crop production purposes. The last, he thought should be based on the united credit of local associations of farmers.

The committee of the farm bloc having credit legislation especially in hand consists of Arthur Capper, chairman; Charles L. McNary, W. L. Jones, E. F. Ladd, C. A. Swanson, J. B. Kendrick, and Pat Harrison. All these members

were in Washington and attended the meeting to hear Mr. Baruch, as were also other members of the bloc and representatives of several farm organizations.

NATIONAL DAIRY UNION MEETS.

THE annual meeting of the National Dairy Union has been called by a notice issued from the office of the secretary, A. M. Loomis, Washington, to meet at the Hotel Ryan, St. Paul, Minn., October 12, 1922. This organization has taken an active part in filled milk, and dairy tariff legislation. In a statement issued in connection with the call for the annual meeting, Secretary Loomis emphasizes the friendly feeling in congress towards the dairy industry as shown by tariff legislation, progress on filled milk legislation, and the passage of the Capper-Volstead bill in this congress.

FARMERS' CLUBS GET BUSY.

THE board of directors of the State Association of Farmers' Clubs met at the Hotel Wentworth, Lansing, on Monday, September 11. The object of their meeting was to outline a program for the regular annual meeting which will be held in Lansing the first week of December.

Various farmers' clubs in the state all cooperate closely with the forces generally for better country life. They meet regularly to study and improve local and general conditions in agriculture.

The directors note that many clubs still have not federated with the State Association. They believe that they propose a policy for the clubs' next year that should enlist every progressive club in the state.

The key to country life now rests

in organization and education. The farmer is just the sort of collective being that conditions of late have made him. Farming challenges the best minds of our day.

The clubs' great opportunity is an educational campaign for the better things of country life—better business, better homes, and better communities. The farmers alone can make agriculture prosperous. A fair share of the consumer's dollar is the first essential. With efficient production and other rural conditions to match, agriculture becomes the best business on earth.

In general this is the type of program outlined for next year. In it they have the cooperation of all forces that stand for American democracy. May the program succeed in this day of crisis in agriculture.—Lee S. Noble, President, Oxford, Michigan.

LAND-CLEARING SCHOOLS IN PROGRESS.

THE second series of land-clearing schools in the program of the Michigan Agricultural College, extension division, are in active progress in Cheboygan and Otsego counties this week. Thirty-two schools have been scheduled in northeastern Michigan involving about six weeks of work.

This series of schools has been made possible by the hearty cooperation of the M. A. C., the county agricultural agents, county and township farm bureaus, the Northeastern Michigan Development Bureau, the Michigan Central and the Detroit & Mackinac Railroads. The work is in charge of L. F. Livingston, land-clearing specialist for the college, and his assistant A. J. (Dynamite) McAdams. Ten explosive and machinery experts assembled by the college are acting as instructors.

Each school is being conducted on the "learn by doing" method and the farmer-students are required to participate actively in the work before being granted a certificate by the college. The purpose is to make it possible for the cut-over land farmer to become acquainted with the latest approved practical methods in the use of agricultural explosives and land-clearing machinery, including home-made devices. Only practical work is undertaken and the equipment is adaptable to conditions found locally. Theory does not have a place in the school's operation.

Paul Bunyan's hammer is being introduced for the first time in the Lower Peninsula and this effective device is the center of a great deal of interest because of its low cost and effectiveness.

The present schedule involves the territory served by the Michigan Central Railroad in Cheboygan, Otsego, Crawford, Ogemaw, Arenac, Gladwin, Bay and Midland counties. Schools have been or will be held as follows: Cheboygan, September 18; Wolverine, September 19; Elmira and Mosher, September 20-21; a ditch-blasting demonstration on the Michigan State Park at Otsego Lake, September 25; Fredric, September 26; Grayling, September 27; West Branch, September 28; Alger, September 29; a ditch-blasting demonstration will be held at Kawkawlin, September 30, under conditions typical to the Saginaw Valley, Gladwin, October 3, and at Midland, October 4.

The Detroit & Mackinac schedule has not been definitely set, but from one to three schools will be held in each county served by that road.

News of the Week

Wednesday, September 13.

THE Turks occupy Smyrna and the Greek troops are nearly in mutiny. —There is a total of twelve dead as a result of drinking poison liquor in the famous Red Hook district of Brooklyn. —Detroit is the second largest city in the United States from the standpoint of the area ratio to population.

Thursday, September 14.

THE American Relief Administration in Russia is fighting cholera among the natives by medical inoculation. —The Greeks apply the torch to Smyrna before deserting it to the Turks. —The convention of the Protestant Episcopal church voted to drop the word "obey" from the marriage ceremony.

Friday, September 15.

SEVERAL deposits of true Mexican onyx have been found in Kentucky. This onyx is one of the most highly polished interior decorative marbles. —Big Tim Murphy, famous Chicago union leader, must serve six years in the Leavenworth government prison, for complicity in a Chicago mail robbery. —The International Typographical Union goes on record as favoring severe immigration restriction.

Saturday, September 16.

FLINT, among other cities, is forming a club of flappers who will fight the long skirt styles. —Great Britain arranges to pay interest on her war

indebtedness to this country.—Japan orders two new cruisers for its navy. —The victory-flushed Turks are demanding control of the Dardanelles. This may result in war with the allies.

Sunday, September 17.

THE railway shop men end their strike on fifty railroads.—Mrs. Harding, wife of the President, who has been seriously ill has now fully recovered.—The Sante Fe Railroad intends to put on sleeping cars with family compartments. Each car will have seven rooms accommodating five persons each.—The Bulgarians are preparing to assist the Turks in their war against Greece.

Monday, September 18.

FOURTEEN Americans are lost in burning Smyrna.—The Irish Republicans are making a severe attack on Dublin.—The dry navy out of New York seizes a ship with \$56,000 worth of booze aboard.—The Pennsylvania Railroad will build a million dollar round-house in Detroit.

Tuesday, September 19.

A DOCK and wharf fire in New Orleans caused a loss of six million dollars in property.—The Ford Motor Company closed down its Detroit plants because it would not pay profiteering prices for coal. This puts about 100,000 men out of work.—The United States Senate passes the soldiers' bonus bill. It is now ready for the President's signature.

The National Dairy Show at St. Paul, Oct. 7-14, of Especial Interest to Dairymen

Cleaning Up Michigan Herds of Cattle

This Account of Activities in Calhoun County Shows How the Job is Done

By Edwy B. Reid

IN Michigan dairymen are as enthusiastic about the testing of cattle and cleaning up their counties as the dairymen in any other state. In fact, tuberculosis campaigns are being put on in some counties where dairying is not a predominating industry.

Take, for instance, Calhoun county. It boasts of only 34,000 head of dairy animals, yet it plans to eliminate tuberculous cattle before the first of the year. This county is a general farming community where wheat, corn and clover occupy a liberal percentage of the plowed area. It boasts of three cities: Battle Creek with 40,000 inhabitants; Albion with 10,000, and Marshall with 5,000. In the immediate vicinity of these cities dairying, of course, is an important farm operation.

Calhoun county has a three-way dairy program, forked out by the county agent, R. M. Roland, in cooperation with the dairymen of the county. It calls for the weeding out of unprofitable cows, improving feeding methods, and the giving of the "half-way" cow an opportunity to make good, or in case of failure to prove to her owner that she should go down the road.

In order to know the exact situation in the county, Mr. Roland sent out questionnaires to all of the farmers and learned that the average size of the herds in Calhoun county is eight cows. The percentage of pure-breds, 16; of grades, 53; scrubs, 31; the number of pure-bred bulls used in the county, 60; scrub bulls, 40; the number of farmers interested in pure-bred sires, 145; the number interested in cow-testing associations 130; the number interested in bull associations, 101; the percentage of farmers favoring county-wide testing for tuberculosis, 89; those opposing, four, and non-committal, seven. With this information Mr. Roland and his

committee on dairy work in the county knew just where they stood and where to concentrate their efforts. It gave them a plain picture of the dairy business in Calhoun county.

Last April when the figures became available, with the assistance of Mr. Brownell, of the State College of Agriculture, a cow-testing association was started and a little later a second, and now a third association is being formed. "We feel that these three associ-

The state and federal government will send a veterinarian to the county to test all herds free of charge to the owner, providing the county will do likewise, or in order to speed up the work the state and federal departments will put twelve or fourteen men in the county until all herds are tested if the county will employ a veterinarian to devote his entire time to tuberculosis eradication work. The farmers of the county and supervisors from the



First the Exact Situation Was Learned by Getting a Statement from Every Farmer in the County.

ations will meet our present cow-testing needs," says Mr. Roland. "While we are active in forming cow-testing associations we saw an opportunity to get a bull association unit started. We will use this as a nucleus and hope to increase these associations as we get to the work.

"The really big object of our three-way campaign was to rid the county of tuberculosis. There has always existed more or less antagonism among the farmers against tuberculosis testing. Quite a number of dairymen about Battle Creek have tested cattle and for that service paid \$10 to \$25 per head. Under the new arrangements, however, the fee will be saved to the farmers. The plan under which the county will be cleaned up is about as follows:

rural townships gradually all indicated that they favored cleaning up the county. The fact that we have three cities in the county with a total number of supervisors as great as the total from the country, and the fact that two of these cities already enjoyed the privilege of tuberculin-tested milk and would gain little as a result of a necessary increase in tax to care for an appropriation, made it appear that it might be a little difficult to secure the entire support of all the supervisors. However, when it was finally put up to them and they met for the purpose of considering the proposition, inside of one hour from the time they first met they voted unanimously to appropriate \$9,000 for the work.

"We are now lining up men in each

township who will visit every farmer in their respective school districts and prevail upon all who will to sign an agreement to test. Through this information the veterinarians will know at all times whose herd is next to be tested and will go directly there without losing any time. The township that first completes the work of signing agreements will be the first to have its herds tested."

The county agent summed up the benefits of the tuberculosis campaign to Calhoun county as follows:

1. It means that our people will all have tuberculosis-tested milk.
2. Herd owners will have herds tested free of charge instead of being charged from \$10 to \$25 as under the present plan.
3. Condemned animals will bring federal indemnity in addition to state indemnity and carcass salvage as is now the case.
4. Ten cents per hundred weight on swine and twenty-five cents per hundred weight on beef animals is now being deducted to cover disease loss by the packers on every animal that comes to the yards. They state that for counties cleaned up and have federal approval they will gladly add the ten cents per hundred weight on hogs and twenty-five cents per hundred weight on cattle to the farmer's price—a tremendous item in this county.
5. Stock buyers will seek us out because they know they can get tuberculosis free stock by buying in Calhoun county.

"When the rest of this work has progressed to the point where it will not demand our personal attention we will tackle the surplus milk problem at Battle Creek," continued Mr. Roland. "This will complete our present dairy project."

Visits Western Alfalfa Fields

J. W. Nicolson of the State Farm Bureau Gets a Slant on Western Seed Crop

THIS country is so vast and there are so many things of interest, to me, at least, that it is difficult to attempt to portray them with pen and ink. So I will just mention a few of the outstanding points regarding the condition of the crops which directly affect our prices and interests in Michigan.

The day after I arrived at Salt Lake City, Mr. Maurice Keating, manager of the Western Seed Growers' Marketing Company, invited me to take an automobile trip with him through the Uintah Basin. As this is one of the two large seed producing sections of Utah, and as it is inland from the railroad one hundred miles, I was glad to accept such an opportunity.

After going over some rough mountainous roads and through a couple of deep canyons that pierce the Rocky Mountains, we reached the vicinity of the towns of Myton, Roosevelt and Vernal, Utah, which are the main towns in this big alfalfa producing section. Vernal is a rather unique town, for it is an old town, having a population of 2,500 and is 125 miles from the railroad. Roosevelt has about 1,000 people and is in from the railroad about 110 miles. Previously they never had any local cleaning plants—all seed was trucked out in the rough to Price, Utah.

This year two competing organizations have entered the field. One co-operatively organized is building a cleaning plant at Myton, and one old

line company is erecting a plant at Roosevelt.

Prospects are for a much larger crop of alfalfa seed in this section than they had last year, when the crop was unusually short. They will quite probably raise around two million pounds of common alfalfa. However, they have such an unusually large crop of

grasshoppers that this yield may be cut seriously.

This climate certainly produces lusty grasshoppers. They are such big rough brutes they would rather eat sweet clover than alfalfa. Now, according to my observation and information, the gentle refined hoppers we have in northern Michigan much prefer to be

served with alfalfa, vetch, clover, oats, etc., merely taking sweet clover as a last resort as one takes hash at a restaurant.

This section has for four years been a big sweet clover section. The low prices and high freight rates have just about discouraged them, but they would probably have ten or twelve cars of sweet clover this year if the hoppers would leave it alone. However, the farmers here unanimously say their hoppers like sweet clover in preference to anything else and by the looks of the plants along the roadside they certainly make a clean job of it when they start on even big sweet clover plants.

When these hoppers get in an alfalfa field their favorite pastime seems to be cutting off alfalfa blossoms. Many a fine field of alfalfa has been ruined or badly injured by this stripping of the blossoms just before the seed sets.

This is said to be the first year the hoppers have been real bad in this section, but the farmers have already learned the advantage of supplementing the diet with cereals; so they have spread for the hoppers several cars of bran and sawdust delicately flavored with syrup and arsenic, and as a result several million of them have passed on to the happy hunting grounds.

There will not be as much sweet clover seed to ship out of this country as there has been the last two years (Continued on page 327).

Speeding Up Silo Filling



THIS is a new way of speeding up silo filling, which aids in putting green corn into the tank, giving the herd better feed, since the green corn, when mature, makes better feed than corn that has laid around for a few days and dried out.

The wagon-loader attachment consists of an endless apron elevator

mounted on the rear of the corn binder and driven from the binder countershaft by means of shafts and universal joints. A castor wheel and framework support the loader, so that it readily follows the binder without making it unwieldy. The mechanism is controlled by the in-and-out gear level of the binder. E. W. G.

Outlook for Michigan Crops Is Good

All Save One of the State's Many Crops Promise Yields Above Ten-Year Average

THE outlook for all cultivated crops, and nearly all others, has dropped from five to seven points during August as a result of unusually light rainfall in most sections of the state. This is the outstanding feature of the September report by John A. Doelle, Commissioner of Agriculture, and Verne H. Church, Agricultural Statistician.

As deterioration is usual in most years during August, notwithstanding this decline, the prospects are still up to or above the ten-year average for all crops except sugar beets and sorghum cane for syrup, which are one and two points, respectively, below. Fruit of all kinds is abundant and has ripened earlier than usual. The market is stagnant and some fruit does not bring enough to cover the freight charges.

Corn.—In the southern and western counties, corn has dried up considerably and late planted fields are ripening prematurely and with but few ears on the stalks. There are also many poorly filled ears. In other sections the crop is doing very well. Cutting for both grain and silage is general in southern and central counties. The present outlook forecasts a total crop of 57,634,000 bushels as compared with 66,417,000 bushels produced last year.

Oats.—Threshing is well advanced and about completed in southern and central sections. Yields are fairly good and in the best districts are excellent. The quality is also good except in some northern counties where the crop was more or less injured by rust. The production is placed at 55,837,000 bushels as against 28,101,000 bushels grown last year, and 58,806,000 bushels in 1920.

Spring Wheat.—The crop is good in the main producing sections, of the Upper Peninsula and northeastern counties. The estimated production is 564,000 bushels.

Barley.—The crop of barley is estimated at 5,563,000 bushels which is nearly one and one-half millions more than the light crop of last year. Yields are generally satisfactory and better than anticipated earlier in the season.

Buckwheat.—The crop has suffered considerably from heat and dry weather

and some of the top bloom has been blasted. A little damage by frost is reported and from two to three weeks without frost is needed to mature the bulk of the crop. The present outlook is for a crop of 622,000 bushels, practically the same production as recorded for last year.

Potatoes.—Complaints from some sections are current that the set is deficient although the tubers have attained good size to date. In other sections the outlook is very good. Leaf-hopper damage is severe in a few counties in the fields that have not received proper spraying. The present condition as shown by the reports of crop correspondents is eighty-two per cent of normal, which is equivalent to a crop of 36,415,000 bushels. The acreage is 24,000 greater than last year.

Hay.—The total production of hay, based on the reported yield of 1.40 tons of tame and 1.35 tons of wild hay, per acre, is 2,311,000 tons. The crop was

universally large throughout the state and much of it is of excellent quality. There was some damage from rains in the Upper Peninsula and the northern portion of the Lower Peninsula during the cutting season. The yield of timothy is 1.32 tons per acre as compared with 0.90 last year, and a ten-year average of 1.20.

Alfalfa.—The acreage of alfalfa has increased phenomenally during the last few years. It is estimated that 348,000 acres were cut this year, producing a crop of 818,000 tons. The acreage reported by the federal census for 1919 was 74,000. A large amount has been seeded this year, and probably more than a half-million acres of hay will be cut next year.

Pastures.—Dry weather has reduced the condition from eighty-seven to seventy-six per cent during the past month. In some southern counties, pastures are very short and a little feeding of stock has been necessary in

occasional localities. The condition is good in most northern counties.

Beans.—In the central and western counties, the early crop is fairly good, but the late crop suffered materially from dry weather and blight. In the eastern producing sections, the early crop has been injured considerably by disease and dry weather, and the hopes of growers have been transferred to the late crop which will yield a fairly good crop if frost does not interfere. Harvesting, threshing and marketing have commenced unusually early. The present condition of seventy-eight per cent indicates a crop of 4,517,000 bushels on the 429,000 acres planted this year.

Fruits.—The early apple crop was large and much of it of poor quality. Prices are low and much fruit has not been harvested. The late crop is of better quality but lighter in yield. It is estimated that the total crop is seventy-two per cent, a yield of 11,775,000 bushels. The commercial portion is appraised at 1,688,000 barrels.

The peach crop has developed well and is of good quality and generally the fruit is of good size. The production is placed at 1,440,000 bushels. Last year it was 358,000 bushels.

Grapes are moving freely from the southern commercial area and the crop is placed at 108,947 pounds. The quality is good and the only drawback has been the prevalence of rot in some localities.

The pear crop is also very satisfactory, and the condition of ninety per cent presages a production of 650,000 bushels. Plums are yielding heavily and the demand is so light that many will not be marketed.

Sugar Beets.—The condition of eighty-five per cent reported last month was maintained during August. The weather has been favorable for the storing of sugar in the beets. There are reports of blight and rotting in a few sections.

Truck Crops.—All are in satisfactory condition in most districts and good yields are in prospect. The condition of tomatoes, cabbage and onions is ninety, eighty-nine and ninety per cent respectively.

U. S. Crops Show Usual August Decline

THE condition of many crops has deteriorated since the middle of August, the semi-monthly crop report of the United States Department of Agriculture shows. This has been due to excessively dry and hot weather in nearly all sections of the country. In some areas there were welcome showers at the close of the month. In a few sections of the east hail storms have done some slight damage and injury by frost is reported from one county in Maryland. The preparation of the ground for fall seeding has made considerable progress and farm work has gone on satisfactorily, being delayed by weather conditions in only a few localities.

Crop.	1922 Sept. Forecast Bushels.	1921 December Estimate Bushels.	1916-1920 Average Bushels.
Corn	2,875,000,000	3,080,000,000	2,831,000,000
Wheat	818,000,000	795,000,000	799,000,000
Oats	1,255,000,000	1,061,000,000	1,413,000,000
Barley	194,000,000	151,000,000	197,000,000
Rye	79,600,000	57,900,000	67,800,000
Buckwheat	13,500,000	14,100,000	14,400,000
Potatoes	438,000,000	347,000,000	373,000,000
Hay, tons	92,900,000	81,600,000	85,100,000
Sugar beets, tons..	5,260,000	7,780,000	6,620,000
Apples:			
Total	207,000,000	98,100,000	179,000,000
Comm'rl, bbls..	32,600,000	21,200,000	26,800,000
Peaches	55,600,000	32,700,000	43,600,000
Beans	12,500,000	9,100,000	13,300,000

PROTECTING FARM BUYERS.

HOW buyers of farm land and actual new settlers on the land may be protected and assisted was the theme of talks given to Upper Peninsula business men in a series of meetings held throughout the district, late in August by Mr. Ezra Levin of the State Department of Agriculture. Mr. Levin stated that a plan of land certification has been formulated and will be presented to the legislature in the hope of its adopting, which will sound the knell of the land shark and fraudulent real estate operator, who has hitherto sold land to farmers under false pretenses, doing both the farmer and the good name of the state a great wrong.

The plan is said to have attracted a good deal of favorable attention. It is proposed that, through the agency of the Department of Agriculture, the quality of land offered for sale shall be definitely ascertained in advance and that it shall not be misrepresented by the seller to the purchaser. When the records in the office of the county register of deeds showed that land had been sold, it would be possible, where there was occasion, to follow up the transaction, and this is contemplated in the new plan. The county agricultural agents will then connect up with

the new settler to afford such help as may be called for from him.

The cooperation of bankers is also to be sought beyond anything yet realized, and the attention of Upper Peninsula bankers was called to the Wisconsin system whereby the state assists in the flotation of farm loan bonds secured by approved farm mortgages, for the purpose of assisting in the financing of crop and live stock operations and other financial requirements of the farmer.

The relation of the banker to the farmer aroused discussion, and at Marquette, where several bankers were present, bankers insisted that they had already demonstrated their readiness in all cases to afford such assistance as their clients called for. Mr. Levin insisted that there was a field for greater banking cooperation with the new settler.

When a farmer bought an uncleared eighty-acre tract, he said, there should be at least ten acres cleared at the outset so that the farmer could have a toe-hold from the start. In getting

this, the first ten acres, cleared, it would be more economical to have it undertaken by some agency working on a large scale with the resources which large scale enterprises usually possess. The cost of the operation would then be charged up against the purchase price of the land. To do this would require financial cooperation beyond anything yet attempted.

U. P. BOYS' AND GIRLS' CLUB.

ADDRESSING an assembly of business men at Marquette, Mr. A. G. Kettunen, leader of boys' and girls' club work in the Upper Peninsula, set forth a program of progressive agriculture for the Upper Peninsula. Briefly stated, it consisted of potatoes as a cash crop and the dairy cow to put the farms on a highly productive basis. To develop the dairy industry, Mr. Kettunen favors cow-testing associations, tests for tuberculosis, and pure-bred sires. He called attention to the experience of one Gogebic county farmer who disposed of thirty-five nondescript head of cattle and replaced them with

fourteen head carefully selected, and got as much milk from the fourteen head as from the thirty-five head.

He referred with pardonable pride to the achievements of the 4,000 members of boys' and girls' clubs in the Upper Peninsula. Of this number 300 are in pig clubs, 300 in poultry clubs, and 150 in calf clubs. While Iron county has only thirty-six club members, ten of these took prizes at the recent farmers' round-up at Chatham. In addition to the direct accomplishment of these young people, their influence is felt by the adult farmers who are keen to perceive the object lessons contained in these achievements.

RESULTS OF LAND-CLEARING SCHOOLS.

REPORTING on the result of the land-clearing schools in the Upper Peninsula, this season, Mr. L. F. Livingston, land-clearing specialist of the Michigan Agricultural College, told a group of Marquette business men recently that already, this year, forty thousand acres had been cleared in this territory this year by the action of these schools and the farmers on their own account. This is two-thirds of the total amount of sixty thousand
(Continued on page 394).

News From Cloverland

By L. A. Chase



Storing Winter Vegetables

By E. G. Williams

AFTER the vegetable crop is harvested it is of the utmost importance that it be given proper winter care. Potatoes, cabbage, turnips, carrots, salsify, celery, and even apples may be kept safely in outdoor pits properly protected, if there is no suitable cellar, and even when the home cellar is inadequate to care for the large crop. Indeed, good pits are more suitable in most cases than cellars.

First remember that apples, potatoes and celery all require a cool place and will stand a light freeze or frost without injury, but if frozen hard will be spoiled. Keep them as near the freezing point as possible, not to actually freeze them. On the other hand, all root crops and cabbage may be frozen hard without injury, provided they thaw out while in contact with the earth. The same is true of onions. This applies to the first freeze; if allowed to freeze and thaw repeatedly for a number of times, even root crops will be spoiled. Parsnips, carrots and salsify are improved by a good freeze, and should not be stored before.

Board-lined pits, protected by a long open shed, are ideal for storing potatoes and apples, but the usual practice is to make a circular depression a foot deep in the ground, put in some straw, and upon this put the apples or potatoes in a conical heap, cover with more straw, then earth to protect them.

When the apples are gathered they should be put under a shed or in a rail pen in the shade, and left there as cool as they can be kept until severe weather. The earth should be cool before either apples or potatoes are stored. When they are first put in the pit, throw over them only enough earth to protect them from freezing at a time, and as the weather grows colder add more earth. For convenience in getting at the contents at any time during the winter, it is better to put no more than six inches of earth covering over the pits, and over this a good covering of corn fodder or something similar, then a few boards to keep off the rain.

Pull or dig cabbage with the root and stalk left on, dig a long, shallow trench and into this put the cabbages, with the stalks up. Use no straw or other litter about the cabbage, and draw the earth up till all but the tips of the roots are covered. In order to make these pits accessible they may also be covered with additional protecting material at the approach of severe weather.

Turnips, parsnips and other root crops should be stored in pits similar to those prepared for apples and potatoes, except that no straw is used. The roots are placed in a conical heap, and covered with earth sufficient to keep from freezing to any great depth.

Where roots are to be stored in the same place year after year, pits lined with boards and with some kind of covering will be found very convenient.

Celery requires careful storage, either in outdoor pits or in the cellar. Unless the bunches have been tied so that the leaves grow compactly this should be done when stored. It is essential that the entire bunch be dug or

Two Was-ers and an Is-er



Here are the likenesses of three South Haven Experiment Station superintendents, two of whom were, and one who now is. They were together at the time of the recent State Horticultural tour. They are T. A. Farrand, Frank A. Wilken, and Stanley Johnson. T. A. is the now-popular extension specialist in horticulture from the college, with the secretaryship of the State Horticultural Society as a side line. Frank is one of the pen pushers for the Michigan Farmer, and Stanley is making good as the best superintendent the station ever had. Farrand was the Station's third superintendent, Wilken followed Farrand, while Johnson is the present incumbent.

pulled so that the roots remain on. Celery may be stored by drawing sufficient earth up to the bunches as they stand in the row to protect against freezing, but this will require an unusual amount of labor. It will be best to dig the bunches and set them in a long trench a foot wide and half as deep, so that the roots can come in contact with moist earth. Pull the tops together and draw the earth up from either side to a conical ridge. When stored in a cellar it will be necessary to have a box or barrel of earth in which to store, so that the roots may be kept growing. Apply water to the earth to keep moist, but be careful not to wet the stalk and leaves. In cellar storage it will be necessary to have only the roots in soil. Kept in a dark corner of the cellar, the stalks will blanch rapidly. Celery never stops growing while in storage, and in spring such roots as remain may be set out in the open and will produce seed.



There is Satisfaction in Harvesting a Good Vegetable Crop for Winter.



For bull's-eyes—lead!

THE boy who prides himself on the accuracy of his target shots credits only his steady hand and true eye. He gives little thought to the fact that the bullet is always made of lead because no other material speeds so straight. It is the same at the traps. From the trap is thrown a clay pigeon. A sharp report and the target flies to pieces. Shot made of lead go straight, covering just the right area to catch the whirling disc.

No other metal has the qualities needed for making ammunition which lead has. Lead has great weight in minimum bulk, which makes it cut through the air with velocity and without swerving.

In the early days bullets and shot were loaded separately from the powder. Now the lead and powder are encased together in a neat paper or metallic package called a shell or cartridge.

It is interesting to note that lead is important in other sports besides target and trap shooting, but for an entirely different reason. Lead is used in the rubber of the tennis ball, the football and the baseball to give toughness.

Besides these uses, lead is used in almost countless ways. Many of them you do not suspect. It is in paint that lead would be missed most. No matter where you go you can see and touch this important product. Wherever a surface is painted, it is protected against deterioration. "Save the surface and you save all" is a slogan that prudent men now know and heed.

White-lead, a carbonate of lead, is the principal ingredient of good paint. By using white-lead, manufacturers make a paint that has greater protective power and durability.

For outdoor work painters generally prefer to use straight "lead-in-oil," a term which applies to a mixture of pure white-lead and pure linseed oil. White-lead with flattening oil with colors-in-oil added makes a paint of any color for interior work and gives a smooth, beautiful finish.

National Lead Company makes white-lead of the highest quality, and sells it, mixed with pure linseed oil, under the name and trademark of

Dutch Boy White-Lead

It also manufactures lead for every other purpose to which it can be put in art, industry, and everyday life.

Write our nearest branch office, address Department J, for a free copy of our "Wonder Book of Lead," which interestingly describes the hundred-and-one ways in which lead enters into the daily life of everyone.

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Dutch Boy White-Lead	Ulco Lead Wool
Dutch Boy Red-Lead	Sheet Lead
Hoyt Hardlead Products for Buildings	

OUR SERVICE DEPARTMENT

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

ADVERSE POSSESSION.

It is claimed that a person is heir of a person, who did not sign off a piece of real estate. The claim is of forty years' standing. I have been in peaceable possession thereof for twenty-seven years. Can they make me pay the claim?—C. B. O.

Adverse possession for fifteen years under claim of right ripens title by adverse possession against all persons except persons under age insane, or imprisoned at the time the right of action accrues.—Rood.

FEEDING YOUNG PIGS.

I am feeding my four-month-old pigs skim-milk and middlings. Now I have rye, oats and corn which I could grind and feed with the middlings and milk. Will you please give me a ration from the above?—S. H. M.

According to the Wolff-Lehmann feeding standards, pigs three to five months old and weighing around 100 pounds, should have thirty-five pounds of dry matter daily per 1,000 pounds live weight, and the nutritive ratio should be in the proportion of one part protein to five parts carbohydrates and fat. The nutritive ratio of the feeds mentioned are approximately as follows:

Skim-milk	1:2
Middlings	1:4.8
Oats	1:6.2
Rye	1:7.1
Corn	1:9.7

Skim-milk gives the most economical returns when fed at the rate of two or three pounds of milk to one pound of grain. If you will feed one pound of each of the grains mentioned and eight pounds of skim-milk daily to each 100 pounds of pig, you will be hitting the mark almost exactly. The rye and oats should be ground and along with the middlings, mixed with the milk. The corn may be fed on the ear. The middlings may be gradually reduced and the corn increased as the pigs grow.—P. P. P.

HARVESTING AND STORING SUN FLOWER SEED.

We are growing a few sunflowers this year for the seed. Can you tell me something about what are the best methods practiced in gathering and shelling the seed?—J. L. F.

Sunflowers can be cut and shocked like corn and left to cure out dry. If they are only topped, that is the heads removed, care must be taken to hang them over poles or spread on a floor under cover. If stored in mows or barns, they will heat and rot.

If you only have a few, it will be no great task to pound out the seed by hand after they become thoroughly dry. Larger quantities can be threshed with a grain separator by removing the concave teeth. The heads will be all ground to pieces and the seed separated. Provided the heads are thoroughly dry, it will be no harder strain on a separator than threshing corn and that is often done.

The seed contain so much oil they can not be stored in large bins. They will heat, and must be spread out on a floor not over six or eight inches deep to keep them safely.

HYDRATED VS. GROUND LIMESTONE.

What is the difference between hydrated lime and the ground limestone applied to lands? Where land required two tons per acre of the ground stone how much of the hydrated lime would be equal to the stone?—F. S. G.

When common limestone rock is placed in a kiln and burned, the mois-

ture and carbon dioxide is driven off and hydrated, or caustic, lime is the result. When this is slaked by coming in contact with the air we have the air-slaked or hydrated lime. When this lime is incorporated with the soil it changes in form again and becomes the same as ground limestone.

A ton of lime rock when converted into hydrated lime only weighs approximately two-thirds of a ton; hence if your soil required 4,000 pounds of the ground limestone it would only take about 2,700 pounds of hydrated lime to produce the same effect.

Hydrated lime is caustic and is miserable stuff to apply. It burns the skin where it comes in contact, etc. Ground limestone is safe to apply under all circumstances. In almost every instance it is more economical to use the ground limestone.

WHO PAYS FOR REGISTERING?

A bought a pure-bred heifer from B. Should A pay for registering heifer? Should A have got papers from B when he bought heifer?—S. B.

This is purely a matter of contract. If there was an agreement to furnish the heifer with registration it would have to be done at the seller's expense. If she was sold merely as a pure-bred capable of registration it would have to be done at the expense of the buyer.—Rood.

ROUGHAGE DEFICIENT IN PROTEIN.

I would like a ration for my milch cows. As roughage I will have timothy hay and shredded corn fodder. As grain I will have corn, oats, rye, cull beans, and bran. This will be for winter feed; will also have mangels.—S. H. M.

By feeding one pound of bean meal per day and the proper proportion of bran with the oats and corn, the grain ration would contain a fair ratio of protein and carbohydrates, but timothy hay and corn fodder are both deficient

in protein and, therefore, to have a good economical ration, some food rich in protein should be added to the grains; either oil meal or cottonseed meal will do.

It is not advisable to feed very heartily of bean meal to milch cows. In the first place, they do not like it very well, and besides, it makes a hard or tallowy butter fat. One pound per day is all that can be recommended. Again, two pounds of cottonseed meal is all a cow should have.

Grind the corn, oats and rye equal parts by weight. To every one hundred pounds of this add fifty pounds of wheat bran. This will be your basic grain ration. Each cow should have one pound of grain for every three or four pounds of milk they produce per day.

Give each cow one pound of bean meal and two pounds of oil meal or cottonseed meal per day and also a sufficient amount of the basic ration to make the desired amount. A cow giving forty pounds of milk should have two pounds of grain. Feed all the hay and fodder they want. One-half bushel of mangels will make a splendid ration.

WORK ON SCHOOL BUILDINGS.

Is the school moderator liable to get into trouble if he signs orders for work on school buildings before the work is finished?—F. A.

The moderator should sign no orders to pay for work that has not been performed.—Rood.

RATION FOR POULTS.

Please tell me what to feed turkeys from the time they are hatched until they are feathered out. I am afraid to feed anything except oatmeal for fear they will get sick. Will sour milk hurt them?—Mrs. E. S.

Young turkeys should not be fed until about thirty-six hours old. Then try using ground dry bread mixed with hard-boiled egg. Feed sparingly four

times each day and only the amount that is promptly cleaned up. Spoiled feed that is left over will soon cause losses. About the third day rolled oats can be alternated with the feeds of bread and egg. Remember that turkeys are seed eaters. So give them fine chick scratch feed after the first week. Add cracked wheat gradually and work in larger grains as the poults begin large enough to use it. After the poults are about three days old they can have all the sour milk they will eat. It is valuable to promote rapid growth and seems to help in keeping down bowel trouble.

Poults need plenty of fresh water. A little charcoal in the feed is a help in preventing digestive disorders. Some breeders use stale bread soaked in milk and squeezed nearly dry for the first feed. A light sprinkling of fine grit is added. All feed must be given on clean boards or in dishes that can be scalded.

GOITRE.

A young man has a goitre coming on his neck. Have used iodine for two years, but it has done no good. Is there any cure besides an operation? Is an operation a success and is it dangerous?—J. W. C.

When a goitre reaches the place where it impairs health, seriously, a surgical operation is usually the best treatment. It is not an operation of unusual danger at the hands of an experienced operator, but there are many large vessels and nerves in the neighborhood where the work is done, so it is no job for a novice. Very satisfactory results are obtained in most cases that are well handled.

TUBERCULOSIS OF THE BONE.

Is tuberculosis of the bone curable? Does a surgical operation do any good in this disease?—J. O.

When tuberculosis of the bone is recognized early it is quite curable, but you must remember that like all other forms of tuberculosis, the treatment must go on over a long period of months, and possibly years. In some cases surgery is helpful in removing dead bone, and sometimes bone transplantation is necessary.

RESULTS OF LAND-CLEARING SCHOOL.

(Continued from page 302).

acres, which was the goal of this year's effort here. There remains the fall period of clearing which, it is expected, will see the goal realized.

The tracts cleared range in size from 600 acres by one of the large operators to one-eighth of an acre by the small farmer. The immediate object sought by these land-clearing activities is to insure that every farmer now on the land has at least twenty-five cleared acres in order that he can make a living off the land. This is more land than many farmers now possess cleared, which makes it necessary for them to supplement their farming with work in the woods, mines or such other work as may come their way.

SOIL SURVEY FOR UP-STATE SECTION.

THE M. A. C. Soil Department, under the direction of Dr. M. M. McCool, and in cooperation with federal soil survey workers, will make a survey of Presque Isle, Alpena, Montmorency and Cheboygan. Four men will contrive a team which will start the work this fall.

Hort. Dept. Reorganized

COMPLETE reorganization of the horticultural department at M. A. C. is announced by Prof. V. R. Gardner, who recently became its head. Besides himself three new men have been added to the staff, making possible the assignment of special lines of work, such as small fruits, vegetables and grapes, to individual experts.

Strengthening of the department was brought about in response to a demand from fruit growers of the state who felt that not enough emphasis was being laid upon research and teaching in horticulture. Under the leadership of Professor Gardner, the department bids fair to take an active place in the triumvirate concerned with agricultural production in Michigan. The other two are the farm crops department, headed by Prof. J. F. Cox, and the department of dairy husbandry, headed by Prof. O. E. Reed.

Fruit specialists added to the staff of Professor Gardner are F. C. Bradford, a graduate of Harvard and formerly a teacher at the University of Maine and the University of Missouri, who will be associate professor and research associate; E. P. Lewis, special instructor in vegetable work, a graduate of Purdue and formerly a teacher at the University of Illinois, and H. M. Wells, instructor, a graduate of Ohio State.

Thirteen men are now listed on the complete department staff. Men retained are Roy E. Marshall, associate professor and research associate; W. C. Dutton, research associate; N. L. Partridge, assistant professor; T. A. Farrand, extension specialist; Thomas Gunson, floriculturist and assistant professor; Stanley Johnston, superintendent of the South Haven Experiment Station, who will teach in the shortcourse division at the college during the winter; and H. D. Hootman, superintendent of the Graham Horticultural Experiment Station. Prof. C. P. Halligan, formerly head of the department, will devote his entire time to teaching in the landscape gardening department.

Professor Gardner is recognized as one of the leading authorities in the country upon horticultural subjects. He graduated from M. A. C. in 1905 and has since been engaged in horticultural work of various kinds in Iowa, Quebec, Maine, Oregon, and most recently, as head of the department at the University of Missouri. He and Professor Bradford are two of the joint authors of the book, "Fundamentals of Fruit Production," published last spring, said by other fruit specialists at M. A. C. to be the best text book ever written for upper class students in horticulture.—Henshaw.



Chart of Recommendations

Name of Car	Motor Oil	Name of Car	Motor Oil
Ace.....	M. H.	Locomobile.....	M. L.
Allen.....	M. H.	Lozier.....	M. H.
Ambassador.....	H.	Maibohm.....	M. H.
American Six.....	M. H.	Marion Handley—	
Anderson.....	M. L.	(Cont. Motor).....	M. H.
Apperson Road'pl.....	H.	(Knight Motor).....	H.
Auburn.....	M. L.	Marmion 34.....	H.
Austin H. King.....	M. H.	Martin Wasp.....	H.
Bay State.....	M. L.	Maxwell.....	M. L.
Beggs.....	M. L.	Mercer.....	H.
Biddle.....	M. L.	McFarlan Six.....	M. H.
Birch.....	M. H.	Mitchell.....	M. H.
Bradley.....	M. L.	Moline Knight.....	H.
Brewster.....	M. L.	Monitor.....	M. L.
Briscoe.....	M. H.	Monroe.....	H.
Brook.....	M. H.	Moon.....	M. L.
Buick.....	M. H.	Moore.....	M. L.
Bush.....	M. H.	Nash.....	M. H.
Cadillac.....	M. H.	National.....	M. H.
Casa.....	M. L.	Nelson.....	M. H.
Chalmers.....	M. H.	Nelson & Le Moon.....	M. H.
Chandler.....	M. H.	Northway.....	M. H.
Chevrolet.....	M. L.	Oakland.....	M. H.
Classic.....	M. H.	Oldsmobile 6.....	M. H.
Cleveland.....	M. H.	Oldsmobile 8.....	M. H.
Colo 8.....	M. H.	Olympian.....	M. H.
Colonial.....	M. H.	Overland.....	M. L.
Columbia.....	M. H.	Owen Magnetic.....	M. H.
Comet.....	M. L.	Packard.....	M. H.
Commonwealth.....	M. L.	Paige.....	M. H.
Crawford.....	M. L.	Pan-American.....	M. H.
Crow-Elkhart.....	M. H.	Parenti.....	M. H.
Cunningham.....	M. H.	Patterson.....	M. H.
Daniels.....	M. H.	Peerless.....	M. H.
Davis.....	M. L.	Piedmont.....	M. L.
Dispatch.....	M. L.	Pierce-Arrow.....	M. H.
Dixie Flyer.....	M. H.	Pilot.....	M. H.
Dodge.....	M. H.	Premier.....	H.
Dorris.....	M. H.	Preston.....	M. H.
Dort.....	M. L.	Regal.....	M. L.
Durant.....	M. H.	Reo.....	M. H.
Dusenbergs.....	H.	Revere.....	H.
Earl.....	M. H.	Richlieu.....	H.
Economy.....	M. L.	Rickenbacker.....	M. H.
Elcar.....	M. L.	Roamer.....	
Elgin.....	M. H.	(Cont. Motor).....	M. H.
Essex.....	M. H.	(Dusenbergs Motor).....	H.
Ferris.....	M. L.	Rolls Royce.....	M. H.
F. I. A. T.....	H.	R. & V. Knight.....	H.
Ford.....	M. L.	Saxon.....	M. H.
Fox.....	H.	Sayers.....	M. L.
Franklin.....	M. H.	Scripps Booth.....	M. H.
Gardner.....	M. L.	Sheridan.....	M. H.
Glide.....	M. H.	Simplex.....	H.
Grant.....	M. H.	Singer.....	H.
Gray.....	M. H.	Spacke.....	E. H.
Hackett.....	M. H.	Sperling.....	M. H.
Hal Twelve.....	M. H.	Standard.....	M. H.
Halladay.....	M. H.	Stanwood.....	M. L.
Handley-Knight.....	H.	Stearns Knight.....	H.
Hanson.....	M. H.	Stephens Six.....	M. H.
Harron.....	M. H.	Stevens.....	M. H.
Hatfield.....	M. H.	Stevens Duryea.....	M. H.
Haynes.....	M. H.	Sterling Knight.....	H.
Haynes 75.....	H.	Studebaker.....	M. L.
H. C. S.....	M. H.	Stutz.....	H.
Holmes.....	H.	Sun.....	H.
Hudson.....	M. H.	Templar.....	H.
Huffman.....	M. L.	Vellie.....	M. H.
Hupmobile.....	M. H.	Westcott.....	M. L.
Jackson.....	M. H.	White.....	M. H.
Jacquet.....	H.	Wills St. Claire.....	H.
Jordan.....	M. L.	Willys-Knight.....	H.
Kelsey.....	M. L.	Winther.....	M. H.
King.....	H.	Winton Six.....	M. H.
Kissel Kar.....	M. H.		
Kline Kar.....	M. L.		
Lafayette.....	M. H.		
Leach.....	M. L.		
Lexington.....	M. H.		
Lincoln.....	M. H.		
Liberty.....	M. L.		

N. B. For recommendation of grades to use in tractors, consult chart in any Standard Oil Co. (Indiana) station

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Francisco Farm Notes

By P. P. Pope

Just About Fair

I WONDER did anybody miss these notes last week? I know one party that missed them, and he is laying the blame on the county fair. We found every minute occupied in getting the cattle and horses ready for the big show. Hardly time to eat or sleep until after the judging. But never mind, we got all the money within reach except on second prize, (don't ask about the competition), but got trimmed for sweepstakes. Rotten deal now, wasn't it? What did you say



when the judge gave the other fellow the prize that you were sure belonged to you? That's what I said. The judge would learn something if he would listen to us now, wouldn't he?

Have you heard a man boast about his winnings when he had had no competition? It is easy to win when one can't help it. I knew a man once who advertised his winnings for a whole year after the show when his was the only herd on exhibition. Did I patronize him? Hardly, not then, nor since. Prizes won in hot competition are valuable and worthy of consideration. Those won without competition are worth just what the premium list calls for, and no more.

But the county fair is past and gone for another year. We have made a record in the live stock department as regards variety and quality of exhibits. We also broke the record for heaviest rainfall and lightest attendance. I am thinking the fair association is about as near broke as the rest of us. There is sunshine behind the clouds as surely as there is rain in them, however, so we are waiting for next year to show up fair weather, big crowds and lots of money.

The work on the farm has stood stock still all the week, while the hired man, a couple of extra helpers and myself have "taken in" the fair. In the meantime the beans have come to full maturity and the husks on many of the ears hang dry. It has suffered some from the drouth, but has not dried up like many fields farther south in the state, and is ripening normally. The alfalfa sod, the manure, and the phosphate are united to shove it along rapidly and it is maturing evenly and in good season. There will be a good crop. When most all of the ears are dented and the leaves at the base of the stalks turn brown, then we start the binder as soon as possible. That time is about here, but the beans demand attention first. Just as soon as the ground is dry enough after the heavy rains of the last few days, the puller will start, with knives sharp. We use the side delivery rake in rolling them into clean windrows out of the dirt. If the rest of the work has been properly done this tool will do the work of six or eight men with forks, and do it just as good. It is rather hard on the rake, however, as the fine particles of sand and grit are carried up by the wheels and get into the gears and bearings to some extent. Also, if the previous work has not been well done, and the rows are either too crooked, too weedy, or the plants not completely cut and brought together by the puller, the efficiency of the rake is greatly lessened. It is essential that there be plenty of room to turn at the

ends without putting either the horses or the wheels on the beans. I like to drill six rows across the ends and pull them first for this reason. The rake itself will not shell the beans, but if the horses step on them or the wheels over-run them they will burst the pods and spill the beans. Where weather is favorable and the machine can be secured at the right time, it is a labor saver as well as cleaner job to thresh the crop directly from the field. It saves handling time, expense, and beans. It is doubtful, however, if it is wise to risk too much weather on a crop so easily damaged as beans, after they are once ready to go into the barn.

THE MICHIGAN POTATO EXHIBIT.

THE potato section of the Michigan State Apple and Potato Show, which will be held in Grand Rapids, December 5-8, offers the potato growers some very good inducements in the way of prizes to show their products.

There will be twenty prizes ranging from \$5.00 to \$25 for the varieties of the Rural Russet type. Prizes are also offered for varieties of the White Rural type up to \$10 for the Green Mountain varieties they go as high as \$15. These prizes are offered for individual exhibits of thirty-two specimens each.

Individual exhibits in the classes of early varieties of the Irish Cobbler and Early Ohio types will compete for prizes ranging from \$1.00 up to \$10. The class which includes any other variety of merit, offers \$8.00 as the highest prize. There is also a prize of \$35 for the best pack of any variety in the individual exhibit classes.

For county exhibits of twelve samples of thirty-two potatoes each there are ten prizes, with \$50 as the high prize. The Michigan Potato Producers' Association offers \$25 for the best one-hundred-pound sack of certified seed potatoes, and nine other prizes ranging down to \$5.00. There will also be a chance for certified potato growers to exhibit samples of their product for sale.

The Michigan Potato Growers' Exchange offers a \$25 first prize for the best 150-pound sack of Chief Petoskey Brand potatoes. They offer also three other prizes of \$20, \$15 and \$5.00 respectively.

The boys' and girls' club which makes the best exhibit of ten one-peck samples, shown by five members, will get \$25. Second, third and fourth prizes of \$12, \$8.00 and \$5.00 respectively, will also be given. In individual exhibits of each of the types mentioned above, the boys' and girls' prizes will be \$5.00, \$3.00 and \$2.00. The Michigan Potato Growers' Exchange will give to the individual boy or girl winner a silver cup, in case there are at least twenty exhibits made.

Early potatoes should be sent to the Apple and Potato Show in care of the Kent Storage Company, Grand Rapids, Michigan. The package should have the name of the sender and the varieties contained therein marked on the outside.

Boys and girls who enter the club contests will be required to send a story and records of management to Mr. R. A. Turner, State Club Leader at M. A. C., by November 15.

Full information regarding the details of any of the contest and exhibit requirements can be obtained from either J. W. Weston, East Lansing, or L. A. Lilly.



Red Rock and Winter Banner Wheats

WITH over ten years of field experience to back it, Red Rock wheat has become entrenched more firmly than ever in the esteem of Michigan farmers. Recently an inquirer came to the Michigan Crop Improvement Association office believing that Red Rock was running out. He had seen some wheat of this variety grown under rather adverse conditions and it was giving growers in that locality the impression that Red Rock was losing its inherent hardness, good milling quality and yielding ability.

One look at a sample of this variety which had been sent in by C. D. Finkbeiner, of Clinton, however, was sufficient to dispel that illusion. "Why, that wheat is better than ever," was this inquirer's remark. A look at the wheat of Finkbeiner, of J. W. Veitenguber, of Frankenmuth, or of many others still finds its quality outstanding while its productivity for these growers has been of the highest order. Red Rock, grown where soil conditions are suitable still has few equals. It was last year that a Tuscola county grower secured a yield of fifty-four bushels per acre on a ten-acre field and practically all such record yields made in Michigan in recent years must be credited to this pedigreed variety. In tests on the Michigan Experiment Station farm at East Lansing it has always been a leader. This year its margin of superiority was equal to the best of its accomplishments in the past. On the clay loams, the more fertile sandy loams, and the silt-like soils Red Rock wheat is in its element. A splendidly erect straw leaves it standing when weaker stemmed varieties are beaten down, while its large head and its plump kernels give it yielding ability that has made it the friend of the wheat grower, appearance that has made it the pride of the grain shows, and quality that has made it the boon of the miller ever since it has been widely grown.

This same gluten hardness, however, makes it inadvisable to grow Red Rock on the very light soils, particularly where they are very low in nitrogen or organic matter. On such soils and on the more poorly drained heavier soils a softer type of red or white wheat will be more satisfactory.

Of this type of wheat the American Banner variety has been a consistent leader. Field trials for several years, backed by farm experience, has shown that American Banner must be placed to the front in the white wheat class.

In Red Rock and American Banner Michigan has two varieties adapted to the widest range of her conditions. Their yielding ability, combined with the fact that pure seed of high quality is being produced and distributed each year by members of the Michigan Crop Improvement Association makes these varieties most dependable.

Their Characteristics.

Red Rock, red winter wheat, bearded, suited to heavy soils and fertile loams high in nitrogen and organic matter.

American Banner, white winter wheat, beardless, does best on lighter loams and uplands. Should also be used on heavier lands which are not well-drained.

IF THE FARMERS STRIKE.

"If farmers strike," said Broker Pike, "To starve would be our curse."

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"Who feeds the universe."

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Opinions & Comments

From Michigan Farmer Readers

WOULD START FARM FORESTRY CAMPAIGN.

I THINK farm papers are making a sad mistake by not telling the farmer to pay more attention to his forest. In the near future we are going to be crying for wood. Scarcely nothing is being done to meet the situation. We farmers are the biggest users of lumber. Can't we start some campaign that will help the situation?—A. D. Anderson, Clinton County.

CRITICIZES INTERSTATE COMMERCE COMMISSION.

WHY should Michigan congressmen and senators give support to the Interstate Commerce Commission when that institution has foisted upon this state the zoning system of rates which gives the western farmers every advantage over the Michigan farmer?

It seems to me that we voters ought in some way to impress our representatives with this situation and insist that they do something to relieve us and at least give us a fair chance to sell our products to cities within our own state. At the present time we are obliged to hold our produce while the outside fellow comes in, and undersells us because railroad rates are unjustly fixed in his favor.—John Dilling, Wexford County.

THE COOPERATIVE CONTRACT.

A WHOLE lot of us farmers feel that it would be a very fine thing to make iron-clad contracts with our cooperative organizations to sell our entire crop output. But while we may be willing to chance our present manager who knows that he may be handling the business next month or next year. If cooperative business were on a thoroughly established basis then the man who is directing the sales would not be so much of a factor to consider. But now he is that, and a great deal of nerve is required to enter into these iron-clad contract arrangements. I think we shall have to go along as best we can till the system is standardized, then with the necessary confidence we can throw all our eggs in one basket and take our chance.—R. S. Blake, Lenawee County.

COOPERATION THE DEMOCRACY OF BUSINESS.

COOPERATION has but one limitation, namely: ignorance of the principle of cooperation by the members of a community. In other words, when one hundred per cent of the members of a community thoroughly understand the principle of cooperation, then one hundred per cent of the business of that community will be cooperative business.

Cooperation is a business of the people, because it is the people who profit by its operations, it is a business for the people, because it is conducted to do the greatest good to the greatest number it is a business by the people, because the people control and manage its affairs. A business which is "of the people, for the people, and by the people" can justly be called a democratic business.

Democracy in business, as in the government, must be based upon and conducted in accordance with the principle of democracy. When individuals become willing to sacrifice their own selfish interests for the good of the many, then a democratic form of government will be possible. The same

principle is involved and selfish interests must be sacrificed for the good of mankind if our business system is to become democratic and the golden rule become the basis of business.

Our business system is the outgrowth of our educational system. We think along competitive lines because we have been taught to think along those lines. Competitive business is firmly entrenched in its pride of power and, like all autocratic institutions, will yield to democratic control only when compelled to do so by the spirit of democracy manifesting itself through the majority of the people concerned. How is the principle of democracy to accomplish this? It must be through the process of education—cooperation education. There are two channels through which cooperation may be taught effectively, namely: the press and local organizations. Cooperation and organization are like the Siamese twins in one respect—they grow together. If we want cooperation we must have organization as a basis for our cooperative educational system. Then some system should be developed whereby our local newspapers can be utilized to teach the democratic principle of cooperative business.—Eugene Bradley, Calhoun County.

"SEE THE PRETTY BUNNY."

NOT long ago an article by L. E. Eubanks appeared, entitled, "Do Rabbits Injure Trees?"

He speaks of two western states carrying on a campaign of extermination against Bunny, because of misinformation.

There is surely misinformation in Mr. Eubank's letter, as in Michigan alone there is much damage caused to young fruit trees, (and older ones as well), by rabbits, as can be testified to by any number of farmers.

We wish Mr. Eubanks would give the name and address of that nurseryman who says that free girdling is done entirely by field mice.

Mr. Eubanks also speaks of a stiff-necked rabbit (the varying hare of the north), at least we presume it is stiff-necked as he says it cannot feed with its neck in a twisted position and therefore cannot girdle a tree. Is it necessary for Bunny to twist his neck to eat round a tree trunk?

We also do not deny that porcupines eat bark from the cottonwoods of the bad lands, and also from our own poplars, and we would never accuse our Michigan rabbit of climbing trees.

At the time Mr. Eubanks' article appeared the writer was spending a number of very difficult hours in a young orchard where rabbits had completely girdled a large number of very fine young trees. (Their tracks were plainly discernible, also the rabbits themselves). By the way, can L. E. Eubanks describe rabbit tracks and those of field mice so that a mere farmer or orchardist will not mistake the one for the other? We succeeded in saving some of the trees but not all.

We have seen rabbits gnawing bark off the limbs of fruit trees when the snow is deep and they keep on till the snow is melted and the tree girdled from as high as four feet clear of the ground. Tame rabbits will do this, too, and people who value their fruit trees as well as their pets, will keep the latter confined and provide food for them.

We are fond of rabbits in their place, which is not in the orchard or garden, and to others who like rabbits would say this, "Do not let your pets become a pest."—A. M. Hansen.

LEER ASSOCIATION ATTRACTS
WIDE ATTENTION.

THE Leer Guernsey Breeders' Association of Alpena county, has attracted the attention of the American Guernsey Cattle Club. One pure-bred Guernsey sire, a native scrub cow and five graded Guernsey cows will be shipped to the National Dairy Show. This exhibit demonstrates the success a community can achieve through co-operative use of pure-bred sires. In the twelve years' history of the Guernsey Association at Leer the cost of service fee per cow has been less than \$1.00. Other Michigan communities are using this same association idea and it will further benefit the live stock efficiency in these centers.

INTEREST IN BEETLE WHICH
ATTACKS CORN.

MANY persons have been making inquiry about a beetle which Professor Pettit, of the M. A. C., describes and comments upon in the following letter to the editor:

We are constantly getting a thick, heavy-set yellowish-brown beetle which flies with a droning sound, something like a bumble-bee and which bores into ears of green corn, field corn, into ripening peaches, pears, apples and other soft fruits.

The beetle is thick-set and heavy and eats its way eventually clear into the corn or fruit, finally disappearing in the tunnel thus produced.

I am writing this, not in order to suggest a remedy, because there seems to be no way of controlling the pest. Years ago when we used to dry corn in racks in the sun the beetle was in the habit of attacking this drying corn and we had to spread mosquito netting over the racks in order to keep them away. Today no one has discovered any better way of controlling them.

The immature stages of this creature are passed under ground as white grubs, although not the common white grub but a smaller one. Fortunately for us they appear only at intervals of several years and this year seems to be the favorite year.

I am sorry not to be able to suggest some good remedy but am writing this for the general information of the people, since there seems to be a good bit of interest in the matter and the fact that specimens are being sent in by every mail shows that some, at least, are not acquainted with the creature.

BUTTER PROFITS.

INVESTIGATIONS made in the Webster County, Missouri, Cow-testing Association, show that cows which averaged only one hundred pounds of butter-fat per year produced that amount at a feed cost of 25.6 cents per pound. This cost gradually decreased as the production per cow increased. Cows which averaged 200 pounds of fat per year produced it at an average cost of 16.1 cent, while those which produced 300 pounds did it at a cost of 12.8 cents per pound. While those which produced 400 pounds did it at the low average feed cost of 11 cents.

The profit per cow above feed cost varied from \$18.27 in the case of the low-producing cow, to \$115.10 for the cows in the 400-pound class. The average production of the Missouri cow is about 100 pounds of butter-fat per year, so most of the cows of that state are charging their owners twenty-five cents for every pound of butter-fat they produce. These averages are undoubtedly very close to those in Michigan, and therefore the conclusions one must reach in the study of these figures is that there should be more 300 and 400-pound cows and the 100-pound cows should be eliminated as quickly as possible.

Note these New Prices
on U.S. Tires

ON July 29, 1922, the lowest prices ever quoted on U. S. Passenger Car Tires went into effect—Royal Cords included.

These new prices should give confidence to dealers and car-owners that no lower basis of quality tire prices will prevail.

Bear in mind that these prices apply to the most complete line of quality tires in the world. Remember, too—as you read the following table—that U. S. Quality has been positively maintained.

SIZES	Royal Cord	FABRIC			
		Nobby	Chain	Usco	Plain
30 x 3 Cl.		\$12.55	\$11.40	\$9.75	\$9.25
30 x 3½ "	\$14.65	15.60	13.00	10.65	
31 x 4 "		23.00	21.35	18.65	
30 x 3½ SS.	14.65				
32 x 3½ "	22.95	20.45	16.90	15.70	
31 x 4 "	26.45				
32 x 4 "	29.15	24.35	22.45	20.85	
33 x 4 "	30.05	25.55	23.65	21.95	
34 x 4 "	30.85	26.05	24.15	22.40	
32 x 4½ "	37.70	31.95	30.05		
33 x 4½ "	38.55	33.00	31.05		
34 x 4½ "	39.50	34.00	32.05		
35 x 4½ "	40.70	35.65	33.55		
36 x 4½ "	41.55	36.15	34.00		
33 x 5 "	46.95				
35 x 5 "	49.30	43.20	39.30		
37 x 5 "	51.85	45.75	41.70		

Federal Excise Tax on the above has been absorbed by the manufacturer

The dealer with a full line of U. S. Tires at these new prices can serve you better than you have ever been served before in the history of the automobile.

If there ever was any fancied advantage in shopping around for tires it disappeared on July 29, 1922.

United States Tires
are Good Tires

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1922
U. S. Tire Co.

30 x 3½
USCO
FABRIC
\$10 65

30 x 3½ Clincher
and Straight Side
Royal Cord \$14 65

United States Tires
United States Rubber Company

Five-three
Exclusives

The Oldest and Largest
Rubber Organization in the World

Two-hundred and
thirty-five branches

What the wind
will do for you

Wind power is free to all who will use it. You cannot afford to use a more expensive method for pumping the water used on your farm. Any other method you may employ will cost you far more money to keep in operation, to say nothing of the time you spend in starting, watching and stopping.

The Model 12 Star Windmill

will enable you to pump water economically. With it you can save the money now spent for gasoline and oil. In addition you will save yourself the time spent in stopping and starting your engine. One oiling a year thoroughly lubricates the Star and provides sufficient lubrication for an entire year.

Write today for catalogue No. 95 and
and learn how the Star will help you save.

FLINT & WALLING MFG. COMPANY
Dept. C, Kendallville, Indiana



One Oiling a Year

Do Your Own Shredding

with a
ROSENTHAL
Corn Husker
and
Shredder



Most economical and satisfactory way of handling your corn crop. No delay, no extra help. Do it in your own spare time. Two sizes for individual use, 6 to 15 h. p. Also make two larger sizes for custom work. Over 25 years in the field. Write for catalog and prices, also useful Souvenir **FREE**. State H. P. of your engine.

Sold on trial. You take no risk.

ROSENTHAL CORN HUSKER CO.
Box 2 Milwaukee, Wis.

Also Makers of Ensilage Cutters and Silo Fillers



Steel Wheels

Cheaper than any other wheels. Figuring years of service. Make any wagon good as new. Low LESS down—easy to load. No repairs. **EMPIRE Mfg. Co., Box 289 Quincy, Ill.**

For Sale: A Stevens 10-roll corn shredder in good running order, at Caro, Mich. Price \$135. J. M. SNELL, 1330 Lawndale Ave., Detroit, Mich.

Mention The Michigan Farmer When Writing Advertisers

Radio Department

Conducted by Stuart Seeley

IT has probably been your experience that the first question you are asked when you let someone listen to your radio set is, "What is it that makes it whistle so?"

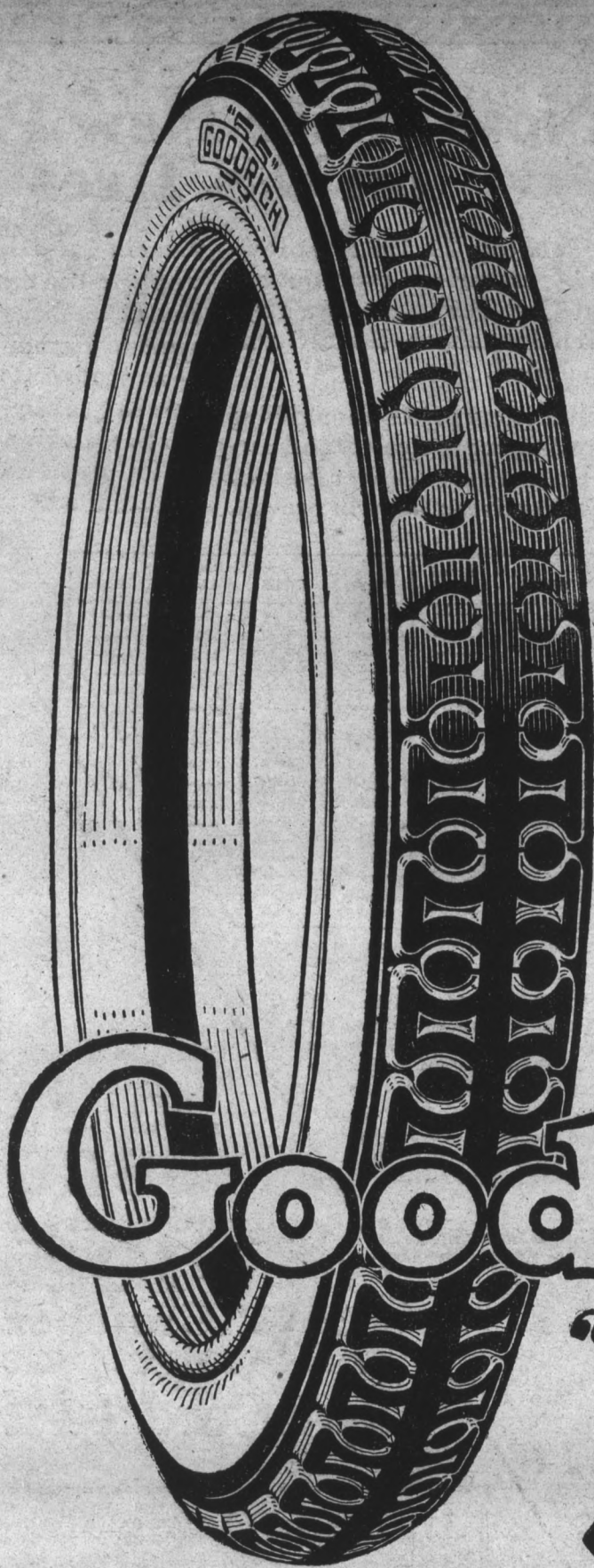
Usually you explain it by saying the set is not properly tuned, or by telling them that it is the "carrier wave" of the 'phone station.

But do you know the real reason for that disagreeable whistling noise when the set is not properly tuned and that even persists sometimes when the set is in tune? It is quite easily explained and if you know the real reason for it, you may be able to overcome it more easily and give some sort of a definite explanation as to why it is there.

If a broadcasting station is properly tuned to 360 meters it will emit 833,333 complete waves per second. Then, suppose for instance, you are tuning your set and you strike 361 meters. Now, your set will send out 831,025 waves per second, or 2,308 less than the broadcasting station. This means that 2,308 times per second the two waves will be "in phase" and reinforce each other and the same number of times they will be "out of phase" and counteract each other. Therefore, 2,308 times per second an impulse will be sent through the 'phones and the result is a shrill high whistle. Then, as you tune lower the number of waves your receiving set is setting up in one second increases and comes closer to being the same as the broadcasting station. When your receiving set is adjusted to 360 1/4 meters it will emit 832,756 waves per second, or 577 less than the transmitting station and the whistle will be about the same note as upper C on the piano. If you tune lower still the whistle goes lower and fades out and the set is then in tune. If you go beyond and tune down to 359 1/4 meters the receiving set will be oscillating at a rate of 577 faster than the transmitter and the whistle starts again, this time going up the scale as you tune lower.

The fact that some receiving sets act as transmitters has been noted here before. If two receiving sets of the generative type are located within one thousand feet of each other and they both try to listen to the same concert quite a bit of disturbance will result. If one is not tuned exactly the same as the other a "beat" whistle will result and cause quite a bit of interference. It is especially bothersome to be all set and then have some nearby receiving set start to tune it. A shrill little whistle runs up and down the scale and causes all kinds of discords with the music of the concert.

It is also possible for a "beat" whistle to be set up between two transmitting stations that are tuned slightly different. Even though they may be four or five hundred miles apart, if one can be heard about equally as loud as the other at the receiving station and they operate at the same time on slightly different wave lengths, they will cause a whistle in the 'phones. This type of interference cannot be tuned out and it will be easily recognized and distinguished from the other whistles by reason of the fact that it is a perfectly pure, steady tone that cannot be varied, either up or down the scale, at the receiving station. On clear nights when several stations are operating at the same time it is usually possible to distinguish three or four such whistles and often times they are loud enough to mar the pleasure of the broadcasting programs. This type of interference will probably continue as long as the government specifies that all broadcasting shall be done on a wave length of 360 meters.



Made to order for the Farmer's Car

Practical experience with country roads produced this Goodrich 55.

Rugged, long lasting, built in both 30 x 3 1/2 and 30 x 3 sizes, it is made-to-order for Fords, Chevrolets, Willys-Overland, and other cars using these sizes.

Tractorlike tread to grip any ground, and hold steadfast to the road against slipping and skidding.

Fortified tread and sidewalls to withstand the "bite" of deep ruts.

Made in one high quality only—the Goodrich Standard!

And its price is down—the lowest of low-tide prices.

Look this tire over at your nearest Goodrich Dealer, and you'll see sure return of service for every cent in its price.

THE B. F. GOODRICH RUBBER CO.
Akron, Ohio

Goodrich

"55"

THE TIRE FOR SMALL CARS

SOLVAY
PULVERIZED
LIME

Bigger Profits with FERTILE FIELDS

Land continually cropped without replacing plant-nourishment, soon "peters out." Sour unproductive soil is made sweet and productive by spreading Solvay—ground fine, guaranteed high test 95% carbonates, furnace dried, no waste. Non-caustic—will not burn. Crops increase first harvest after use. Booklet mailed FREE. Write!

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HOOSIER STOVES & RANGES FREE

To try in your home 30 days. Should you not like it return at our expense. Million members of families now using Hoosier Stoves, best made, the latest design and guaranteed for two years. Ask your dealer to show you "Hoosiers" or write us for our big free book showing photographs. Large assortment and sizes at a big saving. Send postal today.

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Agents Wanted—\$40-\$60 a week easily made selling Heberling's medicines, extracts, spices, toilet articles, etc., direct to consumers on farms. Experience and capital not required. Old established company. Complete line of household necessities guaranteed to give satisfaction. Big profits. Exclusive territory. Write today for full particulars and secure your home county. Heberling Medicine Co., Dept. 31, Bloomington, Ill.

PAINT—\$1.17 PER GALLON
Get factory prices on all paints. We guarantee quality. We pay the freight. Write today.
Franklin Color Works, Dept. M, Franklin, Ind.

Why Burn Coal

When you can get twice the heat at half the cost, by installing, in 5 minutes time, Uni-Hete Oil-Gas Burner in your range or heater. Thousands of homes now ending coal expense! Uni-Hete generates gas from common kerosene—cheapest fuel known. Red hot fire instantly. Cooks, bakes, heats. Sets in fire box of any stove. **FREE TRIAL.** Saves its small cost in 30 days. Lasts for years. Made by factory making heating devices for 33 years.

Agents—Special Offer—Act Quick
High coal cost makes Uni-Hete a big profit maker for agents. Write at once.

Acorn Brass Mfg. Co., 932 Acorn Bldg., Chicago, Ill.

Seed Wheat:—Hybrid No. 2 wheat (white) yielded this year 35 bu. per acre, 60 lb. test, vigorous plant, medium growth straw, offering at \$1.50 per bu. bags extra, F. O. B. Vassar. 1 lb. Sample mailed upon request. Mail orders filled promptly.
GEORGE W. RIDGEMAN, R. 1, Vassar, Michigan

MAPLEHILL FARM
Poland China Swine Pedigreed Field Seeds
Spring boars and sows for sale. A few pairs and trios not skin. Certified American Banner wheat.
GEORGE R. WHEELER, Mt. Pleasant, Mich.

FERRETS FOR SALE
N. A. KNAPP & SON, R. 2, New London, O.

Please Mention The Michigan Farmer when writing to advertisers

WORLD EVENTS IN PICTURES



This new device worn inside the clothes, may be inflated in the water in time to prevent drowning.



This gray felt sport hat, with yarn trimming, will be very popular for early fall wear.



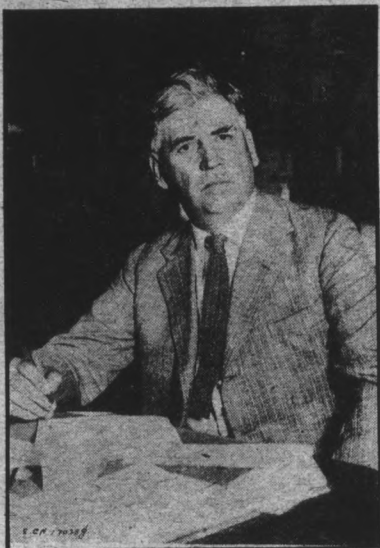
William Jennings Bryan, now a country gentleman of Florida, visits his old friend, John Wanamaker, in Philadelphia.



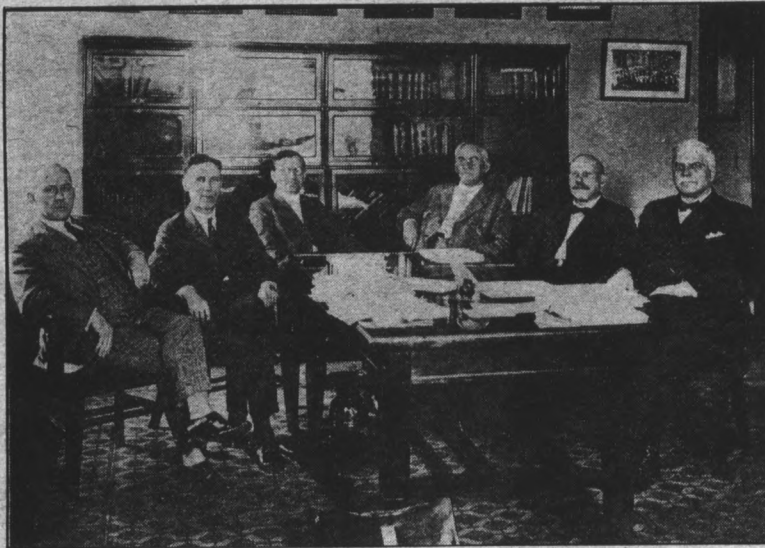
Two hundred hours of work went into the "Wonder Gown" that was worn by the queen at the Queen's Ball, held in connection with the famous Asbury Park Baby Parade.



This American four overwhelmed Irish in polo match in the Herbert cup tourney at Runson, New Jersey. Pony No. 3 dropped dead during the game.



C. W. Middlekauff will assist in the investigation of the recent mine war in Illinois.



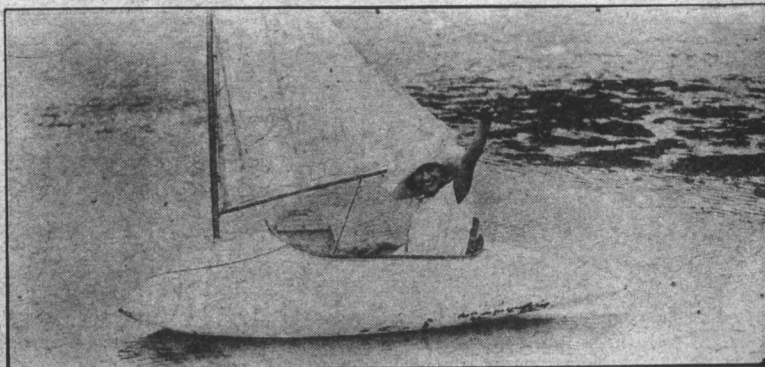
These gentlemen met with the president of the Brotherhood of Locomotive Firemen and Enginemen of Cleveland to discuss the strike proposition.



This lass of twenty-six braves tigers and hostile natives of South America for material for stories.



Mrs. J. Griswold Webb, of New York City, showed that there was kick in her white mule when she won the annual mule race at Rhinebeck-on-Hudson, New York.



This "Flivver Sailboat," with centerboard for balancing, will take the waves on high. It has become quite popular at Trouville, a French seaport resort.

THE CROSS-CUT —By Courtney Ryley Cooper

Copyright, 1921, By Little, Brown & Company

What Has Happened So Far:

After the death of Thornton Fairchild, an aged miner of Cripple-creek district, Robert Fairchild, his son, reads a letter. From this he learns of the Blue Poppy mine coming into his possession, but nothing of the mystery and silence that surrounded his father's days. He interviews his attorney and leaves immediately for the west to claim the property. Upon arriving he cannot help but feel the mystery and illusive nature of the situation. Even Mother Howard, his father's old friend, seems to hold something back. Squint Rodaine and gang work against Fairchild. A strange friendship grows between Anita Richmond, whose father is in the clutches of Squint Rodaine, and Fairchild. Morrice Rodaine is in love with Anita Richmond. Harry Hawkins, an old friend of Fairchild's father, arrives to aid in the prospecting. By an extraordinary plan Harry manages to get the mine unwatered. At an old-fashioned dance Fairchild meets Anita Richmond again and they have several dances together, much to the annoyance of young Rodaine. A real hold-up is staged and one injured. Young Rodaine swears the guilty party to be Harry Hawkins. The date of the trial is set, with deeds of the Blue Poppy mine given as security. Fairchild receives an anonymous letter containing a bid of \$50,000 for the Blue Poppy mine.

It brought Fairchild to the realization of a new development, and he brought out the letter, once more to stare at it.

"Fifty thousand dollars is a lot of money," came at last. "It would pretty near pay us for coming out here, Harry."

"That it would."

"And what then?" Mother Howard, still looking through uncolored glasses, took the letter and scanned it. "You two ain't quitters, are you?"

"Oo, us?" Harry bristled.

"Yes, you. If you are, get yourselves a piece of paper and write to Denver and take the offer. If you ain't—keep on fighting."

"I believe you're right, Mother Howard," Fairchild had reached for the letter again and was staring at it as though for inspiration. "That amount of money seems to be a great deal. Still, if a person will offer that much for a mine when there's nothing in sight to show its value, it ought to mean that there's something dark in the woodpile and that the thing's worth fighting out. And personally speaking, I'm willing to fight!"

"I never quit in my life!" Harry straightened in his chair and his mustache stuck forth pugnaciously. Mother Howard looked down at him, pressed her lips, then smiled.

"No," she announced, "except to run away like a whipped pup after you'd

gotten a poor lonely boarding-house keeper in love with you!"

"Mother 'Oward, I'll—"

But the laughing, gray-haired woman had scrambled through the doorway and slammed the door behind her, only to open it a second later and poke her head within.

"Needn't think because you can hold up a dance hall and get away with it, you can use cave-man stuff on me!" she admonished. And in that one sentence was all the conversation necessary regarding the charges against Harry, as far as Mother Howard was concerned. She didn't believe them, and Harry's face showed that the world had become bright and serene again. He swung his great arms as

task of rehabilitating the tunnel where it had caved in just beyond the shaft. It was the beginning of a long task; well enough they knew that far below there would be much more of this to do, many days of back-breaking labor in which they must be the main participants, before they ever could hope to begin their real efforts in search of ore.

And so, while the iron-colored water gushed from the pump tubes, Harry and Fairfield made their trips, scrambling ones as they went outward, struggling ones as they came back, dragging the "stulls" or heavy timbers which would form the main supports, the mill-stakes, or lighter props, the lags and spreaders, all found in the

Hour after hour they toiled, until the gray mists hung low over the mountain tops, until the shadows lengthened and twilight fell. The engines ceased their chugging, the coughing swirl of the dirty water as it came from the drift, far below, stopped. Slowly two weary men jogged down the rutty road to the narrow, winding highway which led through Kentucky Gulch and into town. But they were happy with a new realization: that they were actively at work, that something had been accomplished by their labors, and progress made in spite of the machinations of malignant men, in spite of the malicious influences of the past and of the present, and in spite of the powers of Nature.

It was a new, a grateful life to Fairchild. It gave him something else to think about than the ponderings upon the mysterious events which seemed to whirl, like a maelstrom, about him. And more, it gave him little time to think at all, for that night he did not lie awake to stare about him in the darkness. Muscles were aching in spite of their inherent strength. His head pounded from the pressure of intensified heart action. His eyes closed wearily, yet with a wholesome fatigue. Nor did he wake until Harry was pounding on the door in the dawn of the morning.

Their meal came before the dining room was regularly open, Mother Howard herself flipping the flapjacks and frying the eggs which formed their breakfast, meanwhile finding the time to pack their lunch baskets. Then out into the crisp air of morning they went and back to their labors.

Once more the pumps; once more the struggle against the heavy timbers; once more the "clunk" of the axe as it bit deep into wood, or the pounding of hammers as great spikes were driven into place. Late that afternoon they turned to a new duty—that of mucking away the dirt and rotted logs from a place that once had been impassable. The timbering of the broken-down portion of the tunnel just behind the shaft had been repaired, and Harry flipped the sweat away from his broad forehead with an action of relief.

"Not that it does us any particular good," he announced. "There ain't nothing back there that we can get at. But it's room we'll need when we start working down below, and we might as well 'ave it fixed up—"

He ceased suddenly and ran to the pumps. A peculiar gurgling sound had come from the ends of the hose, and the flow depreciated greatly. Instead of the steady gush of water, a slimy

Auto Campin' —By L. W. Snell

Honk yer horn an' giv her gas,
Everybody's ready.
Bundles packed and family, too,
Ma to little Eddie.

Yell good-bye and out we go
Through the gate a streakin'
Up the road, a wavin' at
Folks at windows peekin'.

Old September's just the month,
With it's air so bracing,
Fer an auto campin' trip
So we go racin.

Where the friendly road ahead,
Lined with plumes so golden
Lures us on adventuring
Like in times o'olden.

Down the shaded river road,
Crossing rattling bridges,
Swoopin' up a gentle slope,
Toppling over ridges.

Where we see ahead of us
Views we'll long remember,
World all decked out blue and gold
Smillin' at September.

though to loosen the big muscles of his shoulders. He pecked at his mustache. Then he turned to Fairchild.

"Well," he asked, "what do we do? Go up to the mine—just like nothing 'ad ever 'appened?"

"Exactly. Wait until I change my clothes. Then we'll be ready to start. I'm not even going to dignify this letter by replying to it. And for one principal reason—" he added—"that I think the Rodaines have something to do with it."

"Ow so?"

"I don't know. It's only a conjecture; I guess the connection comes from the fact that Squint put a good valuation on the mine this morning in court. And if it is any of his doings—then the best thing in the world is to forget it. I'll be ready in a moment."

An hour later they entered the mouth of the Blue Poppy tunnel, once more to start the engines and to resume the pumping, meanwhile struggling back and forth with timbers from the mountain side, as they began the

broken, well-seasoned timber of the mountain side, all necessary for the work which was before them. The timbering of a mine is not an easy task. One by one the heavy props must be put into place, each to its station, every one in a position which will furnish the greatest resistance against the tremendous weight from above, the constant inclination of the earth to sink and fill the man-made excavations. For the earth is a jealous thing; its own caverns it makes and preserves judiciously. Those made by the hand of humanity call forth the resistance of gravity and of disintegration, and it takes measures of strength and power to combat them. That day, Harry and Fairchild worked with all their strength at the beginning of a stint that would last—they did not, could not know how long. And they worked together. Their plan of a day and night shift had been abandoned; the trouble engendered by their first attempt had been enough to shelve that sort of program.

AL ACRES—Al Finds That It Makes a Lot of Difference How Even a Bull Sees Things.

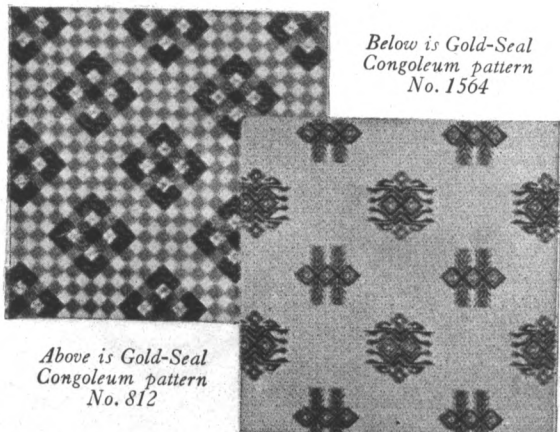
—By Frank R. Leet.





Your Protection Against Imitations

Pasted on the face of every two yards of genuine *Gold-Seal* Congoleum By-the-Yard you will find a paper Gold Seal. It carries our pledge of "Satisfaction Guaranteed or Your Money Back," and is your protection against inferior imitations. Remember the seal is printed in green on a gold background. Be sure to look for it when you buy.



Above is Gold-Seal Congoleum pattern No. 812

Below is Gold-Seal Congoleum pattern No. 1564

It's easy to keep this kitchen floor spotless—

NO small part of the charm of this cheerful kitchen is the attractive floor of *Gold-Seal* Congoleum. This floor-covering possesses the same long-wearing, flat-lying qualities that have made our *Gold-Seal* Art-Rugs so popular with the women of America.

Liquids and grease cannot penetrate the smooth, firm surface—a light going over with a damp mop makes it spotless in a twinkling. The basic material is a selected grade of felt which is unaffected by water. Thus it does not rot and crumble away along the seams and edges.

Many people seem surprised to learn that *Gold-Seal* Congoleum needs no fastening to the floor. No cementing, no nails, tacks or hammer. It "hugs" the floor tight with never a curled-up edge or turned-up corner.

Gold-Seal Congoleum offers the one solution to the national demand for beautiful, sanitary floors that are low in cost and easy to clean. Its low price and long wearing qualities make it particularly practical wherever the entire floor must be covered.

Gold-Seal Congoleum By-the-Yard costs only 75c a square yard, in either the 2-yard or 3-yard widths.

Owing to high freight rates, price west of the Mississippi and Canada is slightly higher.

CONGOLEUM COMPANY

INCORPORATED

Philadelphia New York Chicago San Francisco Boston Minneapolis
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Gold Seal
CONGOLEUM
FLOOR-COVERING

A Souvenir for our Friends

How many Colgate toilet articles do you use in your home? If you use three or more you can get this lovely "Beauty Box" which brings you joyous daintiness to use in some form of delightful cleanliness every day.

A "Beauty Box" for EVERYONE who uses three or more Colgate toilet articles

THIS special package is not sold at stores. It is now available solely for Colgate friends who send in the coupon below. Each "Beauty Box" contains a generous sample of four valuable products of the House of Colgate.

MIRAGE CREAM (Vanishing)—freshly fragrant.
RIBBON DENTAL CREAM—a dainty dentifrice for smiling teeth.
CASHMERE BOUQUET TOILET SOAP—as sweet as a bride's bouquet.
FLORIENT TOILET WATER—in a tiny vial that contains the mystic perfume of flowers of the Orient.

All four necessary articles come in a maize-colored box, daintily wrapped in wax paper, keeping fresh for you their captivating charm.

Into the making of Colgate's articles go rare essences, charm-giving compounds, and many an alluring fragrance of flowers from far-off Eastern gardens.

You can secure this "Beauty Box" only by filling out and sending in the coupon below.

Is yours a COLGATE Household?

"I NEVER imagined Colgate made so many things!" exclaimed a girl as she saw a list of "Colgate Comforts." "Why, I find they make a toilet article for every need of Dad, Mother, Sis—and the Baby!" You will be pleasantly surprised, just as she was, when you obtain this special package.

COUPON

List For Checking Colgate Articles In Your Home

Gift Dept. 294, COLGATE & CO., New York City

Ours is a Colgate household. We use regularly several Colgate articles which I have marked [V] below. I enclose 10c in stamps to help defray cost of packing and mailing my "BEAUTY BOX"—illustrated above.

- | | |
|--|---|
| <input type="checkbox"/> Ribbon Dental Cream | <input type="checkbox"/> Mirage Cream (Vanishing) |
| <input type="checkbox"/> Cashmere Bouquet Soap | <input type="checkbox"/> "Handy Grip" Shaving Stick |
| <input type="checkbox"/> Perfumes by Ounce | <input type="checkbox"/> Rapid Shave Powder or |
| <input type="checkbox"/> Perfumes in Packages | <input type="checkbox"/> Rapid Shave Cream |
| <input type="checkbox"/> Colgate's Dental Powder | <input type="checkbox"/> Handy Grip Refill Sticks |
| <input type="checkbox"/> Cashmere Bouquet Toilet | <input type="checkbox"/> Colgate's Bandoline or Bril- |
| <input type="checkbox"/> Water | <input type="checkbox"/> lantine |
| <input type="checkbox"/> La France Rose Water | <input type="checkbox"/> Colgate's Vanity Case, Com- |
| <input type="checkbox"/> Florient or Cha Ming Toilet | <input type="checkbox"/> pact Face Powder or Com- |
| <input type="checkbox"/> Water | <input type="checkbox"/> pact Rouge |
| <input type="checkbox"/> Florient or Cha Ming Talc | <input type="checkbox"/> Smelling Salts or Extract |
| <input type="checkbox"/> Lilac Imperial Water | <input type="checkbox"/> Vials |
| <input type="checkbox"/> Big Bath or All-round Soap | <input type="checkbox"/> Charms Cold Cream |
| <input type="checkbox"/> Colgate's Coleo Soap | <input type="checkbox"/> Florient Face Powder |
| <input type="checkbox"/> Natural Soap or Hard Water | <input type="checkbox"/> Cha Ming Face Powder |
| <input type="checkbox"/> Soap | <input type="checkbox"/> Baby Talc, Cashmere Bou- |
| <input type="checkbox"/> Mechanics' Soap Paste | <input type="checkbox"/> quet, Monad Violet, Violet |

Name _____

Street or R. D. _____

Town _____ State _____

I usually buy Toilet articles at

(Name of store) _____

Town _____



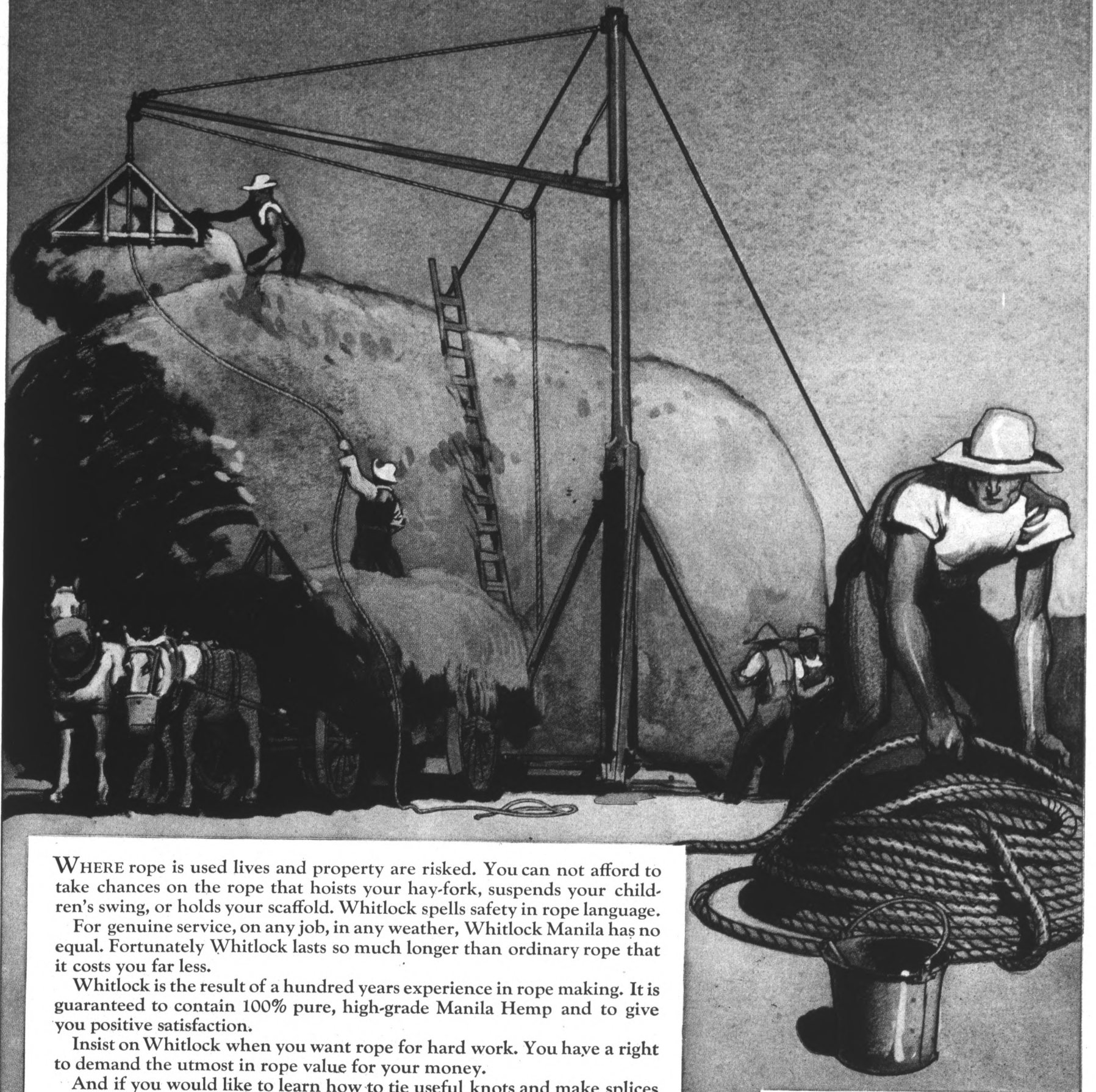
"Beauty Box"

—made for regular users of, at least 3 Colgate articles, this dainty box also may appeal to other friends. If less than 3 Colgate articles are in your home now, your neighborhood store offers an alluring choice!



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Ranks first in Safety, Strength and Endurance



WHERE rope is used lives and property are risked. You can not afford to take chances on the rope that hoists your hay-fork, suspends your children's swing, or holds your scaffold. Whitlock spells safety in rope language.

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Insist on Whitlock when you want rope for hard work. You have a right to demand the utmost in rope value for your money.

And if you would like to learn how to tie useful knots and make splices—knowledge that is often of great value—fill out this coupon and mail it at once.

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Branches
Boston, Kansas City, Chicago
and Houston

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46 SOUTH STREET, NEW YORK

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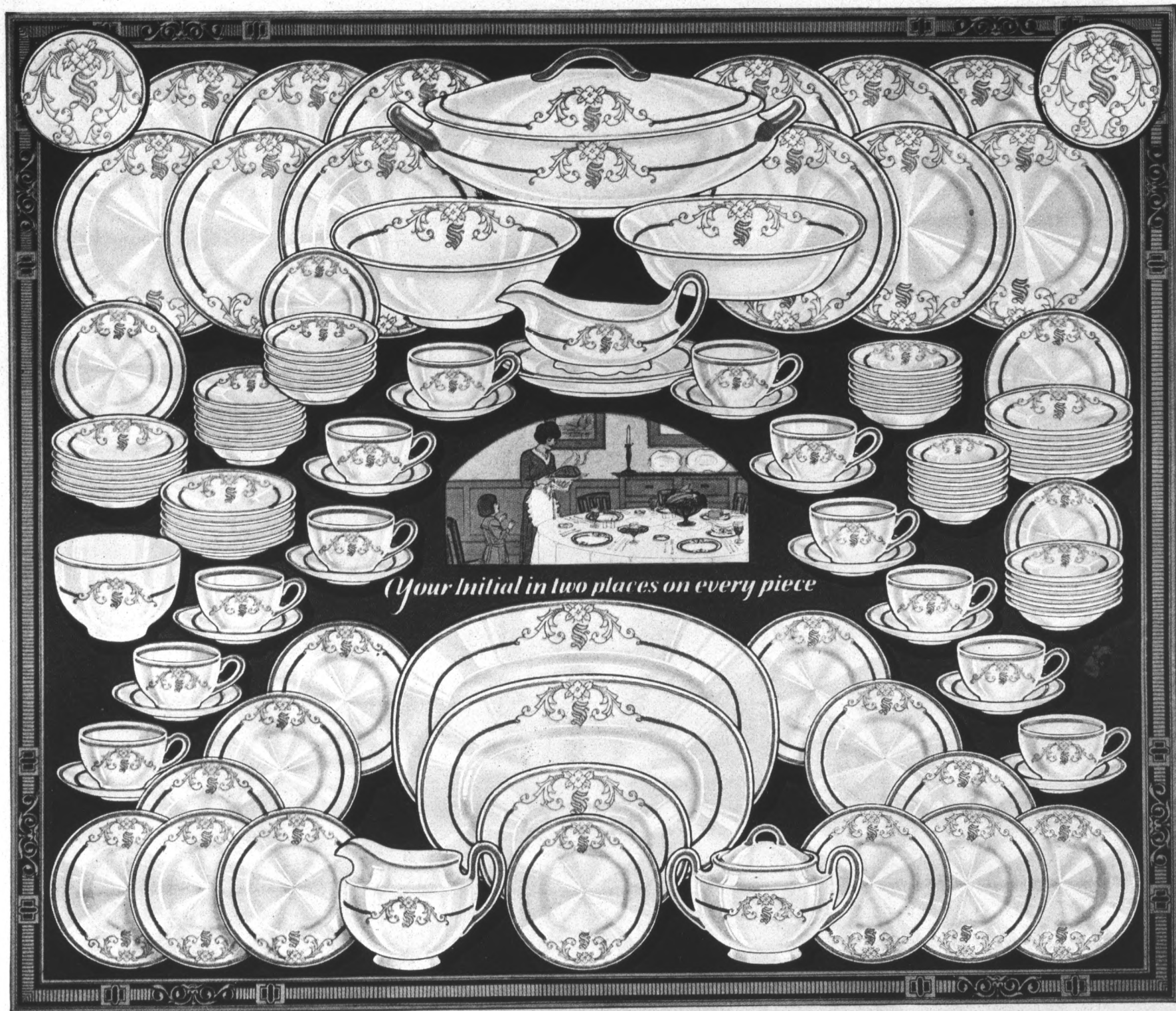
Name _____

Address _____

Hardware Dealer's Name _____

Address _____

Does he carry Whitlock Rope _____



This superb 110-piece Set, with your initial in gold, surrounded by a wreath of gold, in 2 places on every piece; decorated in blue and gold with gold covered handles; consists of:

12 Breakfast Plates, 7 inches
12 Soup Plates, 7 1/4 inches
12 Cups
12 Saucers
12 Cereal Dishes, 6 inches
12 Fruit Dishes—5 1/4 inches

12 Individual Bread and Butter Plates, 6 1/4 inches
1 Platter, 13 1/4 inches
1 Platter, 11 1/4 inches
1 Celery Dish, 8 1/4 inches

1 Sauce Boat Tray, 7 1/4 inches
1 Butter Plate, 6 inches
1 Vegetable Dish, 10 1/4 inches with lid (2 pieces)
1 Deep Bowl, 8 1/4 inches

1 Oval Baker, 9 inches
1 Small Deep Bowl, 6 inches
1 Gravy Boat, 7 1/4 inches
1 Creamer
1 Sugar Bowl with cover (2 pieces)

Brings This Complete 110-Piece Blue and Gold Decorated Dinner Set

A superbly decorated Dinner Set so beautiful and of such splendid quality that you must see it to realize what a bargain it is. Send only \$1 and Hartman will ship the complete set of 110 fine pieces. Use it as your own for 30 days on Free Trial. Then if not satisfied for any reason whatever, send it back and Hartman will return your \$1 and pay transportation charges both ways. If you keep it, TAKE NEARLY A YEAR TO PAY—a little every month while you are using it.

Your Initial in Gold, Surrounded by a Wreath of Gold, in 2 Places on Every Piece Gold Covered Handles

All handles are of solid design and are covered with gold as found only in costliest sets. Every piece decorated with a rich gold band edge, a mazarine blue follow band and 2 pure gold initials in Old English design, surrounded by gold wreaths. Notice the beautiful white lustrous body, made of best domestic and imported kaolins. You will also admire the artistic, symmetrical shapes, so pleasing to the eye and a constant joy to the user. 110 wonderful pieces in all. Go over the list above. See how complete it is—not a piece missing—and it is all yours at a price which makes it one of the world's greatest bargains. An opportunity you must not miss. Order today.

Order by No. 320DDMA15. Bargain Price \$26.95. Pay \$1 now. Balance \$2.50 monthly

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FURNITURE
CATALOG
Save 1/3 - Take
a Year to Pay

HARTMAN Furniture & Carpet Co. Chicago, Ill.

I enclose \$1.00. Send 110-piece Blue and Gold Decorated Dinner Set No. 320DDMA15. I am to have 30 days' free trial. If not satisfied, will ship it back and you will refund my \$1.00 and pay transportation charges both ways. If I keep it, I will pay \$2.50 per month until full price, \$26.95, is paid. Title remains with you until final payment is made.

Name _____

Street Address _____

R. F. D. _____ Box No. _____

Town _____ State _____

State Your Occupation and Color _____

Give Initial Wanted (Any One Letter) _____

IMPORTANT!

Hartman guarantees that every piece in this set is absolutely first quality, no seconds. This is a standard or "open" pattern. Replacement pieces may be had of us for 3 years. Each piece wrapped in tissue paper. Excellent packing to prevent breakage. Shipped at once.

HARTMAN Furniture & Carpet Co. CHICAGO
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silt was coming out now, spraying and splattering about on the sides of the drainage ditch. Wildly Harry waved a monstrous paw.

"Shut 'em off!" he yelled to Fairchild in the dimness of the tunnel. "It's sucking the muck out of the sump!"

"Out of the what?" Fairchild had killed the engines and run forward to where Harry, one big hand behind the carbide flare, was peering down the shaft.

"The sump—it's a little 'ole at the bottom of the shaft to 'old any water that 'appens to seep in. That means the 'ole drift is unwatered."

"Then the pumping job's over?"

"Yeh." Harry rose. "You stay 'ere and dismantle the pumps, so we can send 'em back. I'll go to town. We've got to buy some stuff."

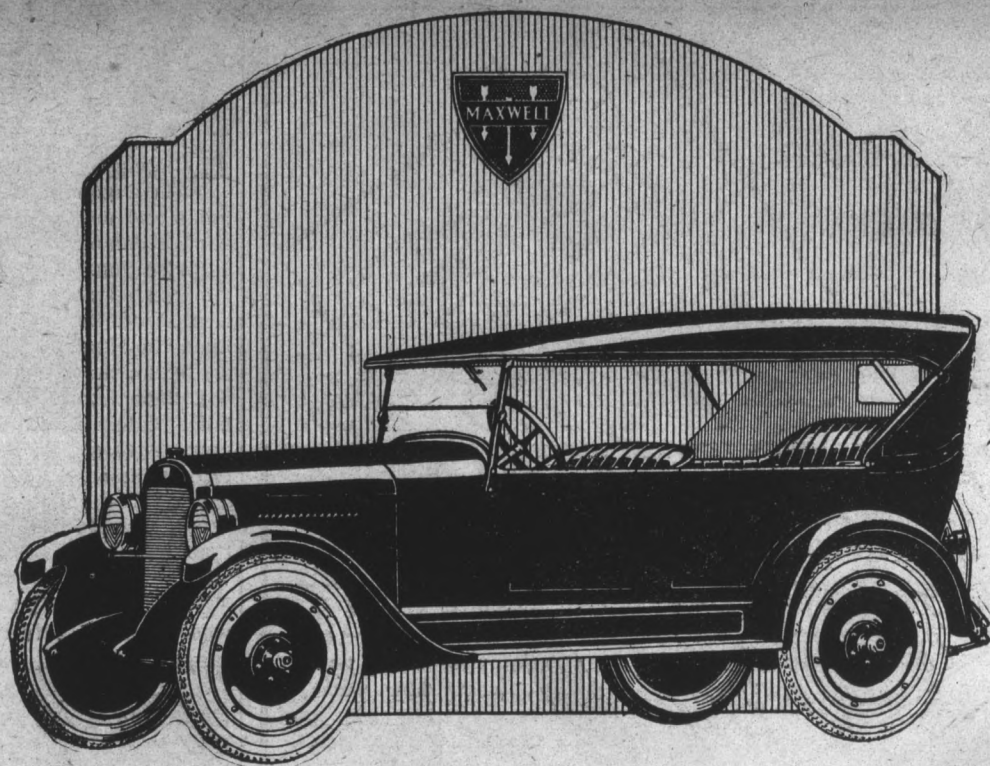
Then he started off down the trail, while Fairchild went to his work. And he sang as he dragged at the heavy hose, pulling it out of the shaft and coiling it at the entrance to the tunnel, as he put the skids under the engines and moved them, inch by inch, to the outer air. Work was before him, work which was progressing toward a goal that he had determined to seek, in spite of all obstacles. The mysterious offer which he had received gave evidence that something awaited him, that some one knew the real value of the Blue Poppy mine, and that if he could simply stick to his task, if he could hold to the unwavering purpose to win in spite of all the blocking pitfalls that were put in his path, some day, some time, the reward would be worth its price.

More, the conversation with Mother Howard on the previous morning had been comforting; it had given a woman's viewpoint upon another woman's actions. And Fairchild intuitively believed she was correct. True, she had talked of others who might have hopes in regard to Anita Richmond; in fact, Fairchild had met one of those persons in the lawyer, Randolph Farrell. But just the same it all was cheering. It is man's supreme privilege to hope.

And so Fairchild was happy and somewhat at ease for the first time in weeks. Out at the edge of the mine, as he made his trips, he stopped now and then to look at something he had disregarded previously—the valley stretching out beneath him, the three hummocks of the far-away range, named, Father, Mother and Child by some romantic mountaineer; the blue-gray of the hills as they stretched on, farther and farther into the distance, gradually whitening until they resolved themselves into the snowy range, with the gaunt, high-peaked summit of Mount Evans scratching the sky in the distance.

There was a shimmer in the air, through which the trees were turned into a bluer green, and the crags of the mountains made softer, the gaping scare of prospect holes less lonely and less mournful with their ever-present story of lost hopes. On a great boulder far at one side a chipmunk chattered. Far down the road an ore train clattered along on the way to the Sampler—that great middleman institution which is a part of every mining camp, and which, like the creamery station at the cross roads, receives the products of the mines assays them by its technically correct system of four samples and four assayers to every shipment and buys them, with its allowances for freight, smelting charges and the innumerable expenditures which must be made before money can become money in reality. Fairchild sang louder than ever, a wordless tune, an old tune, engendered in his brain upon a paradoxically happy and unhappy night—that of the dance when he had held Anita Richmond in his arms, and she had laughed up at him as, by her companionship, she had

(Continued on page 319).



A kind of value not to be duplicated, in the kind of a car the farm needs. Long mileage on gas and oil and tires. Genuine comfort on the road. Ease of handling, even in rough going. Beauty that makes people turn to watch it go by.

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Just out: Farms where no shut downs nor strikes rob you of fair pay for honest work: see 235 acres on page 44, 8-room house, 80-ft. barn, 500 cords wood, 150,000 ft. ft. timber; horses, 9 cows, poultry, implements, 100 bu. oats, 75 bu. buckwheat, 200 bu. potatoes, 10 bbl. apples, 10 T. hay, vegetables, \$3700, only \$1000 needed, Copy Free. STROUT FARM AGENCY, 814 BO Ford Bldg., Detroit, Mich.

160 Acres all fenced, 60 acres improved. House, stable, silo, etc. 5 acres bearing orchard. Trout stream across one corner. Gravel road, telephone and R. F. D. Good soil. Address: North-eastern Michigan Development Bureau, Bay City, Michigan.

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For Sale: Wild land dairy farm in heart of hunting and fishing resort country. 120 acres, 4 rm. house, barn, 2 cottages, 21 head cattle, 10 milk cows, \$2000 half cash. Box D-923, Mich. Farmer, Detroit, Mich.

WANTED To hear from owner of land for sale.

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The Long Look Back

Our Weekly Sermon—By N. A. McCune

LOOKING back is a healthful
thing to do, once in a while. It
is a good thing to count up the
miles and see how far you have trav-
elled. Sometimes the distance will
surprise you. This review lesson is a
glorious retrospect. There on the hor-
izon stand Zerubbabel the pathfinder,
Ezra the idealist, Nehemiah the build-
er, Isaiah the prophet-reformer, Daniel
the dependable, Naggai and Zechar-
iah agitators for God, and Malachi the
seer. A splendid company, all of them
the product of a small nation, within
about three hundred years. No other
people produced the religious leaders
that Israel did. There is something
very remarkable about it.

The other day I heard a man speak
who recently returned from Europe.



While there he
had an interview
with Lord Robert
Cecil, who is
prominent in Brit-
ish politics. He
asked Lord Cecil
if it were true
that Lloyd George
had lost some of
the moral earnest-
ness of former
years, and now
seemed to be con-
cerned largely with the problem of
keeping himself in office. Lord Cecil
replied in the affirmative, but said that
the prime minister retained his place
because there was no one in Great
Britain better qualified for the post.
The American laughed, but the Eng-
lishman cut him short, saying, "O, you
needn't laugh, you Americans haven't
any one as good." Great political lead-
ers are necessary, and great religious
leaders are as the bread for our ta-
bles. They are indispensable.

minds this greater truth, that He is
the God of the universe. National
boundaries do not hold Him back."
"There is neither Greek nor barbarian,
Scythian, bond nor free." But it took
the Exile to teach this. And they be-
gan to get the Scriptures together.
Hitherto they had depended on living
men, prophets and seers, to guide
them. But now in addition there was
a written record. And it required the
Exile to do this. Was it not worth
doing?

THIS brings us to the whole subject
of suffering and the part it plays
in the education of the human soul.
God had not brought the conquerors
down to deport these Hebrews, and to
lay waste their homes. But He had
allowed it to be done, because the peo-
ple had brought it on themselves
through disobedience. But God was
not content to let it rest there. Out
of this suffering He caused new truths
to arise, and a new light to shine. They
became a people with a different out-
look. In a sense they were a new
people.

Suffering does that for many a man.
Looking back, we see thousands who
have suffered for their beliefs. Look
at the Pilgrim Fathers and the Puri-
tans, to take a familiar illustration. It
must have been very hard for some of
those refined women to leave the an-
cestral home and go to a land of which
they knew little, and where exposure
and distress awaited many of them.
But wait. What has been the result?
Do not thousands of Americans boast
their New England blood? Have not
many of the finest fruits of American
life sprung from New England tradi-
tions? Just so. They suffered, but it
was not in vain.

MUCH is said about ancient Greece.
It is Greece this and Greece that.
But Greece was a very small country,
tiny compared to important modern
nations. Yet Greece produced more
great men in a given period than any
other nation known. Sir Francis Gal-
ton, the eminent scientist, states it as
his opinion that the average ability of
the Greeks was as much above that of
the average Englishman of the present
day, as the latter is above the African
negro. It is not the size alone that
constitutes a great people. Two farms
lie side by side. One consists of half
a section, the other of eighty acres.
The big farm is only half cared for.
The owner is always looking for a buy-
er, but never finds one. Crops are not
rotated, the orchard is not sprayed and
pruned, the owner has never developed
that requisite for success, pride in his
profession. The eighty-acre man is dif-
ferent. His farm is not the largest in
the township, but it is one of the best.
It is all cultivated to the highest de-
gree. For some products he has be-
come famous. People come from a dis-
tance to see his farm, and to "see how
he does it." Quality counts. These
men of Bible times had quality. That
is why we are still studying about
them.

The past few months have been de-
voted to the exile and the return of
the Hebrew people. When the exile
took place it seemed as though the
nation had been annihilated. Every-
thing was gone. Yet—not everything.
Some things remained. Out of the
loneliness, the suffering, the poverty,
of these vast deportations, some won-
derful flowers grew and bloomed. One
of these flowers was the idea of God.
The ancient people had always thought
of Him as the particular God of the
Hebrews. He was confined to Palest-
ine. But now there arose in their

IN one's personal life it is not differ-
ent. Suffering is oftentimes the anvil
on which character is hammered out.
You couldn't have a hero unless he
had been one who had suffered some-
thing. Washington, Lincoln, Nathan
Hale, and all the rest, are revered by
us today because they walked through
the furnace—and came out purified
and strengthened by the ordeal. Says
Herodotus: "It is a law of nature that
faint-hearted men should be the fruit
of luxurious countries, as we never
find the same soil producing both deli-
cacies and heroes." President King
puts it: "And Jonathan Brierly, the
famous English essayist comes at us
with this outburst: "The real cure of
souls rests finally with ourselves, and
nature, so far as we can see, has put
us here mainly for that business. Her
seeming indifference to our outward
fortunes and sufferings, and the deaths
she inflicts; her permission of every
kind of disaster, of misfortune, surely
point mainly to this. We are knocked,
battered, bruised, into something
greater than we are." And Brierly him-
self was a living example of what he
preached. For years he never had a
well day. He never knew when his
nerves would take a sudden turn and
put him to bed for two weeks. Yet he
was the most cheerful of persons, and
said that no one had a right to be
gloomy or unhappy because of ill
health. He had been hammered hard,
but it had healed his spirit, not hurt
it. "Endure hardness, as good soldiers
of Jesus Christ," says Paul.

INTERNATIONAL SUNDAY SCHOOL
LESSON FOR SEPTEMBER 24.

REVIEW:—The Exile and the Restor-
ation.

GOLDEN TEXT:—"Jehovah hath done
great things for us; whereof we are
glad." Psalm 126:3.

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And How to Feed

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the Author

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Soles are made from the choicest
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Get Brown's New
CUT PRICES
W. T. Greathouse writes:
"Fence received yesterday. I
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Write for our new 1922 cut price
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150 styles Double galvanized, open
hearth wire Roofing and palisade.
THE BROWN FENCE & WIRE CO.
Dept 490A Cleveland, Ohio

THE CROSS-CUT.

(Continued from page 317).

paid the debt of the Denver road. Fairchild had almost forgotten that. Now, with memory, his brow puckered, and his song died slowly away.

"What the dickens was she doing?" he asked himself at last. "And why should she have wanted so terribly to get away from that sheriff?"

There was no answer. Besides, he had promised to ask for none. And further, a shout from the road accompanied by the roaring of a motor truck, announced the fact that Harry was making his return.

Five men were with him, to help him carry in ropes, heavy pulleys, weights and a large metal shaft bucket, then to move out the smaller of the pumps and trundle away with them, leaving the larger one and the larger engine for a single load. At last Harry turned to his paraphernalia and rolled up his sleeves.

"Ere's where we work!" he announced. "It's us for a pulley and bucket arrangement until we can get the 'oist to working and the skip to running. 'Elp me 'eave a few timbers."

It was the beginning of a "three-days" job, the building of a heavy staging over the top of the shaft, the affixing of the great pulley and then the attachment of the bucket at one end, and the skip, loaded with pig iron, on the other. Altogether, it formed a sort of crude, counterbalanced elevator, by which they might lower themselves into the shaft, with various bumpings and delays—but which worked successfully, nevertheless. Together they piled into the big, iron bucket, Harry lugging along spikes and timbers and sledges and ropes. Then, pulling away at the cable which held the weights, they furnished the necessary gravity to travel downward.

An eerie journey, faced on one side by the crawling rope of the skip as it traveled along the rusty old track on its water-soaked ties, on the others by the still dripping timbers of the aged shaft and its broken, rotting ladder, while the carbide lanterns cast shadows about, while the pulleys above creaked and the eroded wheels of the skip squeaked and protested! Downward—a hundred feet—and they collided with the upward-bound skip, to fend off from it and start on again. The air grew colder, more moist. The carbides fluttered and flared. Then a slight bump, and they were at the bottom. Fairchild started to crawl out from the bucket, only to resume his old position as Harry yelled with fright.

FUN EDITOR'S CORNER.

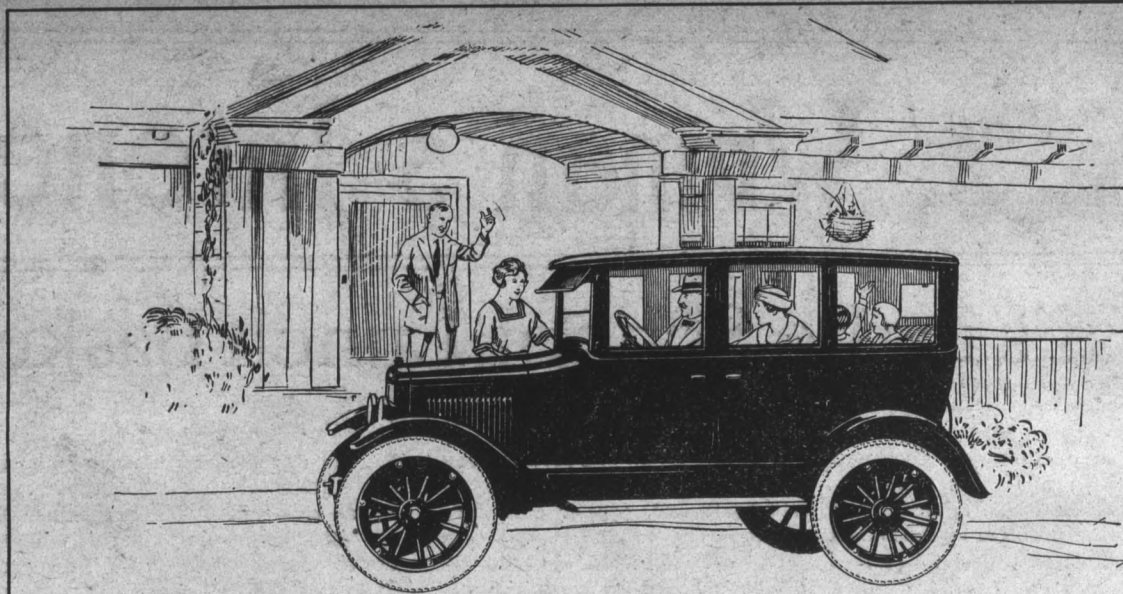
Dear Fun Editor:—You have asked us for our opinions in regard to the "nonsense" in your paper. Our family believe such nonsense to be an essential part of normal, happy lives. Clean fun never hurt anyone, no matter how intellectual he, or she, may be. A farmer, especially, these days requires a little extra stimulus to tickle his sense of humor. We enjoy Hy Syckle's homely philosophy, which so cleverly hits the point. We must admit that Al is not necessarily instructive, but a laugh promotes digestion, and may prevent nervous prostration.

Here's to X. Y. Z.

Beg pardon, Mr. X. Y. Z.,
My painful duty seems to be,
To break to you the sad, sad news,
Your head is losing several screws.
I hate to break this news to you.
Your "Humorous" is fractured, too,
How terrible! but I must say
Your smile has faded quite away.
I couldn't stand this ordeal twice.
Your blood has slowly turned to ice.
Bear with me Friend it has been proved
Your Funny bone has been removed.
It breaks my heart to have to say
Your soul is withering away.
I'm weeping with you, you foolish friend,

You surely must be near the end,
If you no longer see the worth
Of funny, foolish bits of mirth.

Carry on, kind folks; we need it.—
Mrs. J. Howard de Spelder.



The Overland Sedan—the Ideal Family Car

For the farmer who must get about quickly and without delay—for the housewife whose visits to town must be made in all kinds of weather—for the entire family who

want a smart, light, economical and comfortable car, there is nothing that fits their needs quite as well as the Overland Sedan, now priced at \$895.

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Come Take a Walk With Nancy Jane

Beautiful Walking Doll—13 Inches High

Nancy Jane wants to walk right into the arms of some little girl who will love her when she cries, walk with her when she is awake and sing her to sleep at night. For

**Nancy Jane can Walk
Nancy Jane can Cry
Nancy Jane can Sleep
Nancy Jane can Wink**

In fact Nancy Jane is just the doll every little girl dreams about and longs for. Every child is wild about her because she comes just as near being a perfect playmate as any dollie can.

Just Like the Picture

We are showing you a photograph of Nancy Jane so you can see just how she looks. She stands 13 inches high, has movable arms and legs, an unbreakable head, big round movable eyes that go to sleep and beautiful brown hair. She has a darling little flowered lawn dress with lace trimmings and cute patent leather slippers. She can sit alone, walk and cry out loud. Surely there couldn't be a more lovable doll.

Do You Want Her?

We have arranged to give her away to any and all of our Farm Life friends in return for a little favor. So if you want her just fill in the coupon below and mail it today and we will write and tell you how to get her without a penny's cost to yourself.

Mail Coupon today if you want Nancy Jane

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Woman's Interests



What's in the School Lunch Basket?

An Important Event of School Days

WITH the opening of the new term of school, the minds of many mothers are again turned to the perplexing problem of the school lunch, and indeed at times it becomes a perplexing one. To plan, in such a manner, as to always have just the right thing on hand for lunch is no simple task and this task becomes even more difficult to the mother who isn't just a few blocks from a grocery store, but oftentimes a few miles. Nevertheless, I believe my sympathies rest with the children who are obliged to eat these noonday lunches, for that has been my experience for some sixteen years.

Mary had a little lunch,

To tell the honest truth,
Too little; quite inadequate;
It wouldn't fill a tooth!

It went with her, this little lunch,

This paper, bread and bacon,
To school each day; she lost her punch,
Her health was sadly shaken!

'Til Mary's school served every day

A warm milk soup nutritious.
Now ask her how she feels; she'll say,
"Oh, boy, I feel auspicious!"

The thought of the second stanza of this little jingle is seldom true, for the lunch packed by mother contains sufficient amount, but that amount may lack in nutrition, variety and an appetizing manner of packing. The normal child that gets "two miles of oxygen twice a day" needs plenty of nourishing food. It is an easy matter to determine those children who do not get it. The child who walks to school and plays hard all day needs a nutritious and appetizing lunch to build up the cells of his body that are being consumed by these activities. If the lunch basket doesn't supply its part of this needed vitality in the daily menu of the child, then the result is bound to attract attention.

There are still many cases where the problem is not solved by a "warm milk soup nutritious," as referred to in the third stanza. Some rural schools have furnished themselves with suitable equipment for serving at least one hot dish to each pupil at noon, but those cases are still the exception rather than the rule. However, I believe the time is coming when the spirit of co-operation in rural districts will be developed to such a measure when the rural school without hot lunches will be the exception in *vice versa* to the present precedent.

In preparing the contents of the lunch basket, the one great thing to be avoided is falling into a rut. Just because the child likes a certain dish is no reason why it should be in the lunch basket five days a week. It has been said, "Variety is the spice of life," and if it were changed to "Variety is the spice of the school lunch," I believe it would be equally true.

Sandwiches seem always to form the basis of any lunch and offer a good opportunity for daily change. The following are a number of fillings that will satisfy almost any appetite:

Chop very fine one-half dozen of the small inside stalks of celery, and two large tart apples, sprinkle lightly with salt and spread between slices of buttered bread.

Chop fine a bit of sliced cucumber

pickle and some left-over salmon, pour a little melted butter over it, sprinkle with salt and pepper and spread on buttered bread.

Grate hard-boiled eggs on slices of buttered bread and sprinkle with salt and pepper. A bit of prepared mustard or mayonnaise may be appreciated by some.

Spread bread with chopped ham and thin slices of dill pickle.

With one cup of chopped celery mix one tablespoon of walnuts and five olives, or a small pickle. This is good with dark bread.

To one cup of chopped celery add one cup of cooked chopped raisins and moisten with a little lemon juice and mayonnaise.

If a little lemon juice or some nut meats or added to many of the jams or conserves they will make tasty fillings for sweet sandwiches.

Thin slices of cheese, pimento cheese, peanut butter, or slices of bacon add a welcome variety.

If graham, brown, rye, bran, or raisin bread is used for these sandwiches, the change will help to tickle the palate.

The price of a thermos bottle for the lunch basket should be considered as money well invested. Many things can be carried in it and it gives a splendid opportunity to carry something warm for the lunch. It can be filled with the many different soups, broths or bouillons, or cocoa, or milk, with a change every day.

For the mother who plans the lunch,

the day before, there are many possibilities in little baked puddings, such as rice with dates or raisins, custards with jelly, a baked apple, junket, a cup of potato salad, or the numerous fruit jellies that are such favorites with the children.

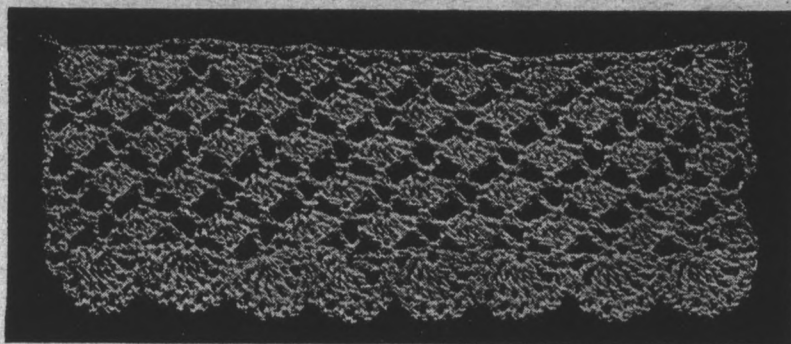
Fruit of some sort, such as the apple, orange, banana, peach, which can be had when fresh, may be varied with prunes, dates or raisins when others are not to be obtained. Pickles, of which there are numerous varieties to suit the individual taste, give a bit of relish to the school lunch, as do little fancy cakes and cookies.

When the lunch is opened everything will be in fine order and there will be no cake on the sandwiches, or the pudding will not taste of the apple that was near it, if each article is wrapped separately in waxed paper. A paper napkin should also be packed with the lunch, that the child may keep in mind his table manners while eating.

It is not necessary to have a wide variety for the lunch basket or an elaborate one, for a simple lunch with plenty of it, is much more suitable. Just see there is a little change each day. A little planning on mother's part will soon overcome the habit of a child grabbing a sandwich and running out to play without finishing his lunch. The teacher should also assume this as her duty for the welfare of the children in her school to see that each one takes sufficient time to digest his lunch before rushing out to play.

Make Some Empire Fan Lace

A Dainty Edging for Towels and Pillowslips



Explanations.—Ch means chain stitch (pull loop through the one on hook); sc, single crochet (with one loop on hook, pull loop through both the designated stitch of preceding row and the loop on hook); dc, double crochet (pull loop through stitch, then thread over hook and pull through both loops on hook); tr, treble crochet (thread over hook, put hook through stitch below and pull loop through the stitch, thread over hook and through two loops on hook; thread over hook and through the remaining two loops); dtr, long or double treble crochet (thread twice over hook, put hook through designated stitch and pull loop through, which gives four loops on hook, thread over hook and through two loops, thread over hook and through remaining two loops).

This dainty lace may be made any width the worker pleases. In its narrow form, as shown here, it is appropriate for trimming children's muslin frocks or any muslin underwear. It

also looks well upon doilies, tea cloths and tray cloths. Crochet cotton No. 36 should be used for it, and a correspondingly fine steel hook.

Make a chain foundation the length required.

First Row.—Dc 1, * 4 ch, miss 3 ch, 1 dc. Repeat from * all along row.

Second Row.—Turn with 5 ch, * 1 dc in next loop of 4 ch; 5 tr in the next dc, taking up both threads at the top of the stitch; 1 dc in next loop of 4 ch, 4 ch. Repeat from * along row, finishing the row with 1 dc.

Third Row.—Turn with 5 ch, * dc in the loop of 4 ch; 4 ch, 1 dc on the third tr of the next fan, taking up both threads at top of stitch, 4 ch. Repeat from * along row, finishing the row with 1 dc.

Fourth Row.—Ch 4 to turn; * 1 dc

in loop of 4 ch, 1 dc in next loop; 5 tr in next dc, 1 dc in next loop of 4 ch. Repeat from * along row.

Fifth Row.—Turn with 5 ch, 1 dc in loop of 4 ch; 4 ch, 1 dc in third tr of next fan; 4 ch, 1 dc in next loop of ch. Repeat from * to end of row. Work from the second row until the heading of the lace is depth required. In this model there are five sets of fans and the edge is begun after a repetition of the third row.

First Row of Footing.—One long tr in the dc in loop of ch between two fans; * 1 ch, 1 long tr in same place. Repeat from * five times, then 1 ch, 1 dc in the dc placed in the middle of a fan, 1 ch. Repeat from beginning of row.

Seventh Row.—Dc 1 in every hole made by 1 ch of last row, and 3 ch after every dc.

The fans along the edge should set with sufficient fullness to allow them to overlap slightly. This improves the general look of the lace.

This design is from our Needlecraft Book No. 15, which contains many other pretty patterns, and can be had by sending fifteen cents to the Michigan Farmer, Detroit, Michigan. Also, Book No. 10 also contains detailed very plainly illustrated directions for making all the different kinds of crochet stitches; for this it is very handy for the beginner in crocheting, and the more intricate stitches will interest the experienced crocheter. Price 15c.

"THE WAY I DO IT."

(This, from one of our cooperative subscribers, shows in a small way, how just a letter now and then will help some tired housewife and mother with her everyday problems. Let's have some more.—Eds.)

I have enjoyed reading how other housekeepers "did things" and so thought I would tell of some helps I have learned. In canning sweet peppers, I wash them, remove the seeds, cut them up, if necessary, and scald a few minutes in strong salt water, then drain them and pack into small jars or wide-mouthed bottles and fill to overflowing with hot vinegar, put in cork, and when cold dip into melted paraffin. If preferred the bottles can be filled with the hot brine. Mine keep fine. I use empty vaseline jars if I have only a few peppers.

I can my grape juice for jelly and make the jelly later in the winter. By straining the canned juice while cold all crystals will be removed, not to form again.

Old stocking tops sewed together and saturated with any good polishing oil—such as is used on dust mops—make fine cloths to rub the dust and dew marks off of the auto and saves lots of washing.

Pieces of crepe paper soaked a few minutes in warm water, make a nice dye for faded hair ribbons, odd bits of silk for fancy work, white silk waists, etc. This is nice for children as it change colors quickly and cheaply.

Was troubled by mice nibbling the paraffin off of can covers so tried baiting mouse traps with tiny pieces of paraffin and found it worked fine. It does not come off of the hook as easily as soft bait and before they could loosen it they were caught.—Interested Reader.

If you haven't running water with which to wash berries put the berries in a colander and dip in a deep pan of water. Lift up and down several times and the sand will run out.

Household Service

FRUIT FOR SUNDAES.

Would you please tell me how to fix the fruit to eat with ice cream? The fruit that I have canned is nice and thick, but as soon as it is put on it goes right through. Also, how is strawberry ice cream made?—Mrs. J. A.

I believe the trouble with the fruit that you can for a syrup or ice cream is that it is not rich enough. All fruit syrups which are left over from canning, either small or large fruits, should be bottled, sealed and stored away to be used for flavoring, or making beverages or syrups for ice cream or sherbet. Such fruits as peaches, strawberries, pineapples, give more satisfactory results when made into syrups before bottling, as the sugar helps to develop the flavors. Sauces for sundaes and for flavoring are often made from red cherries, plums, currants, raspberries, strawberries, rhubarb, pineapples and lemon. A good proportion for syrup of berries and small fruits is two cupfuls of sugar to each quart of juice.

The following is a table which may help you more definitely in canning the fruit juices: To each quart of grated pineapple (fresh) allow two pounds of sugar to one cupful of water; two pounds of peaches (fresh), one pound of sugar to one cupful of water; one quart of rhubarb juice to two pounds of sugar; one cup of lemon juice, one tablespoonful of grated rind, one pound of sugar to one cupful of water. A delicious drink is made by adding two or three tablespoonfuls of fruit syrup and the juice of one-half lemon to a glass of cold water.

To make strawberry ice cream, the canned fruit is added just before putting into freezer. The amount of fruit juice added must be deducted from the amount of milk and cream mixture. Simply adding whole fruit, grated fine, makes delicious flavors in ice cream.

LIME IN TEAKETTLE.

I have a new aluminum teakettle. Would like to know how I could prevent so much lime forming on the inside.—Mrs. D. J. D.

Would advise you to place either an oyster shell or egg shells in your teakettle. The lime will collect on these instead of on the sides of the teakettle and it is more easily removed.

WHEN CRICKETS ARE BOTHERSOME.

I am bothered with crickets eating my clothing. Can you advise any way to rid my house of them?—Mrs. M. C.

House crickets usually occur on the ground floor of dwellings and evince a liking for warmth, concealing themselves between the bricks of the chimney and behind the baseboards. They are rarely abundant, but at times multiply rapidly, becoming a serious nuisance. They will eat food and fabrics, especially woolen.

The Connecticut Agricultural Experiment Station reports these two measures of control: Mix one-half pound of potato flour which has been soiled by the crickets, with one-half pound of borax and one mashed, ripe banana. This is to be mixed with enough water to make a thick paste and placed where the crickets are most troublesome.



Another method may be used to exterminate these household pests. Dissolve one tablet of bichloride of mercury in one-half cup of water and add a cup of flour in which the skin of the banana is cut in small pieces. This is also placed easily accessible to the crickets.

TRY THIS FORMULA FOR MAKING YOUR FALL HAT.

HAVE you tried the newest "recipe?" It's for making hats and it was used with success at a recent millinery demonstration in Larimer county, Colorado, by Eva Floy Smith, Assistant Extension Agent. Here it is:

One spool of even disposition.

One thimble of temper with a tight fitting cover.

One sewing box of sunshine to use at will.

One yard of patience folded double, to increase strength.

One pair seven-inch smiles to stretch when desired.

One needle of hard looks for misplaced stitches.

One cushion to ease the bruises of disgust.

Mix in a comfortable rocker with a cool glass of lemonade. Tie with even disposition and add a ribbon from the sewing box. More than a prick from the needle spoils the composition. If a mistake is made hold fast to the yard of patience and stretch the smiles.

Women in the Wellington neighborhood who saw this "recipe" and the announcement of a millinery demonstration to be conducted, came eager to learn. They applied the formula as intended, and in the proper atmosphere of good will, devised a number of hats averaging \$2.50 in cost, but worth, if bought at the store, \$9 to \$15. Farmers' wives were enthusiastic over the practical demonstration. Attics were raided for hats to remodel and the town milliners cooperated in making a success of the school, for to them it meant the sale of trimmings and other supplies.

HOW DO YOU PRONOUNCE IT?

GRANDFATHER always said his "gooms" hurt, meaning the fleshy covering of his jaws. But when he had to masticate his food with those toothless jaws, he said, "I guess I'll have to gum it." The word is pronounced the same whether as noun or verb, whether it means the covering of the jaws or the stuff that you buy for a nickel a package. Don't tell the dentist your "gooms" hurt.

CAN!

CAN you can as well as any other canner can? If you can can as well as any other canner can, then this is the season you should look to your canning budget to see that your canning schedule is complete. There may still be many satisfactory substitutes to be canned in place of those which have failed this year for lack of the proper amount of moisture or because of plant disease. Reckon on the cold winter days and be sure you have enough to carry you through till spring.

Lily White

"The Flour the Best Cooks Use"

Bakes Delicious Breads



HOW TO MAKE MILK BREAD

3 quarts of Lily White Flour, 3 pints of lukewarm milk, 1 cake of Fleischmann's yeast. Set in morning in warm place and rise until light. 3 teaspoons of salt, 1 tablespoon of sugar, 1 tablespoon of melted butter or lard. Mix with Lily White Flour until stiff, or from 20 to 25 minutes. Set in warm place and let rise until light. Make in loaves and work each loaf from six to eight minutes. Set in warm place until light. When light take warm milk and sugar and put over top. Keep good fire and bake slow one hour and when baked wash over again to make nice smooth brown crust.

Look for the
ROWENA
trade-mark
on the sack

All that you hope for in a good flour you will find in Lily White Flour. It bakes delicious bread—bread that is fine of texture, light, very tasty and wholesome.

Bread baked of Lily White Flour is good bread and good to eat.

Reasons why you should use

Lily White

REASON No. 2

Made of America's Finest Wheat

This grain is Michigan Red Winter—the best flavored wheat grown in America—properly blended with the choicest grades of hard. The wheat is thoroughly washed, cleaned five times and scoured three times before going to the rolls for the first break. Thus every particle of dirt is eliminated from the grain and doesn't get into the flour or interfere in any way with the color or flavor of the bread.

Ask Your Grocer for LILY WHITE

VALLEY CITY MILLING COMPANY

GRAND RAPIDS, MICHIGAN

"Millers for Sixty Years"

\$1.00 PRIZE FOR YOU!

We will give \$1.00 to any woman who receives first prize for the best loaf of bread baked with Lily White Flour at any County or District Fair this fall. Simply write us about your winning.

YARN FROM MILL TO YOU

Beautiful sweaters, scarfs, shawls, jackets, hoods, gloves, stockings—dozens of lasting garments—for grown-ups and children cost $\frac{1}{2}$ less when you make them from Homewool 100% Virgin Wool Yarns. Direct from mill to you at big savings. Big skeins. Easy to make up. Attractive colors. Send today for free sample cards and Homewool Catalog.

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204 Main Street, Eaton Rapids, Mich.
Send for Catalog—it is FREE

"HOMEWOOL"

MICHIGAN FARMER PATTERNS FALL STYLES ARE LONGER.

No. 4122—Ladies' Dress. Cut in 6 sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. A 38-inch size requires 4 $\frac{1}{2}$ yards of 44-inch material. To trim as illustrated requires $\frac{1}{2}$ yard of 44-inch material. The width at the foot is 2 $\frac{1}{4}$ yards. Price 12c.



4122



4125



4117



4116

No. 4134—Child's Cape. Cut in four sizes, 2, 4, 6 and 8 years. A six-year size requires 2 $\frac{1}{4}$ yards of 44-inch material. Price 12c.

No. 4117—Girls' Dress. Cut in 4 sizes, 6, 8, 10 and 12 years. A 10-year size requires 3 $\frac{1}{2}$ yards of 32-inch material. Price 12c.

No. 4116—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. A 10-year size requires three yards of 40-inch material. Price 12c.

No. 4125—Misses' Dress. Cut in three sizes, 16, 18 and 20 years. An 18-year size requires four yards of 54-inch material.

Send all orders to Pattern Department of the Michigan Farmer, Detroit, Michigan.

Our Boys' and Girls' Department

Junior Winners at the State Fair

Young Folks Do Well in Competition with Mature Exhibitors

A GAIN the boy and girl club members made a showing in live stock at the State Fair which made old exhibitors sit up and take notice.

Their big winning this year was the second prize carload of fat steers which was sent in by the club members of Lenawee county, which won this place in competition with eleven other carlots, three of which were sent in by club members.

Besides, the boys and girls won their share of prizes in the other open classes. For instance, the Junior Champion Poland-China boar was exhibited by a club member from Hills-

and W. S. Wood, county club leader.

There were five girls in the general live stock judging teams. These girls proved their efficiency by winning out in the elimination contests which were held in August at the college. They are Margarette Bockofen, of Calhoun

county; Gertrude Straight and Iva Boquette, Cheboygan county, and Margarette Hebblewhite and Marion Shaw, both of Macomb county.

In the dairy judging contest, Washtenaw county got first with a score of 978 out of a possible 1,200. Genesee

was second, scoring 964; Iron, 824; Lenawee, 919; Hillsdale, 916. There were twelve teams entered in this contest. A. L. Watt, of Ann Arbor, trained the winning team.

The individuals who stood the highest are Henry Latson, of Washtenaw county, with a score of 370 out of a possible 400; Donald Kline, of Genesee county, scored 347; Iver Peterson, Iron county, and Heith Holden, of Oakland county, each 343, and Walter Walkup, Hillsdale county, 332. Henry Latson, Donald Kline and Heith Holden will make up the team which will represent Michigan at the National Dairy Show contests.

The new feature this year was the dairy fitting and showing contest. This is for the purpose of training the young folks in the preparation of the live stock for show purposes. Mr. Neville



By Muriel Young, of Grand Rapids.

dale county. The junior champion Berkshire gilt also belonged to a Hillsdale member. These are just two of the open-class winnings.

The fact that only two years ago the club member showing at the State Fair consisted only of three animals and this year amounted to over two hundred head, shows that the boys and girls are going to be real factors in the live stock contests in the future. In fact, this year they walked away with quite a little money. The Lenawee county members won about \$1,300 while the Hillsdale young folks got about \$60 in premium money from about half as many head as Lenawee. Besides the premium money these two counties got good prices at the auction for their prize-winning fat steers. At this auction the Detroit packers did everything they could to encourage the young folks by their good bidding on the young folks' stock.

In the live stock judging work there were three divisions: general judging, dairy judging, and dairy fitting and showing.

Nineteen teams were entered in the general judging contest in which Jackson county won first by a score of 996 out of a possible 1,200. The four next highest counties and their scores were as follows: Branch, 936; Eaton, 931; Washtenaw, 929; Manistee, 928.

The individuals ranking highest in the contest were Melvin Losey, of Jackson, with a score of 355 out of a possible 400; Ferris Foster, also of Jackson, 348; Jasper Conklin, of Marshall, 343; Perry Rawson, Lenawee county, 327; Edwin Knapp, Washtenaw county, 324.

Jackson county, having won first place, will represent Michigan in the non-collegiate contests at the International Live Stock Show at Chicago, in which fifteen or twenty state teams will compete. This winning team was trained by Roy Decker, county agent,

Our Letter Box

THIS letter box will be where the boys and girls can express their views, tell of themselves and things about the farm, or ask advice. The most interesting letters each week will appear here. Address your letters to me.—Uncle Frank.

Dear Uncle Frank:

I am a girl fourteen years old, and although not a farmerette, it seems like the farm sort of belongs to me, because once last year in school Georgia Brown (do you remember her) and I were on the "country side" of a debate on the question, "Which is better, city or country?" I had to think of so many of the country's advantages that before I had finished, I was quite in love with it.

I live in Grand Rapids, but every summer I go to visit "Juggy" Brown and we have lots of fun, especially does she like to laugh at her "city friend's" mistakes, such as when I ran after a run-away pig, calling "Whay, Whay," and shaking a pole at him. Now, I don't see anything funny about that, do you?

I do wish some of you would write to me because I should think it would be lots of fun to correspond with people that you have never seen. Your friend and cousin, Dorothy Lundquist.

Your "farm" experiences are not complete until you have a playful calf pull you over a five-acre lot. It will keep you going some. I am glad you like the country after making a study of its advantages.

Dear Uncle Frank:

I have never written to you before, but I hope I may become a niece of yours, even though my home is not in Michigan, for I have never seen letters from any boys and girls who live in any other state.

I live on a seven-hundred-and-fifty-acre ranch about a mile and a half from town. My father raises grain and beans on about half of it, and the remainder is pasture.

I like to ride horseback very much, and have two horses of my own, Johnny and Little G. are their names. I also have a red, green and yellow parrot which is always calling "Alys" at the top of his voice.

I am fourteen years old and will be in the second year of high school this term. Our school starts the fourth of September, and it seems as if we had only had about one month's vacation instead of almost three.

Well, I'm afraid my letter is rather long so will close. Sincerely, your would-be niece, Alys Ellery.

You are my can-be-niece, Alys. I believe Michigan young folks would like to read more about California, so please write again.

Dear Uncle Frank:

I have read many interesting letters in The Michigan Farmer, and would like to join this happy circle. May I?

I am fifteen years old and will be a junior in high school next year. Although I stay in the "Sor" when I go to school, I like the country the best.

Our farm consists of 220 acres. We have horses, cows, pigs, chickens, cats, a dog and one goat, which is about ten years old and which my brothers find much amusement with by hitching it up to their goat wagon.

Would like very much to hear from some of the other boys and girls. Do hope my letter is not too long.—Your niece, Mildred Miller.

I wonder if you ever get your brother's goat when you are home? We are glad to have you in our happy circle and hope you will "come again."

Dear Uncle Frank:

How are all my pals, anyhow? I am a boy of twelve years of age and live on a farm of sixty acres. I like to live on the farm. We moved from Minneapolis, Minn., a year ago. I lived on the farm in northern Minnesota, too. I have a good time on the farm, and have many good times swimming, hunting and fishing.

Last spring I was picking cherries and after buying clothes and helping father and mother, I had five dollars left. So I bought a Chester-White hog for five dollars. It was small then, but weighs about eighty pounds now. As soon as he weighs about three hundred pounds I will sell him, and see how I will make money. James Massie, Lawton, Michigan.

I am sure you used wisely the earnings from your cherry picking. Please tell us what you make on your hog.



Daddy's Man

By Marjory Hellman, Six Lakes, Mich.

Pearson, assistant state club leader, said that this one season's work has already shown its effect in the better fitting of the show stock sent in by the boys and girls.

The teams at the fair, four of them, were selected in an elimination contest at the college, in which most of the dairy club teams of the state competed. One team was selected from among the Upper Peninsula clubs at the Round-up at Chatham, making five teams in all.

The Eaton county team, composed of Verlin Ransom and Vernard Shrader, got first place. Jackson won second, Oakland third, Dickinson and Macomb tied for fourth. One boy from Lenawee county tied for second with Vernard Shrader in individual scores. These two, with Verline Ransom, will go to the college for a week's instruction and then two will be selected to represent Michigan at the National Dairy Show.

All of those who will represent Michigan at the International and National shows will have a week's instruction at the college just before going to compete with other state teams.

THE FUNNIEST THING I EVER HEARD

By Helen Coffman, Coldwater, Mich.

My father had a new hired man from the city, who did not know a great deal about farming. The first day he was here my father gave him the milk pail and stool and told him to go milk the cows. In about half an hour he returned without any milk. My father asked him where the milk was and he answered, "Well, I chased one cow all over the field and haven't got her to set down on the stool yet."



The Club Float at the Big Get-together at Coldwater in August.

The Brain Gymnasium

By Uncle Frank

BY the replies to the last Read-and-Win Contest, I can tell that school is starting and that you are busy trying to accustom yourselves to studying again.

It is always hard to change from outdoor activity and freedom to study and confinement for a great part of the day at the school desk, but after a few days one gets used to the change and is usually ready to settle down to business.

There are some, however, who never get used to studying and do not like

Labor-Saving Contest

THE contest this week will involve your mother, for you shall have to ask her to tell you the labor-saving device she would most desire, and why, in order to answer it. We all know mother has a lot to do, but many of us do not know that she may have thoroughly in mind some one mechanical thing which would help her most in her work. Ask her questions on this subject and then write me a neat letter of one hundred and fifty words on the subject, "The Labor-Saving Device my Mother Most Desires, and Why." The five best letters will get one dollar each, provided they are in this office by September 29. Address all your letters to Uncle Frank Michigan Farmer, Detroit, Michigan.

school because they are of the active, or motive, type of boy or girl. This type wants to do some active thing all the time, and sitting down and thinking or studying is distasteful to them. On the other hand, the thinker type dislikes intense activity and is enjoying himself the best when he has "his nose in a book."

I have twin boys who are the two opposites in this respect. One simply does not want to study but is a ripper for work and enjoys nothing like getting out and having a tearing old time. The other one likes to read and think things out, but when it comes to physical exertion, he isn't there.

I can see that in the future the thinker boy will do the planning while the active one will execute the plans, provided they can agree on some form of occupation.

You are either one or the other of these types, or a mixture of both. If you are of the active, or motive, type just take ahold of yourself and insist on studying, because it will do you a world of good. On the other hand, if you are of the thinker type and are inclined to be lazy, make it a plan to go out after school each day to participate in some wholesome play or other activity. You need the activity to keep your body healthy and your mind clear.

Your school is your brain gymnasium and organized play is your body educator. Use them both if you wish to develop into a well-developed man or woman.

"THE MICHIGAN FARMER"

Last night I was hunting for something to read, "The Michigan Farmer" provided my need, I sat by the table, my head on my hands, And began to read, "Cultivation of Lands."

It told about plowing and planting the grain;
It told about drilling and rolling and gain;
It told about fighting the insects and weeds;
It told about picking and choosing the seeds.

"Radio Department" then quickened my vision,

An hour I was lost in this happy de-
rision;
It explained Radio from finish to start,
So I tried to learn the mechanism by heart.

Then next, "Our Letter Box," captured my attention;
Letters from children of Ohio and Michigan.

I read about the poetry and puzzle contest,
And determined to enter my name with the rest.

As a farewell word, I beg to make bold,
"The Michigan Farmer" is the one paper sold

That's with the farmer, for the farmer, the farmer's pal;
Ask any farmer anywhere, the same thing to you he'll tell.

—By Beatrice Sanderson,
St. Charles, Mich.

THE READ-AND-WINNERS.

THERE were only seven who got all the answers to our Read-and-Win Contest correct. Most of the others failed in answering either questions number one or seven.

Two of the correct ones were very neat, but their papers were disqualified because the answers were not concise enough. These two were Faith Harriet Goodell, of St. Joseph, and Marjorie Mackley, of St. Clair.

The following are the fortunate five:
Rodney Howard, Bangor, Mich.
Helen DeCoudres, Bloomingdale, Mich.

Charlotte R. Stables, Traverse City, Mich.

Louise M. Hodge, Morrice, Mich.
Ariel Denton, Saranac, Mich.

WANT TO CORRESPOND.

THE following boys and girls would like to correspond with others interested in this department:

Florence Howes, Ithaca, Mich.
Alma Forster, Freeland, Mich., R. 3.
Dorothy M. Kucks, Honor, Mich., R. 3.

Hazel Ziegler, Olivet, Mich., R. 3.
John Blowers, Newberry, Mich.

Luella E. Bush, 719 Carrie Street,
Sault Ste. Marie.

Correct Answers

HERE are the correct answers to the Read-and-Win Contest, which appeared in our department September 9:

1. The omission of mash—Page 267.

2. By pasteurization at a temperature of 160 degrees and cooling quickly—Page 64.

3. 16.6 bushels—Page 51.

4. In order that the most may be accomplished with the least effort—Page 57.

5. That potatoes have been grown in high temperatures or in sandy soil, or that the variety is running out—Page 55.

6. Separating them and feeding the hogs tankage—Page 269.

7. Lack of phosphorous and nitrogen in many soils—Page

8. Lawyer to help Harry Hawkins—Page 261.

9. By A. M. Smith, Lake City.

10. Lack of sufficient mineral matter in ration. Give plenty of range and leguminous forage—Page 254.

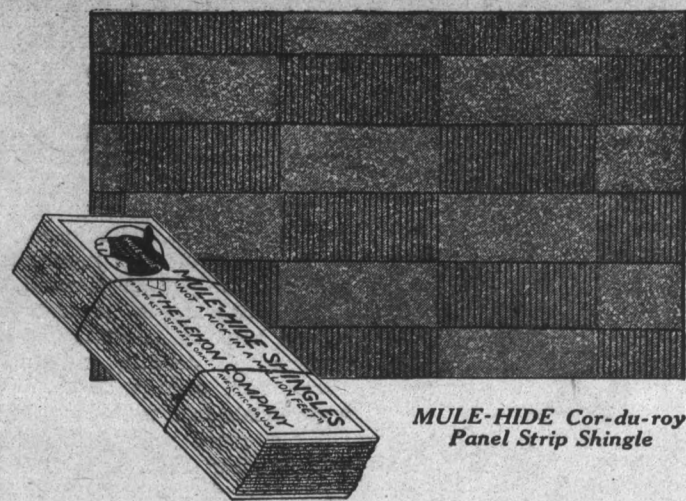
Edith Karr, Topinabee, Mich.
Leila Bush, Brimley, Mich., R. 2.
Nellie Howell, Topinabee, Mich.
Lilah M. DeVoe, Rockford, Mich., R. 2.

Charlotte Moeckel, Munith, Mich., R. 3.

Anna Sprague, Kent City, Mich., R. 3.
Gaynell Hauer, Hillsdale, Mich., R. 4.
Howard Sherman, Edwardsburg, Mich.

Lillian Dogmar Jarvi, Amasa, Mich.
Mary Picha, 217 W. Stewart Street,
Owosso, Mich.

Ruth Wilson, Belleville, Mich., R. 4.
C. W. Hoffman, Fremont, Mich.



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The inventor is offering to send a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help introduce it. Write today for full particulars. Also ask us to explain how you can get the agency and without experience or money make \$250 to \$500 per month. Address

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Natural Leaf Tobacco Chewing, 5 lb., \$1.75; 15 lb., \$3. Smoking, 5 lb., \$1.25; 15 lb., \$3. Send no money, pay when received. FARMERS' TOBACCO ASS'N., Paducah, Ky.

DOGS

AIREDALE PUPS. Sired by son of Tip Top. From registered stock. Make fine watch dogs for farm homes and poultry. Males, \$15. Females, \$10. R. G. Kirby, R. 1, East Lansing, Mich.

Ten Extra Fine fox hound pups three months old none better. Males \$15, females \$10. W. E. LECKY, Holmesville, Ohio

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OFFER No. 509.

MICHIGAN FARMER, one year..\$1.00
Capper's Weekly, one year..... 1.00
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Total value.....\$2.45

All for \$1.75

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SOIL ANALYSIS

Grow clover or alfalfa by adding limestone. We determine soil acidity for \$2.00. CENTRAL ILLINOIS TESTING LABORATORIES, 317 Fremont St., Champaign, Illinois.

Poultry Culling and Selection

(Continued from Page 299)



No. 11. The "Beef" Type.

the yolks are in various stages of development and that the hen in all probability is laying, whereas the closed pelvic arches indicate a non-functioning ovary or a bird that is not in a laying condition. Practically all laying hens will show a good spread in this region but all are not laying at the same rate and therefore, all are not equally profitable.

The capacity test should be supplemented with the pigment test because the latter indicates past production. A hen may be temporarily off production due to broodiness, in which case the bones will close, but if white legs are found to be present, and the hen is showing no indication of moulting, she should not be discarded because she will undoubtedly return to early production.

Poultry raisers, as a class, are familiar with this bleaching process, commonly referred to as the pigmentation test. It has a practical value in culling during the summer, and is essentially a test for the novice.

The yellow pigment which is evident in the shanks, and beaks of the Leghorns, Anconas, Rocks, Reds, and Wyandottes, is re-absorbed and used for yolk coloring. After approximately eighty eggs have been produced, the legs will have bleached entirely, showing the pale or white condition common to hens that are recommended to



Fig. 15. Good Egg-laying Conformation

be retained one year longer. The large beefy hens that have not had the strain of heavy production will in every case, show considerable yellow pigment in both the beak and shanks.

We are no longer laboring under the delusion of the early moulting hen filling the egg basket during the winter months. Big records are impossible when production is limited to a few months in the year. It is the hen of Marathon type, rather than the sprinter, that covers the distance of two hundred eggs or better. Egg laying contests are not always decided until the last day of the laying year, October 31.

Ordinarily, the late-moulting hen presents a ragged, bleached appearance towards the end of October. This is due to the brittleness of the feathers which lose their oil and moisture content through intensive production. The hen on millinery display presents a sleek, well-groomed condition, indi-

cative of her past performance as a producer—the social parasite of poultrydom.

Late moulting, and quick moulting are the policies of the heavy layers. Early and prolonged moulting is the policy of the slacker element.

The writer places special emphasis on the head in selecting for egg production. A definite correlation between each section of an animal always exists in a well-balanced individual. A great many people are now "Hoganizing" their hens and laboring under the delusion that they are attacking the business end of the hen. The head indicates more accurately the delicacy and efficiency of the internal mechanism than any other section in the production of eggs.

All hens can be roughly classified into one of the four following groups:

First, the crow-head type, which is an indication of low vigor; the long straight, narrow beak; sunken eye, nar-

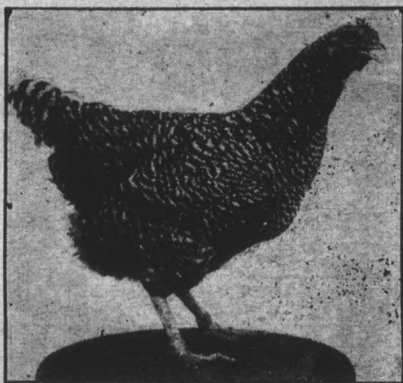


Fig. 10. A Typical High Producer.

row skull, is characteristic of the constitutionally poor producer, as shown in Figure 9. This type not only makes unsatisfactory layers, but produces chicks that are slow to feather and slow to mature.

The second general class include the refined type of heads, as shown in Figure 10. The refined head should reveal femininity and alert responsive disposition and a characteristic temperament of the genuine egg machine. The head is of medium length, avoiding the short, thick conformation of the more beefy type, or the long conformation of the crow-head type. The skull is moderately narrow, likewise the jaw is not heavy or thick. The skin lining the face should be extremely thin and delicate, giving the face a dished appearance. The eye should be prominent, bulging, and placed well back in an oval eye socket. This gives the placid, feminine, and intelligent appearance to the face. There should be an absence of all tendencies to throatiness and heavy thick neck.

The third general type of head is common to the beefy class. The head in this case, as shown in Figure 11, is short, heavy, and coarse, with a wide skull and coarsely wrinkled skin. In

addition the jaw is usually wide, and the neck short and heavy. The fourth general class includes all hens showing secondary male sexual characteristics. This class includes all hens developing either the male voice, common to hens described as Incomplete Hermaphroditism, or the other group, that take on masculine characteristics due to atrophy of the ovary. In either case, the head becomes gross and masculine and the egg sack never shows any development.

Figure No. 12, masculine.

Practically all hens can be directly classed in one of the above mentioned groups. Many hens fall intermediate between these four distinct groups and which make it possible to detect their weakness, either as a layer or breeder.

The head is the mirror of production, and reveals not only the motor capacity, but also the efficiency of production.

Egg production alters the type of all



Fig. 12. Non-Laying Masculine Type.

hens. Figure No. 14 illustrates the round conformation which is very undesirable. The hen showing short round ribs usually takes on considerable internal and external fat, and moreover, is the loose-feathered, early-moulting type. The conformation test is nicely applied to mature pullets as well as to hens in their first laying year. The ideal conformation is shown in Figure 15. This particular hen is an extremely long-distance layer, having produced for two consecutive years without any break in production. Attention should be brought to the long, deep, flat ribs, and broad flat back, which gives the wedge-shaped conformation. This particular conformation is associated with close feathering and late moulting. The egg record sheet usually coincides very closely with the illustration in Figure 2. A flat ribbed bird will seldom take on internal or external fat, and will in most cases remain profitable for two or three years.

We are not only interested in the elimination of the less profitable stock, but are also concerned over the production of fewer culls. This means that the best individuals in each flock should be segregated and mated the



Figure 9. Crow Type Non-producer.

following spring. Frequently we will find hens producing records such as illustrated in Figure 3. They evidently have plenty of vitality as is indicated by a wide distribution of production, but the broody factor being present, reduces the profits to a great extent. The average American hen goes broody four times a year which means a loss of approximately one dozen eggs with each rest period. This undesirable characteristic can be eliminated by breeding only from hens that never go broody or limit their rest periods to one or two vacations each. The wing fairly accurately furnishes this information. Figure No. 13 shows the wing of a hen that has been on an extended vacation. The wing is divided into two distinct parts, the outer ten feathers form the primaries, or flight feathers. In the center of the wing is a small pointed thumb feather which is usually one of the last feathers to moult. The balance of the wing forms the secondaries. The broody hen usually confesses each rest period by moulting one of the primary feathers. If a two-weeks' vacation is indulged in, ordinarily the tenth feather will drop off and a new feather quickly replaces it. Later the hen will return to production when the maternal instinct



Fig. 14. Fat-producing Conformation.

will again develop when feather No. 9 will drop out again to be replaced by a new feather. The latter part of September is the ideal time to check up on the intensity of this broody character, and hens that are moulting that register over five new feathers, should not be privileged to enter the breeding pen the following spring, although they may be kept over as profitable laying stock. The wing also reveals the lateness of moulting. The early moulting hen will usually shed the entire primary feathers, whereas the hen that moults in November will usually retain the two outer primaries, the hen that moults in December can usually retain three or four outer primary feathers, and the more persistent type that delays moulting until January or February will retain an even greater number of the outer primaries. This latter fact can be used the following



Figure 13. The Wing Feathers Tell the Moulting and Rest Period.

spring in the selection of breeding pens if the birds were not marked the previous fall.

Hens are all typically feminine in that they are unable to keep secrets. By a combination of the tests herein briefly outlined, considerable accurate information is available about the in-

dividual laying qualities of all hens. The pigmentation test tells past production; the capacity test, present production; the moulting test, future intentions. The wing tells of the number of rest periods, and the head indicates the speed of the motor, or the rate of production.

Rural Health

By Dr. C. H. Lerrigo

BRINGING UP THE BABY.

THE young father and mother (boy and girl but a year or so back) with their first baby to raise, shoulder a responsibility much weightier than seven or eight pounds of wailing daintiness. Seldom are they prepared. Generally their trust is in grandma or some older brother or sister. If the least difficulty arises they can only turn to the experience of those who have traveled the road ahead of them and perhaps wandered disastrously over much treacherous territory in so doing.

The following extract from a recent letter serves to illustrate:

"We live with my husband's parents, and when the baby was a couple of days old, before the milk came, he had a hard crying spell, and acted as though he was hungry. The doctor had told us not to give him anything excepting a little warm water besides his nurse, until the milk came. But my husband's mother thought he was crying because of hunger, so she burnt some whiskey and gave to him. Should she have done this?"

Another young mother writes about the crying spells of her baby. They came to be a regular daily affair, keeping on until eleven or twelve at night. So before he was three months old she weaned her baby and began to give him condensed milk, with very poor results.

Still another young mother started to nurse her baby at three-hour intervals in accordance with the advice of the doctor, but finding that he cried a great deal took up the plan of nursing a little whenever he cried. Now she wonders why he doesn't gain in weight.

Another of these girl mothers has been told to give her baby a few drops of castor oil every day. Shall she do it? Still another is worried because the baby sleeps so much of the time and cries so little that it doesn't seem natural.

The Shepard-Towner bill, passed at the last session of congress, is for the special purpose of providing, through trained nurses and other workers, proper education for these young parents. It would provide in every community some means of seeing that the young mother is kept in good health while carrying her baby, and is taught how to bring the little one up in good shape. These little things are mighty important to the health of the nation. Babies should not be given whiskey. They should not be weaned from the mother's breast at three months and put on artificial food. They should not be nursed at any and all hours. They should not be given laxatives and purgatives. These apparent trifles are among the matters that contribute to our infant death rate, to say nothing of the anxiety and distress they make for the young parents. The Shepard-Towner act has been accepted for operation in Michigan. Let us help the State Board of Health to put it into efficient action.

OVERWEIGHT.

Could you tell me in your health page what would be good for a sore back? I am twenty-four years old, the

mother of five children. Have a baby four months old, and I weigh one hundred and ninety-eight pounds, and am five feet four inches tall. It seems to be worse in the morning or when I stay in a certain position a little while. —Mrs. J. A.

You are greatly overweight. This very likely explains your backache and aside from that is dangerous to your general health. Get your weight cut down. Reduce your diet twenty-five per cent by actual weight and keep it up for a month. If this is not sufficient cut it another ten per cent. Avoid fats, sweets, butter, cream, and an excess of starchy foods. You will find the leafy vegetables safe and they will help fill up without fattening.

NOSE TROUBLE.

The middle turbinate bone of my nose became enlarged until it completely closed the nostril, at the same time closing the tube on one of the sinuses so it could not drain, causing it to become infected. Can this sinus be cured? Would the sea coast air help me? What would you advise? —Mrs. M. F. D.

Chronic suppuration of the nasal sinuses is sometimes hard to cure because the infection may spread from one sinus to the other until all are infected and also the antrum which is the large cavity beneath the cheek. The only treatment is a surgical operation that will give you complete drainage. It is important to have the work done by a doctor of wide experience who will do a thorough job. I fear that sea coast air would not help you much without the surgery.

CAUSE OF HAY FEVER.

I have heard about hay fever being caused by weed pollen and how a campaign was being carried on against it by destroying the weeds. It is some job to destroy all the weeds around my place, but if you will tell the worst ones I might go after them. I have understood it was golden-rod and roses. We don't have either. —F. B. K.

Neither roses nor golden-rod are guilty. Both are insect pollinated and make no trouble except after direct inhalation, such as might occur if you use them for table or room decorations. The worst weeds for hay-fever in your part of the country are rag-weed and cocklebur, both of them good weeds to eradicate.

HEART TROUBLE DUE TO TONSILS.

I thought I would write you concerning my husband. He has some form of heart trouble. About seven weeks ago he took a spell that laid him in bed for three weeks. It came on very sudden. The doctor said he didn't know what was causing the trouble; he called it endocarditis. We think maybe he had the flu. He had a degree and a half of fever for about two weeks. He is up and around now but is weak and pulse is rapid. I think his tonsils are diseased. Do you think that it would help him to have them removed? —O. B. I.

I think there is little doubt that the endocarditis is a result of the diseased tonsils. Have them removed by all means. Also the patient must be very careful to avoid all strain upon the heart until the condition clears up. This may mean prolonged rest in bed.

A Partner for the Boys, the Women, and for the Man Who Calls Himself Head of the House

INTERNATIONAL—the popular kerosene engine, is as faithful and willing a helper as you can find in a life-time of searching. One that neither grumbles nor shirks but just chugs away all day and night, if need be, and doesn't ask for over-time pay.

An engine that pleases the boy and the hired man because it does the pumping and keeps the tank filled with clean, fresh water when the weather is hottest and the stock most in need of water.

An engine that pleases the women folks—by taking the hard work out of wash day and by running the churn, cream separator, etc.

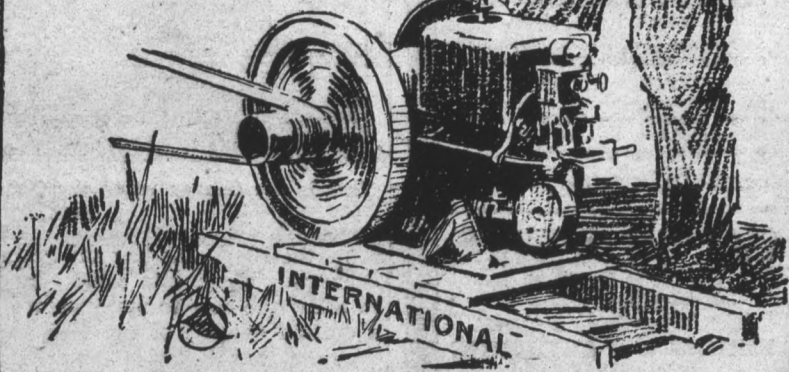
An engine that the family likes because it saws wood, grinds feed, shells corn, runs the fanning mill, and handles a dozen other jobs. It does these easier, faster, and better than you can do them by hand.

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White and Buff Orpingtons; Barred Rocks; Rhode Island Reds; Anconas; White Leghorns.

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If you will tell us just what Pullets or Cockerels you want, we will describe them and quote you the special price. And we guarantee all stock to satisfy you fully.

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Chicks, Pullets and Breeding Cockerels in season. Sold out for season of 1922.

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POSTAGE PAID, 95¢ live arrival guaranteed. MONTH'S FEED FREE with each order 40 Breeds chicks, 4 breeds ducklings, select and exhibition grades. Catalog free, stamps appreciated. Dept. 15, Gambler, O.

Pullets Cockerels Pullets Barred Rocks From Proven Layers

Laying contest winners. Records 213 to 257. Write for catalogue.

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Hatching eggs, \$1.50 per setting to \$45.00 per 100. We are listing 17 varieties of pure bred fowls: Chickens, Geese, Ducks & Guinea, also breeding stock. Send for prices and circular. Booking now for early delivery. OLINTON HATCHERY & POULTRY FARMS, Wilmington, Ohio.

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Barron Strain S. C. W. Leghorn. 8 weeks old \$1.00 each \$30.00 per 100. 12 weeks old \$1.25 each \$115 per 100. Yearling hens \$1.00 each \$35.00 per 100. Good healthy selected birds, no culls or weaklings. R. 4, PINE BAY POULTRY FARM, Holland, Mich.

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Early hatched chicks. Willard Webster, Bath, Mich.

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50 hens laid 1170 eggs in Jan. Eggs \$2.00 per 15; \$10 per 100. EVERGREEN POULTRY FARM, Blanding & Sons, Greenville, Mich.

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Barred Rock and W. Wyandotte Breeding Stock at bargain prices now. HOWARD GRANT, Marshall, Mich.

Additional Poultry Ads. on Page 327



Hurt?

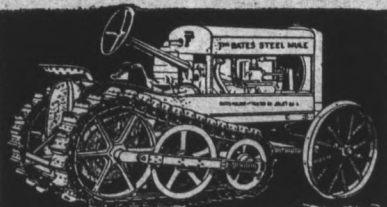
WHAT if it does? Just reach up on the shelf and get that bottle of good old Gombault's Balsam. Rub just a little on the sore spot gently. It immediately relieves! One more application and every bit of the ache disappears. IT IS equally effective for bruises, cuts, burns, sprains, sores, rheumatism, stiffness of all kind, sore throat, and chest colds. In addition to its remarkable healing qualities it is absolutely safe and a perfect antiseptic. IN thousands of homes it is the one remedy that cannot be spared. You'll feel the same way yourself after you've tried it. GET a bottle of Gombault's Balsam today! Keep it always on hand for any emergency. It's so effective one bottle lasts a long while.

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COW STANCHIONS**

are designed right, built right—swing when cow is in stanchion; locked open when cow is entering stanchion. Price \$2.50 each. Send only \$1 and we will ship as many as wanted. Pay balance after examination to prove them the best value you have yet seen. Order today or write for literature. Kalamazoo Tank & Silo Co. Dept. 623 Kalamazoo, Mich.

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Live stock AND DAIRYING

Liberal Feeding Pays

By A. C. Baltzer

THE fall freshening cows are coming in and will continue to come in for several months up into the winter. Good liberal feeding methods, practiced before and continued after freshening, will increase the efficiency of milk production of Michigan cows.

What constitutes good feeding practices? Follow nature closely and we will find the cow doing her best during the autumn and winter if summer conditions regarding feed are applied. These conditions are an abundance of palatable, bulky, succulent feed made up into a balanced ration.

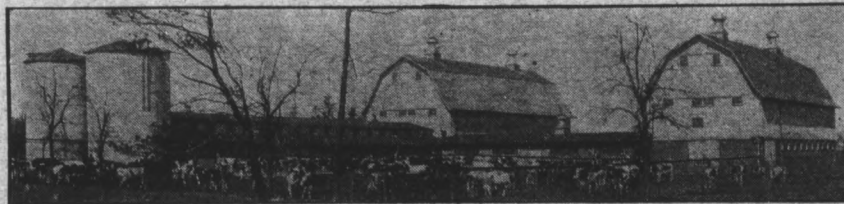
Nature herself points the way. In the springtime access to pasture grasses allows the cow to have an abundance of succulent, bulky, palatable feed, balanced to meet the needs of the cow for maintenance and to furnish nourishment for her calf for a time.

A manufacturing plant or any machine is most efficient and economical when running near its full capacity. The cow is a manufacturing plant taking the raw materials produced on the

pounds is getting the feed of her twenty-pound sister, and often the twenty-pound sister is getting the ration that her sixty-pound sister should have. Feed individually and weigh your milk and feed always. First, feed all the roughness a cow will clean up. Second, feed one pound of grain daily for each three to three and one-half pounds of milk, or one pound of grain daily for each pound of butter-fat produced per week, and third, feed all the cow will take without gaining in weight. For greatest economy for autumn and winter and even year around feeding silage or beets are almost indispensable, a legume hay, alfalfa or clovers, and grain mixtures to balance with the roughage material.

IT PAID MR. "X" TO MIX FEED.

MR. ROY CHILBERG, the tester at Rieves Junction, Jackson county, relates the following experience: "There were sixteen cows in Mr. X's herd the first month (June), ten of which were being milked. The cattle



This is the Season when the Good Dairyman Supplies an Abundance of Palatable Feed for His Cows.

farm, the silage, the hay and grain and converting them into milk. In order to allow the cow to manufacture milk a certain amount of the feed goes to maintain her body. Ordinarily this amount of feed used for maintenance is about fifty to sixty per cent of the ration fed. But the milk production occurs after the needs for maintaining the cow have been supplied. Hence it is short-sighted economy not to feed additionally to the limit of capacity production of the cow. On too many farms is this a common mistake made in feeding not alone the cows, but all live stock. Be a good liberal feeder.

Many Michigan cows are fed a ration that will maintain their bodies but which will not allow them to produce a full flow of milk. Others are fed half a ration and the milk flow is reduced to a minimum. What happens when fed as last mentioned? Can the cow automatically stop giving milk? No, she gives milk and will continue to give milk for some time at her own body expense, losing in flesh in order that the mother instinct to nourish her calf is satisfied. However, she will gradually adjust herself and give the milk corresponding to the amount of feed. Heavy milking cows, several weeks after freshening, even when quite well fed, continue to lose weight and flesh because of this mother function.

On the other hand, what happens when the cow is over-fed? The excess food is simply used for body fat. Hence over-feeding or feeding a full ration is not harmful before calving when nearly dry because the excess feed is used to supply nourishment for the unborn offspring or to repair muscle and tissue and even to put on extra body weight.

Feed a balanced full ration for the greatest economy and efficiency. Too often the cow capable of milking sixty

were fed a very little grain along with hay and pasture. There was a loss of \$8.32 for that month.

The next month (July) there were seventeen head in the herd and ten were milking. Hay was fed twice daily instead of once as in previous month and a grain ration, composed of 400 pounds of ground oats, 200 pounds of corn meal, 100 pounds each of bran, oilmeal and cottonseed meal. This was fed one pound of grain for three and one-half to four pounds of milk. Nutritive ratio was one to 4.06.

The cattle increased the flow of milk at once and when I returned to the farm the following month they were each giving from three to seven pounds of milk per day more than the previous month. The value of product above cost of feed for the month was \$3.42 or \$11.74 more than was received the month before. This example shows the value of feeding grain to cows on pasture and in preparation for milk production, which is obtained by keeping milk records of individual cows in herd."

THE EFFECT OF FEED ON THE RICHNESS OF MILK.

UNTIL very recent times it has been universally held that milk varied in richness or per cent of fat according to the feed and care the cow received. Foods rich in fat, perhaps more than any other class of nutrients, have been looked upon as having a direct influence on the richness of the milk. Sometimes if the amount of fat or oil in the ration be increased markedly or suddenly by feeding such feeds as cottonseed meal, linseed oil meal, coconut meal, soy-bean meal or flaxseed, there will be a temporary increase in the percentage of fat in the milk for a short period, but the normal

richness always reappears within a short time.

This slight temporary increase in richness of milk is not due to the nutritive effect of the food, but due to the sudden change in feeding which upsets the normal working of the cow's glands and digestive organs, and is often followed by a decrease in the amount of milk given.

Attempts at feeding fat into milk for a long period have not been successful. The quality of milk cannot be changed over any considerable time by the feeder, but is largely determined by factors not under his control, such as breed and individuality. The milk of each cow possesses a fixed inherent richness. The Jersey cow gives a milk which is relatively high in fat. No kind of feed or care will cause the Jersey to give milk like that of Holsteins, or the Holstein like that of the Jersey. The quality of milk depends on the inheritance of the cow rather than on the food which she consumes. —Carl Huffman, Research Assistant in Dairying, M. A. C.

DON'T LET CATTLE CHOKE.

THE fall and early winter months are the season when many cattle are lost without good cause, because the farmer does not watch out in feeding; a little thought and extra care will save these valuable animals. Choke in cattle is usually the result of the animal's swallowing such objects as apples, turnips, beets, potatoes, and the like; it may be caused from eating straw or chaff. This condition is noticed most often in the season when animals are pastured where these fruits and vegetables may be reached, and when the farmer is feeding the surplus culls to stock in the uncut state.

Choke in cattle does not always show the same symptoms; in fact, it is rather difficult to determine the ailment in some cases. When the choked animal drinks water it will return through the mouth or nose if the choke is complete; if it is only partial the animal may be able to swallow some of the water. If the choke is complete, the animal will usually bloat, due to the gas that is constantly being formed in the paunch as it cannot pass upward through the gullet as it normally does. The breathing may be faster than it ordinarily is.

If there is plenty of assistance at hand it may be advisable to have the animal's head held securely, and then with the aid of a mouth gag, to hold the animal's mouth open, the hand being passed over the base of the tongue in an effort to grasp the object and remove it. If the choke is too deep for that, it might be well to use something to lubricate the gullet, and for this the following may be used with good results: Olive oil, glycerine, slippery elm tea. Any of these may be given in small doses of four to six ounces. Of all these, slippery elm is possibly the best lubricant of all. This may make it possible for the animal to pass the object into the stomach.

If the object can be felt, a gentle pressure may be exerted upward on it. Under no conditions should two hard objects be cracked together with the region of the choke between them, with the intention of crushing the mass; neither should a whipstall be passed down the animal's throat, as many farmers do in such conditions.

If a veterinarian is to be had, he can give the animal a dose of apomorphine hydrochloride, which may remove the choke. Do not give the animal large quantities of a drench.

If the animal is in such condition that it is not likely to be relieved, it is best to have it slaughtered at once, not only putting it out of its misery, but also saving the carcass for meat purposes. —E. W. G.

and with reports from other sections the same, it is probable there will be less sweet clover seed available and if the enormous consumption of this crop witnessed last year continues, prices will have a tendency to be at least a little higher than the low levels of 1921.

Judged by this section alone, the alfalfa crop would be much larger than last year, but advance reports from other sections I will yet visit, indicate that while present crop prospects in many cases are above those of this time last year, it is a little early to tell what damage hoppers and frost may do. On the whole, it looks as though common alfalfa will start off as cheap if not cheaper, than last year.

Farmers in the west are very hard up for money. Our Michigan farmers don't know what tight money is compared to conditions here. For example, in the little town of Myton mentioned previously, their second and last bank closed its doors a few days before my arrival. With both banks closed and the resultant distrust of all payments by check, and cold cash scarce, they are practically forced back to the bartering days of our forefathers. So now the threshermen, instead of getting cash or check, takes one-fifth of the sweet clover threshed, one-tenth of the wheat, etc.

As a result of these conditions and in spite of the fact that it doesn't look now as though there would be a huge seed crop, if too much of this seed is forced on the market this fall prices may be depressed; and if they are, it will be a good time to buy, for present indications are that by spring the demand will catch up with the supply.

Of course, it's too early to state positively what the conditions will be, for while this country has little or nothing to fear from rain, there is always danger of frost which, coming early, blackens any alfalfa seed that is not fully mature.

After visiting Millard county, Utah, the largest alfalfa seed producing county in the world—and the southern Idaho district, in the next ten days we will know more about the real prospects.

I almost forgot to mention that the seed in the Utah Basin is grown at an elevation of 4,500 to 5,000 feet, and while this section is south of Michigan it is so high the temperature range is about the same. Common alfalfa from this section should compare favorably with common from other sections as far as hardness is concerned.

OCEANA COUNTY WINNER AGAIN.

FOR the twenty-ninth time in thirty years Oceana county won the blue ribbon at the Michigan State Fair fruit exhibit. Aside from winning the first prize in the county exhibit, the Oceana county exhibitors won many first premiums in plate and package contests.

MICHIGAN GREEN PEAS.

THE past four years only Wisconsin and New York have produced more green peas than this state. Here this great money-producing crop is taken care of in thirteen canning factories. During this year there are 8,475 acres of peas under cultivation for canning purposes. This is about an average acreage for the state.

THE WATERFOWL FARM.

ALLEGAN county has a unique farm in the Round Lake Waterfowl preserve owned by William H. Long. On this farm, wild, ornamental and domestic birds are bred. Many of them under the supervision of federal and state governments.

Mr. Long has a good collection of wild Mallard, pintail, wood, black, red-head, blue bill and English call ducks.

He also has wild geese, turkeys and pheasants. All these wild fowl are as tame with Mr. Long as the ordinary barnyard chicken. Among the domestic fowls are found white, blue and colored Muskovi, Pekin and Aylesbury, blue Swedish and penciled runner ducks, brown and white Chinese Toulouse and Egyptian geese.

CONSUMPTION OF FRUIT AND VEGETABLES GOOD.

THE weekly fruit and federal review of the United States Bureau of Agricultural Economics shows that thus far this season 251,707 cars of fourteen different kinds of fruit and vegetables have passed into consumption. This is 31,00 cars more than last year.

MICHIGAN THE VEGETABLE STATE.

THE census figures of 1920 show that Michigan stands fifth in the production of vegetable crops. These crops, including potatoes, are valued at over \$65,000,000 at farm prices. Besides potatoes, Michigan grows large quantities of asparagus, beans, cabbage, cantaloupes, celery, sweet corn, cucumbers, lettuce, onions, green peas, spinach, tomatoes and watermelons.

Detroit, the fourth city in the country, receives practically all of its vegetables from its own state, and Chicago, the second largest city, receives a great share of its vegetable supply from Michigan.

SHOWS FAITH IN HIS LAND.

GEORGE GORTON, of Geauga county, Ohio, has shown that good judgment and faith in his land pays. In 1914, things looked bad for him. But after deep thought, he felt that the only way out of debt was to go into debt some more. This he did to buy tile and lime for his farm. The land is now all tiled and has had four coats of lime. The results are such that they have paid well and Mr. Gorton's look is now one of optimism instead of pessimism.

A fifteen-acre demonstration field, which he is running in conjunction with college experts, is in a four-year rotation of clover, corn silage, oats and hay. It gets two tons of lime screenings for every rotation. In 1919, when the field was in corn, Mr. Gorton added 600 pounds per acre of seventeen per cent acid phosphate, and another hundred pounds each in the years of 1920 and 1921. When the field was in hay, it was also top-dressed with seven tons of manure. This year it yielded three and a half tons of hay to the acre and another cutting still to come.

PROPER FEEDING INCREASES EGG YIELD.

IN some farmers' demonstration feeding poultry flocks in Ohio, the increase in egg production has been 128 per cent because of proper summer feeding. This is an average, but in three cases the use of a well-balanced diet during the summer months brought an increase of 400 per cent in egg yield.

PAYS RAILROAD FARE WITH EGGS.

MRS. EMMA L. JAMESON, of Garfield, Kansas, remembers the time when currency was so scarce that many passengers on the Chicago, Rock Island & Pacific Railroad paid their fare to conductors in butter, eggs and vegetables. While this custom was prevailing, the conductor had to keep well posted on markets for various products, so that he could take in enough produce to assure the full payment of the railroad fare.



DUMORITE is the *cheapest* of all farm dynamites—it does not give you a headache from handling it. . . . and, in addition, it is non-freezing. You can use it right on into winter-time.

Dumorite has approximately the same strength as 40% dynamite, stick for stick, and shoots with the slow heaving action of 20%. A box of 135 to 140 sticks of Dumorite costs the same as 100 sticks of 40%—one-third more dynamite per dollar.

Send for 105-page Farmers' Handbook of Explosives. It's free and gives complete instructions for using dynamite on the farm.

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WHITE LEGHORNS AND MOTTLED ANCONAS Also Black Leghorns, Brown Leghorns, Buff Leghorns, Black Minorcas, R. C. Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Silver Wyandottes, White Wyandottes. WE HATCH eggs from Hatched flocks on free range on separate farms. Where our chicks are raised. Send for Price List.

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S. C. Anconas and S.C. White Leghorn

yearling hens at bargain prices. Write your wants.

M. D. Wyngarden, Zeeland, Mich.

Cockerels, year old hens. S.C.W. Leghorn Barron's strain. Order now while they last. Start right and get the best from a trap nested stock with egg records from 200 up to 275. BYRON CENTER POULTRY FARM, Byron Center, Mich.

Leghorn and Ancona Bargains Yearling hens and pullets at reasonable prices. Also Sheppard 1st pen breeding Ancona cockerels. Write today for prices. Thomas Beyer, R. 4, Zeeland, Mich.

Barred Rocks egg contest winners, eggs from a rain with records to 290 a year. \$2.00 per setting prepaid by P. P. Circular free. FRED ASTLING, Constantine, Mich.

RHODE ISLAND WHITES win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks H. H. JUMP, R. 5, Jackson, Mich.

R. C. Br. Leghorns, Pekin Ducks, W. Chinese Geese, both mature and young birds. Mrs. Claudia Betts, Hillsdale, Mich.

WHITE WYANDOTTES 207 egg average. Eggs all matings. \$2.00 per 15. \$10.00 per 100 Cockerels, hens and pullets \$5.00 each. FRANK DELONG, R. 3, Three Rivers, Mich.

50 Yearling Hens 288 to 300 egg strain. Pure bred S. C. W. Leghorns at \$1.00 each. J. C. WEINERT, Sta. 10, Bay City, Mich.

Bourbon Red Turkeys We have them. Order your Birds and Eggs now. SMITH BROS., R. 3, Augusta, Mich.

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Registered Aberdeen Angus cattle for sale Every-thing sold until fall. Watch for our ad later. Come and inspect our stock. Inquire of F. J. WILBER, Olio, Mich.

Brookwood Guernseys

Birmingham, Mich.

During the past year, we have completed Advanced Registry with 7 Guernsey Cows—two of which were heifers with their first calves.

The average butter-fat production of these cows was 650 pounds, and three of them were leaders of their respective classes for the State of Mich.

We have for sale a number of good bull calves from these cows and their daughters, sired by Rosetta's Marshall of Waddington, No. 54420, Grand Champion Bull at the Michigan State Fair last year.

Our herd is not large, but it is select. Visitors are always welcome at the farm. Prices are reasonable, considering the quality of the stock.

JOHN ENDICOTT, Proprietor

Whitney Farms Guernseys

Our 3-year old herd sire, Violet's Cherub of Homestead #2665, will be sold at a sacrifice. An exceptionally good individual sired by Pine Blossom's Cherub, 1st Prize Dairy Cattle Congress and National Dairy Show 1917, a son of Imp. Hayes Cherub 2d, 1st Prize and Grand Champion Dairy Cattle Congress and National Dairy Show 1913-15-16. First \$250 takes him. **WHITNEY FARMS, Whitney, Mich.**

Registered Guernseys

Another crop of calves. Choice bull calves 75, their breeding and records will please you. **J. M. WILLIAMS, No. Adams, Mich.**

For Sale Guernsey Herd Bull

3 yr. old. Sire, Anton's May King sold for \$7,000.00. Dam, Bonnie's Bloom 530 lbs. B. F. Price \$175. Fall bull calves by above sire. Accredited Herd. **GILMORE BROTHERS, Camden, Mich.**

GUERNSEYS—REGISTERED BULL Calves. Containing blood of world champions. A. R. cows. Federal inspected. **HICKS' GUERNSEY FARM, Saginaw, W.S. Mich.**

GUERNSEYS

3 fine heifers, 1 bull, all registered, \$400, if sold this month. **W. W. BURDICK, Williamston, Mich.**

GUERNSEYS pure bred bulls, high grade females, all ages, for sale. **J. R. FRANK, Calumet, Mich.**

Guernsey Bull ready for light service. Bred heifer. Yearling heifer. Adv. Reg. breeding. Free from disease. **G. A. WIGANT, Watervliet, Mich.**

For Sale 5 Register Guernsey cows A. R. record also bulls. Write or come. **JOHN EBELS, R. 2, Holland, Mich.**

WINNWOOD HERD

Registered Holsteins



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Maple Crest or an Ormsby.

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We have what you want in BULL CALVES, the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dam's records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

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Grand River Stock Farms

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Pure bred, registered, federally tested. Dam, a 18 lb. 3 yr. old daughter of King Segis Pontiac, 37 lbs. Good individual, mostly white. Guaranteed healthy. Priced to sell quickly. Pedigree on request. **ALBERT G. WADE, White Pigeon, Michigan.**

Holstein Friesian heifer and bull calves, purebred registered and high-grade. Price \$20 up. Splendid individuals and breeding. Write us your requirements. **Browncroft Farms, McGraw, N. Y.**

and high grade Holstein cows and heifers due to Reg. freshen this fall, priced reasonable. Bulls all ages priced to sell. **B. B. Reavey, Akron, Mich.**

Holstein-Friesian pure-bred bull calves, tuberculin tested. Prices are right. **Larro Research Farm, Box A, North End, Detroit, Mich.**

A Good Note accepted in payment of finely bred reg. interest Holstein bull calves. Quality of the best, and at prices within reach of all. Write **GEO. D. CLARKE, Vassar, Mich.**

Holstein Bull calf, nearly white, 30 lb. sire. Dam by Pontiac Korndyke Lad, owner pd. \$500 when calf, price \$35. Reg. Durocs \$10 up, bred sows. Satisfaction or money back. **B. E. Kies, Hillsdale, Mich.**

\$75.00 Buys A yearling bull ready for light service. The six nearest dams of sire average 33.34 lbs. butter for 7 days. Dam has 15.33 lb. record made at three years old. **OSCAR WALLIN, Unionville, Mich.**

For Sale a semi-official daughter of Maple Crest Korn. Hengerveld. Federal tested, also a few granddaughters from 1 to 3 yr. old. Terms if wanted. **M. L. McLaulin, Redford, Mich.**



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Bred sows and gilts, boar pigs. Jersey bulls from tested dams. Tuberculosis free herd.

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Few cows and bull calves. Best breeding line. Guaranteed. Tuberculin tested twice a year. If you have no money will take bankable note. **E. W. VASARY, 509 Free Press Building, Detroit, Mich., Main 1267.**

JERSEY BULLS nearly ready for service. **Spermioid Owl breeding. Herd tuberculin tested. FRED L. BODIMER, Reese, Mich.**

BUTTER BRED JERSEY BULLS FOR SALE
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For Sale Jersey Bulls ready for service: Lad, Majesty breeding. **WATERMAN & WATERMAN, Packard Rd., Ann Arbor, Mich.**

Registered Jersey Cattle. Some young bulls for sale, ask for pedigree. I would spare a few cows to freshen soon, records kept. Herd accredited. **J. L. CARTER, Lake Odessa, Mich.**

Lillie Farmstead Jerseys For sale, 12 heifers bred to freshen this fall, 6 bull calves, 6 to 9 mo. old. **Colon C. Lillie, Coopersville, Mich.**

Jersey Bull Calves 7 mos. to near yearlings strong in St. Lamberts. T. B. tested. **H. HALSEY, Homer, Mich.**

FOR SALE. Jersey Bull 3 years old. Eligible to registry. **E. O. SHOWERMAN, Sunfield, Mich.**

BIDWELL SHORTHORNS

BUY A BULL

that will put weight on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced. We guarantee every animal to be a breeder. Federal Test. One hour from Toledo, Ohio, N. Y. C. R. R.

BIDWELL STOCK FARM,
Box D, Tecumseh, Michigan

Milking Shorthorns priced reasonably. An accredited herd selected for beef and milk. **Beland and Beland, Tecumseh, Michigan**

Central Mich. Shorthorn Breeders' Assn. offer for sale both milk and beef breeding, all ages. Write **M. E. MILLER, Sec'y, Greenville, Mich.**

Stock Awards at State Fair

(Continued from last week.)

Horses—Percherons.

Stallion, five years old or over—1st, Maryvale Farms, Youngstown, O.; 2nd, Charles Bray, Okemos, Mich.; 3d, Loeb Farms, Charlevoix, Mich.

Stallion, three years old—1st, Highland Farms, Greensburg, Pa.; 2nd, M. A. C., East Lansing, Mich.

Stallion, two years old—1st, Woodside Farms, Sandusky, Ohio.

Stallion, one year old—1st, Woodside; 2nd, Woodside; 3rd, M. A. C.; 4th, Highland.

Stallion, colt—1st, Woodside; 2nd, Highland; 3rd, Highland.

Mare, five years old or over—1st, Highland; 2nd, Maryvale; 3rd, Highland; 4th, Highland; 5th, Maryvale.

Mare, four years old—1st, M. A. C.; 2nd, Maryvale.

Mare, three years old—1st, Maryvale; 2nd, Maryvale; 3rd, M. A. C.

Mare, two years old—1st, Maryvale; 2nd, Woodside; 3rd, M. A. C.

Mare, one year old—1st, Highland; 2nd, Maryvale.

Mare, colt—1st, Woodside; 2nd, Maryvale; 3rd, Woodside.

Breeder's herd, stallion and three mares, all owned by one exhibitor—1st, Highland; 2nd, Maryvale; 3rd, M. A. C.

Three mares, property of one exhibitor—1st, Maryvale; 2nd, Highland; 3rd, M. A. C.

Three animals, get of one sire—1st, Woodside; 2nd, Maryvale; 3rd, Woodside.

Two animals, produce of one dam—1st, Woodside; 2nd, Woodside; 3rd, Maryvale.

Junior champion stallion, under three years—1st, Woodside; 2nd, Woodside. Grand champion stallion, all ages competing—1st, Highland; 2nd, Woodside.

Senior champion stallion, three years old and over—1st, Highland; 2d, M. A. C.

Senior champion mare, three years old and over 1st and 2nd, Maryvale.

Junior champion mare, under three years—1st, Maryvale; 2nd, Woodside.

Grand champion mare, all ages competing—1st, Maryvale; 2nd, Maryvale.

Belgians.

Mare colt—1st, Margellotte, Owosso Sugar Co, Alicia, Mich.; 2nd, Loeb Farms, Charlevoix, Mich.

Breeder's herd, stallion and three mares owned by one exhibitor—1st, W. E. Scripps, Orion, Mich.; 2nd, M. A. C., East Lansing; 3rd, Owosso Sugar Company.

Three mares, property of one exhibitor—1st, W. E. Scripps; 2nd, M. A. C. Five stallions, property of one exhibitor—Owosso Sugar Co.

Three animals, get of one sire—1st, Owosso Sugar Company on get of Rubis; 2nd, do. on get of Sans Peur d'Hamal; 3rd, Loeb Farms.

Two animals, produce of one dam—1st, W. E. Scripps; 2nd, Owosso Sugar Co.; 3rd, M. A. C.

Senior and grand champion stallion, three years old and over—W. E. Scripps on George Henry; reserve, M. A. C. on Jupiter.

Junior champion stallion under three years—Owosso Sugar Company on Villageois; reserve, Owosso Sugar Company on San Peur.

Senior champion and grand champion mare—W. E. Scripps on Mary Margaret; reserve, M. A. C., on Queen.

Belgian Special Class.

Stallion, four years old and over—1st, Scripps; 2nd, M. A. C.; 3rd, Owosso Sugar Co.

Stallion, five years or over—1st, Owosso Sugar Company on Soleil Lavant; 2nd, Loeb Farms on Russel.

Stallion, four years old—1st, Scripps, on George Henry; 2nd, M. A. C., on Jupiter; 3rd, Owosso Sugar Company, on Manage.

Stallion, three year old—1st, Owosso Sugar Company, on Posse Fenips; 2nd, Loeb Farms, on Colonel Loeb.

Stallion, two years old—1st, Owosso Sugar Company, on Villageois; 2nd, do., on Favori; 3rd, Loeb Farms, on Honorable Bob.

Stallion, one year old—Owosso Sugar Company on Sans Peur; 2nd, do., on Rubens; 3rd, Loeb Farms, on Danny Deever.

Stallion, colt—Owosso Sugar Company, on Nickel.

Mare, five years old or over—1st, Scripps, on Mary Margaret; 2nd, Loeb Farms, on Ruby Lerene; 3rd, Owosso Sugar Company, on Marguerite de Perit.

Mare, four years old—1st, Scripps, on Doll of Greentown; 2nd, M. A. C., on Queen 6994; 3rd, Loeb Farms, on Charlevoix Vannes.

Mare, three years old—1st, Owosso

Sugar Company, on Elsie d' Everberg; 2nd, M. A. C., on Belle; 3rd, Scripps, on Lady Marin.

Mare, two years old—1st, M. A. C., on Betty d' Camille; 2nd, Owosso Sugar Company, on Marmotte de Petit; 3rd, Scripps, on Dolly D. E.

Stallion, one year old—1st, Woodside; 2nd, Woodside; 3rd, M. A. C.; 4th, Highland.

Stallion, three years old and under four—1st, Owosso Sugar Company on Passe Temps; 2nd, Loeb Farms.

Stallion, two years old and under three—1st, Owosso Sugar Company, on Favori; 2nd, do.; 3rd, Loeb Farms.

Stallion, one year old and under two—1st, Owosso Sugar Company, on Sans Peur; 2nd, do., on Rubens; 3rd, Loeb Farms.

Mare, four years old and over—1st, Scripps, on Doll of Greentown; 2nd, M. A. C., on Queen; 3rd, Loeb Farms. Mare, three years old and under four—1st, Owosso Sugar Company on Elsie d'Everberg; 2nd, Loeb Farms.

Clydesdales.

In this class the Michigan Agricultural College was awarded first on Longwater Model in the two-year-old stallion class.

In the draft horse awards the best aged Michigan-owned draft stallion went to the Owosso Sugar Company, while the best aged Michigan-owned draft mare was awarded to W. E. Scripps.

Sheep—Shropshires.

Ram, two years old or over—1st, Armstrong Bros., Fowlerville, Mich.; 2nd, Herbert E. Powell & Son, Ionia, Mich.

Ram, one year old—1st, C. Middleton; 2nd, Armstrong Bros.; 3rd, Herbert E. Powell & Son.

Ram lamb—1st, Herbert E. Powell & Son; 2nd, Herbert E. Powell & Son.

Ewe, two years old or over—1st, Hamer & Lockwood; 2nd, Hamer & Lockwood; 3rd, Armstrong Bros.; 4th, Herbert E. Powell.

Ewe, one year old—1st, C. Middleton; 2nd, Hamer & Lockwood; 3rd, Herbert E. Powell & Son; 4th, O. W. Sober, Fowlerville, Mich.

Ewe lamb—1st, C. Middleton; 2nd, C. Middleton; 3rd, Herbert E. Powell & Son.

Champion ram—C. Middleton; reserve, Armstrong Bros.

Champion ewe—C. Middleton; Hamer & Lockwood.

Flock—1st, C. Middleton; 2nd, Hamer & Lockwood; 3rd, Armstrong Bros.; 4th, Herbert E. Powell & Son; 5th, O. W. Sober.

Breeder's young flock—1st, Hamer & Lockwood; 2nd, C. Middleton; 3rd, Herbert E. Powell & Son.

Lamb flock—1st, Hamer & Lockwood; 2nd, Armstrong Bros.; 3rd, O. W. Sober.

Get of sire—1st, Armstrong Bros.; 2nd, Hamer & Lockwood; 3rd, Herbert E. Powell & Son.

Hampshires.

Ram, two years old or over—1st, A. R. Hamilton, Johnstown, Pa.; 2nd, J. B. Welch, Ionia, Mich.; 3rd, J. B. Welch.

Ram, one year old—1st, A. R. Hamilton; 2nd, C. L. Mitchell, Lucas, Mich.; 3rd, J. B. Welch.

Ram lamb—1st, A. R. Hamilton; 2d, A. R. Hamilton; 3rd, A. R. Hamilton.

Ewe, two years old or over—1st, A. R. Hamilton; 2nd, J. B. Welch; 3rd, J. B. Welch.

Ewe, one year old—1st, 2nd and 3rd, A. R. Hamilton.

Ewe lamb—1st, 2nd and 3rd, A. R. Hamilton.

Champion ram—A. R. Hamilton; reserve, A. R. Hamilton.

Champion ewe—A. R. Hamilton; reserve, A. R. Hamilton.

Flock—1st, A. R. Hamilton; 2nd, J. B. Welch; 3rd, C. L. Mitchell; 4th, L. C. Kelly.

Breeder's young flock—1st, J. B. Welch; 2nd, C. L. Mitchell; 3rd, L. C. Kelly.

Lamb flock—1st, A. R. Hamilton; 2nd, J. B. Welch; 3rd, L. C. Kelly.

American Merino Type.

Ram, two years old or over—1st, S. Blamer & Son, Johnstown, Ohio; 2nd, Calhoon Bros., Bronson, Mich.

Ram, one year old—1st, S. Blamer & Son; 2nd, E. E. Nye, Jonesville, Mich.

Ram lamb—1st, Calhoon Bros.; 2nd, E. E. Nye; 3rd, E. E. Nye.

Ewe, two years old or over—1st, E. E. Nye; 2nd, George W. Deeds, Palaskala, O.; 3rd, Calhoon Bros.

Ewe, one year old—1st, Calhoon Bros.; 2nd, S. Blamer & Son; 3rd, E. E. Nye.

Ewe lamb—1st, Hogsett & Sly; 2nd, E. E. Nye.
 Champion ram—S. Blamer & Son.
 Champion ewe—E. E. Nye.
 Flock—1st, Calhoon Bros.; 2nd, S. Blamer & Son; 3rd, E. E. Nye.
 Breeder's young flock—1st, Carl Moeckel, Munnith, Mich.; 2nd, Hogsett & Sly; 3rd, E. E. Nye.
 Lamb flock—1st, E. E. Nye; 2nd, Hogsett & Sly; 3rd, S. Blamer & Son.
 Get of sire—E. E. Nye.

American Merino—Type B.

Aged rams—1st, (champion ram), Calhoon Bros.; 2nd, Hogsett & Sly; 3rd, Nye.
 Yearlings—1st, Calhoon Bros.; 2nd, Nye; 3rd, Hogsett & Sly.
 Lambs—1st, Calhoon Bros.; 2nd, Blamer & Son; 3rd, Nye.
 Aged ewes—1st, (champion ewe), Calhoon Bros.; 2nd, Moeckel; 3rd, Blamer & Son.
 Yearlings—1st, Hogsett & Sly; 2nd, Calhoon Bros.; 3rd, Blamer & Son.
 Lambs—1st, Blamer & Son; 2nd, Calhoon Bros.; 3rd, Nye.
 Flock—1st, Calhoon Bros.; 2nd, Hogsett & Sly; 3rd, Nye.
 Breeder's young flock—1st, Calhoon Bros.; 2nd, Hogsett & Sly; 3rd, Blamer & Son.
 Lamb flock—1st, Calhoon Bros.; 2nd, Nye; 3rd, Blamer & Son.
 Get of sire—1st, Calhoon Bros.; 2nd, Hogsett & Sly; 3rd, Nye.

American Merino—Type C or Delaine.

Aged rams—1st, (champion ram), Hogsett & Sly; 2nd, Calhoon Bros.; 3rd, Blamer & Son.
 Yearlings—1st, Calhoon Bros.; 2nd, Moeckel; 3rd, Nye.
 Lambs—1st, Calhoon Bros.; 2nd and 3rd, Nye.
 Aged ewes—1st, (champion ewe), Nye; 2nd, Hogsett & Sly; 3rd, Blamer & Son.
 Yearlings—1st, Nye; 2nd, Calhoon Bros.; 3rd, Moeckel.
 Lambs—1st, Calhoon Bros.; 2nd and 3rd, Hogsett & Sly.
 Flock—1st, Hogsett & Sly; 2nd, Calhoon Bros.; 3rd, Moeckel.
 Breeder's young flock—1st, Calhoon Bros.; 2nd, Moeckel; 3rd, Blamer & Son.
 Lamb flock—1st, Calhoon Bros.; 2d, Nye; 3rd, Blamer & Son.
 Get of sire—1st, Calhoon Bros.; 2nd, Nye; 3rd, Blamer & Son.

Oxford Downs.

Aged rams—1st, (champion) and 3d, George W. Heskett, Fulton, Ohio; 2nd, Adam A. Armstrong, Fergus, Ont.
 Yearlings—1st and 2nd, Heskett; 3d, Armstrong.
 Lambs—1st and 3rd, Harry Crandell, Cass City, Mich.; 2nd, Armstrong.
 Aged ewes—1st and 2nd, Heskett; 3rd, Burseley Bros., Charlotte, Mich.
 Yearlings—1st and 3rd, Heskett; 2d, Armstrong.
 Lambs—1st, (champion ewe), Crandell; 2nd, Heskett; 3rd, Armstrong.
 Flock—1st, Heskett; 2nd, Armstrong; 3rd, Crandell.
 Breeder's young flock—1st, Heskett; 2nd, Armstrong; 3rd, Burseley Bros.
 Lamb flock—1st, Armstrong; 2nd, Heskett; 3rd, Burseley Bros.
 Get of sire—1st, Armstrong; 2nd, Heskett; 3rd, Burseley Bros.

South Downs.

Aged rams—1st, (champion), and 3d, Hampton Bros.; Fergus, Ont.; 2nd, L. C. Kelly, Plymouth, Mich.
 Yearlings—1st, Hampton Bros.; 2nd, Mitchell; 3rd, L. C. Kelly.
 Lambs—1st and 3rd, Hampton Bros.; 2nd, Kelly.
 Aged ewes—1st, (champion ewe), and 2nd, Mitchell; 3rd, L. C. Kelly.
 Yearlings—1st, Mitchell; 2nd, L. C. Kelly; 3rd, Hampton Bros.
 Lambs—1st and 2d, Hampton Bros.; 3rd, L. C. Kelly.
 Flock—1st, Hampton Bros.; 2nd, Mitchell; 3rd, L. C. Kelly.
 Breeder's young flock—1st, Hampton Bros.; 2nd, Mitchell; 3rd, B. D. Kelly, Plymouth.
 Lamb flock—1st, Hampton Bros.; 2d, L. C. Kelly; 3rd, B. D. Kelly.
 Get of sire—1st, Hampton Bros.; 2d, Mitchell; 3rd, L. C. Kelly.

Cotswolds.

Aged ram—1st, Shuttleworth Bros., Ypsilanti, Mich.; 2nd, Rolling View Stock Farm, Cass City, Mich.
 Yearlings—1st, (champion ram), and 3rd, James A. Campbell, Thedford, Ont.; 2nd, Rolling View.
 Lambs—1st and 3rd, Rolling View; 2nd, Campbell.
 Aged ewes—1st, (champion ewe), P. W., Hintz, Ohio; 2nd, Rolling View; 3rd, Shuttleworth Bros.
 Yearlings—1st and 3rd, Campbell; 2nd, Rolling View.
 Lambs—1st, Shuttleworth Bros.; 2d, Rolling View; 3rd, Campbell.
 Flock—1st, Rolling View; 2nd, Shut-

tleworth Bros.; 3rd, Campbell.
 Breeder's young flock—1st, Campbell; 2nd, Rolling View; 3rd, Shuttleworth Bros.
 Lamb flock—1st, Campbell; 2nd, Shuttleworth Bros.
 Get of sire—1st, Campbell; 2nd, Rolling View; 3rd, Shuttleworth.

Rambouillet—Type B.

Aged rams—1st, (champion ram), A. Orth, McGuffey, Ohio; 2nd, Calhoon Bros.; 3rd, Nye.
 Yearlings—1st, Nye; 2nd, Orth; 3d, Calhoon Bros.
 Lambs—1st, Orth; 2nd, Calhoon Bros.; 3rd, A. & F. Parmenter, Durand, Mich.
 Aged ewes—1st, Calhoon Bros.; 2nd, Orth; 3rd, Nye.
 Yearlings—1st, (champion ewe), and 3rd, Orth; 2nd, Nye.
 Lambs—1st, Orth; 2nd, Moeckel; 3rd, Parmenter.
 Flock—1st, Orth; 2nd, Nye; 3rd, Calhoon Bros.
 Breeder's young flock—1st, Orth; 2d, Moeckel; 3rd, J. M. Shaw & Son, Peoria, Ohio.
 Lamb flock—1st, Orth; 2nd, Moeckel; 3rd, Parmenter.
 Get of sire—1st, Orth; 2nd, Parmenter; 3rd, Moeckel.

(Continued on page 331).

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

Cow Falls to Come in Heat.—Have a cow that calved in April, 1922. Since then I have never known of her being in heat. For a month or more after she calved a yearling bull ran in the lot with her. How can I tell if she is with calf? L. McD., Posen, Mich.—A cow usually comes in heat eighteen to twenty-one days after calving. At twelve months of age a bull can serve cows and get them with calf. The history of this case leads me to believe your cow is with calf to the yearling bull. A rectal examination of your cow would determine whether she was pregnant or not. It is too early to tell by external appearance.

Freemartins.—One of my registered Holstein cows gave birth to twin calves, one a bull, the other a heifer. I am told that this twin heifer will never breed. Is this true? J. T. G., Manchester, Mich.—Twin bulls, also twin heifers, usually breed; but a freemartin never does.

Incipient Heaves.—I have a horse nine years old that shows some of the early symptoms of heaves. He was idle all winter, fed no grain, but is fleshy. Have been giving him some pine tar. Can heaves be cured? C. A. P., Hermansville, Mich.—Incipient heaves can in some cases be cured, if the animal is dieted and properly medicated. Feed no clover or dry, musty, badly cured fodder, or clover. Feed plenty of grain and grass. Give him half ounce of Fowler's Solution at a dose in soft feed or in drinking water three times a day. You can safely try any of the commercial heave remedies which are regularly advertised in this paper.

Chorea—Bog-Spavin.—I have a large mare that trembles in the right shoulder, especially when she is exerted. I also have a case of bog-spavin which we have been treating with blisters all winter and the bunch is no smaller than when we first commenced treatment. W. M. F., Beaverton, Mich.—Apply spirits of camphor with plenty of hand-rubbing three times a day, and give her one dram of fluid extract of nux vomica at a dose three times a day for a month or two. Don't work her too hard. If the bog-spavin is causing no lameness leave it alone, for you will never be able to remove bunch.

Dry Joints—Cow Leaks Milk.—When my four-year-old mare trots, her joints snap and make a cracking noise, but she is not lame. We have a six-year-old Jersey cow which we bought at auction sale a short time ago. She gives a nice mess of milk; came fresh last January, but since turning her to pasture she leaks milk. R. O., Rothbury, Mich.—Give your mare two drams of Urotropin (Uritone—Parke, Davis & Co.), at a dose twice a day, or give two drams of acetate of potash twice daily. After each milking, dry the end of teats and apply flexible colloidion, or use clean teat plugs. Why don't you milk her three times a day?

Complete Dispersion Sale

Birmingham, Mich.

OCTOBER, 18th, 1922

50	Pure Bred Holstein Friesian Females	50
21	Daughters of King Korndyke Echo Sylvia	21
5	Daughters of Hardy Pontiac Segis	5
3	Daughters of Aristocrat Pontiac	3
3	Daughters of Segis Cynthia	3

Most of the females bred to a son of a 31.8 lb. cow that milked 742 lbs. Several bred to a son of Sadie Gerben Hengerveld DeKol [First 40 lb. cow under the new rules].

Several bred to King Korndyke Echo Sylvia, who is a son of Avon Pontiac Echo from a 29.11 lb. jr. three year old daughter of Pontiac Korndyke Het Loo.

Sold with usual breeders guarantee and subject to 60 to 90 day retest.

Terms can be arranged but must be done before the sale.

For Catalog Address

Albert E. Jenkins, Sales Mgr., Oscoda, Mich.
 Alexander W. Copland, Owner, Birmingham, Mich.

Public Sale

I will sell on the Catherine Young farm 1 mile south and 1 mile west of Coldwater, Mich.

Tues. Oct. 3

(30) Thirty Head of Young Holstein Cows and Heifers

Fresh and close up springers and all farming equipment, and one Sharples Milker, 2 double units and pump and fixtures in A. 1 condition.

Col. Green and W. file, Auc.

PUBLIC AUCTION

Wed. Sep. 27

Commencing at 1 o'clock

16 head of thoroughbred Jersey Cattle. Right in every way. 5/8 miles west and 4 miles north of Chesaning, Mich. W. H. CAMEL, Auctioneer, S. A. C. LITTON.

CATTLE

FOR SALE

Polled Shorthorn Cows & Heifers

in calf and calf by side. Also a few young bulls. Herd headed by Victor Sultan and Royal Nonpareil.

We can please you in richly bred cattle with quality at farmers' prices.
 GEO. E. BURDICK, Mgr.
 Branch County Farm, Coldwater, Mich.

RICHLAND SHORTHORNS

We are offering two splendid white yearling bulls by Imp. Newton Champion and a few extra good heifers and young cows at very attractive prices. For full particulars write to:

C. H. PRESCOTT & SON,

Herd at Prescott, Mich.

Office at Tawas City, Mich.

Milking Shorthorns of best Bates breeding, bulls, cows and heifers for sale.
 E. H. KURTZ, Mason, Mich.

Shorthorns for sale. ENTIRE herd just passed State Tuberculosis test.
 J. A. BARNUM, Union City, Mich.

Don't you want a good Shorthorn, priced in keeping with the times?
 ROBERT MARTIN, R. 3, Woodland, Mich.

Milkin' Shorthorns Bull calves for sale. Also 2 cows.
 ROSEMARY FARMS, Williamston, Mich.

Clayton Unit Shorthorn Breeders' Assn. Scotch. Scotch Top and Milking Shorthorns for sale all ages. W. J. Hinkley, Sec'y, Flushing, Mich.

Shorthorns Nothing for sale at present except young calves, both sexes.
 Scotch topped. Wm. D. McMullen, R. 1, Adrain, Mich.

For Sale, a few choice Red Polled calves of both sex, also Duroc-Jersey pigs. Prices right. Royston Stock Farm, WILL COTTLE, R. 1, West Branch, Mich.

HOGS

Blue Hogs Actually BLUE in color. Large, growthy and prolific. Fancy show hog. All stock pedigreed. Registered in purchasers' name. Blue Hog Breeding Co., Wilmington, Mass.

DUROC JERSEYS: A few choice bred gilts for sale.
 CAREY U. EDMONDS, Hastings, Mich.

Sows & Gilts

bred for July, Aug. and Sept. farrow for sale at reasonable prices. Also a few high class spring and fall boars ready for service and one 2 yrs. old boar, a grandson of Panama Special, at a bargain if you can use him. We guarantee satisfaction. Write for prices and description or better come and see them. Visitors always welcome. Sows bred for spring farrow all sold.
 Thos. Underhill & Son, Salem, Mich.

Collinsdale Duroc Farm, Lyons, Mich., P. 1.
Greatest Blood Lines in Duroc Hogs

Herd Boars by Great Orion Sensation, Pathfinder, Duration and Great Wonder I Am. Now have for sale three yearling boars by Wolverine Sensation. For sale at all times, sows, gilts or boars registered. Sold under a positive guarantee and worth the money. Write for prices.

L. A. BURHANS, OWNER

WHO OWNS

Wolverine Woodford Sensation? Bred in old Kentucky by McKee Bros., 16 months old, stands 40 in. high, 80 in. long with a 9 1/2 in. bone. Watch this space next issue.

You Want One of the best Duroc sows obtainable. We have them for sale. Fall gilts and tried sows. Our herd boar headed 2nd prize aged herd at 1921 Illinois State Fair. MICHIGANA FARM, Kalamazoo County, Pavilion, Mich.

AM SELLING

a great offering of bred Duroc sows and gilts March 4th. They are mostly bred to Orion Giant Col, son of Ohio Grand Champion. Get on mailing list for catalog.
 W. C. TAYLOR, Milan, Mich.

Woodlawn Farm Duroc Hogs

A well kept herd, best of blood lines, with size and breeding qualities, stock of all ages for sale at reasonable prices.
 W. E. BARTLEY, Alma, Mich.

Pure-Bred Duroc Jersey Hogs; we usually have good boars and sows of all ages for sale. Reasonable prices. Larro Research Farm, Box A, North End, Detroit, Mich.

Westview Duroc Bred Sows

all sold. Have two spring boars left at a reasonable price. Will book orders for April & May Pigs.
 ALBERT EBERSOLE, Plymouth, Mich.

Duroc Jersey Bred sows and gilts bred for Aug. and Sept. farrow. A few choice ready for service boars. Shipped on approval. Satisfaction guaranteed.
 F. J. Drott, R. 1, Monroe, Mich.

Oakwood Farm offers choice gilts of Orion Cherry King and Walt's Top Col. breeding bred to Pathfinder Orion for Aug. and Sept. farrow.
 RUSH BROS., Romeo, Mich.

DUROC-JERSEYS Do you want a good Pathfinder boar pig?
 E. D. HEYDENBERG, Wayland, Mich.

Big Type Chester White March boars. Sired by Model's Giant and Hill's Big Buster. Out of granddaughters of Alfalfa Wonder.
 LUCIAN HILL, Tekonsha, Mich.

BIG TYPE CHESTER WHITES

The prize winner kind from the best prize winner bloodlines. Early developers, ready for market at six months old. I have started more breeders on the road to success than any man living. I want to place one hog in each community to advertise my herd. Write for agency and my plan.
 G. S. BENJAMIN, R. F. D. 10, Portland, Mich.

Chesters—We won a large percent of the blue and championships at four of the largest fairs in the state this fall, including Detroit. Our herd is headed by The Monster, one of the greatest big type boars of the breed and we have several spring boars from these prize winners for sale at reasonable prices.
 F. W. Alexander, Vassar, Mich.

CHESTER WHITES Start right with a Boar Pig from MONSTER No. 107335. They are hard to beat.
 FRED L. BODIMER, Reese, Mich.

Chesters We are sold out of Boars. Choice spring pigs. For immediate shipment of spring pigs, write WEBER BROS., Royal Oak, Mich., 10 ml. and Ridge Rds., Phone 408.

Chester White spring boars good growthy fellows, \$10 to \$30. Satisfaction guaranteed.
 W. H. BENTLEY, R. 1, Lenox, Mich.

O. I. C. and Chester White's. Strictly big type with quality. I have nothing to offer at present as I have sold my largest herd and entire herd I was fitting for the large shows. Mr. Morrish, of Flint, Mich. I am confident Mr. Morrish, now has one of the very best herds in the State.
 ALBERT NEWMAN, R. 4, Marlette, Mich.

O. I. C. December Gilts From Big Type Wonder's Dick. Bred to farrow in Oct. by Silver Horde, extra good young boar direct from Silver's. Booking orders for spring pigs.
 CHAS. H. STEEL, R. 8, Eaton Rapids, Mich.

O. I. C. fall gilts ready to breed. Orders booked for spring pigs. Write or call and see our herd. We ship O. I. C. and Register free.
 GEO. M. WELTON & SON, Middleville, Mich.

O. I. C. Gilts to farrow in Aug. and CLOVERLEAF STOCK FARM, Monroe, Mich.

O. I. C's. Spring gilts and service boars for sale. Prices right.
 A. J. BARKER & SON, Belmont, Mich.

O. I. C. Bred sow's all sold. Booking orders for spring pigs.
 H. W. MANN, Dansville, Mich.

O. I. C's. last fall gilts due Aug. and Sept. Spring pigs not akin. Big Type. 1.2 mile west of Depot. Citizen Phone.
 OTTO B. SCHULZE, Nashville, Mich.

O. I. C's. Special prices on fall pigs for Oct. 15th delivery, also spring boars for immediate shipment. I can save you money. Write, Clara V. Dorman, Snover, Mich.

O. I. C. year old sow and spring pigs, both sexes for sale. From champion stock. Cheap.
 M. HOMPE, R. 5, Grand Rapids, Mich.

O. I. C's Spring pigs. Pairs not akin. Also July, August, and Sept. pigs. MILLO H. PETERSON, Elmhurst Farm, Ionia, Mich. City Phone.

O. I. C. yearling boar for sale. Sure breeder and good stock getter, also spring gilts and little pigs. Priced to sell. Bruce W. Brown, R. 3, Mayville, Mich.

Additional Stock Ads. on Page 333

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Monday, September 18.
Wheat.

Detroit.—No. 2 red at \$1.11; No. 2 mixed \$1.09; No. 2 white \$1.10.
Chicago.—No. 3 red at \$1.08@1.09; No. 1 hard \$1.05½@1.06½; December \$1.06.
Toledo.—Cash at \$1.08; December at \$1.12½.

Corn

Detroit.—Cash No. 2, 69c; No. 3 yellow 68c.
Chicago.—No. 2 mixed 64¼@64½c; No. 2 yellow 63½@65c.

Beans

Detroit.—Immediate and prompt shipment \$5; October \$4.50 per cwt.
New York—Michigan and New York red kidney \$6.50@6.60.
Chicago—Michigan choice, hand-picked \$5.75@6.

Oats

Detroit.—Cash No. 2 white 42c for old and 40c for new; No. 3, 38c for new.
Chicago.—No. 2 white at 39@39½c; No. 3 white 37½@38½c.

Rye

Detroit.—Cash No. 3, 75½c.
Chicago.—73½@73¾c.
Toledo.—76c.

Seeds

Detroit.—Prime red clover cash at \$10.20; alsike \$10; timothy \$2.75.
Toledo.—Prime red clover at \$10.25; alsike \$10.20; timothy, old \$2.70; new \$2.90.

Feeds

Detroit.—Bran \$25; standard midlings \$26; fine do \$30; cracked corn \$31.50; coarse cornmeal \$29; chop \$25 per ton in 100-lb sacks.

Hay

Detroit.—No. 1 timothy \$17@17.50; standard and light mixed \$16@16.50; No. 2 timothy \$15@15.50; No. 1 clover \$14@15; rye straw \$11.50@12; wheat and oat straw \$10.50@11 per ton in carlots.

Fruit

Chicago.—Peaches, Elbertas \$1.50@2 per bu; pears, Bartletts, Michigan standard picked \$6 per bl; plums per 16-qt case \$1@1.10; blackberries per 24-qt case \$1.50@2; grapes baskets 5 @5½ lbs 25c; Climax baskets 70@75c; apples, No. 2, all varieties \$2 per bbl; Wealthies \$3.50 per bbl; cranberries \$5.50 per box.

WHEAT

The wheat market continued to drag last week as the demand from flour mills and exporters has been inadequate to the offerings. Prices declined temporarily to the lowest level of the season and to practically the same point reached in November, 1921. The disturbance in the Near East aided in a slight recovery, although it did not increase export sales. The huge Canadian surplus is the overshadowing influence as Canadian wheat is relatively below the domestic hard or spring wheat. Some hard winter was sold for export in the last few days, however, presumably to fill contracts made some time ago.

Rumors are prevalent of official aid to withhold part of their crop from the market and possibly to assist foreigners in making purchases in the United States. Until some new influence enters the market, a dragging tendency is likely to continue, although prices are not expected to go much lower than they now are.

CORN

Coarse grain markets have been unsettled recently, the weakness in the wheat market being the main influence. It is generally believed that the corn crop will fall below the government's estimated and demand remains broad, but producers are selling freely and primary receipts have increased again. A pronounced advance in values rarely occurs on the eve of the harvest of the new crop.

OATS

Receipts of oats increased last week, but there is as yet nothing like the usual post-harvest movement. Demand from the east has improved materially.

BEANS

Heavy rains have retarded the harvest and sale of beans recently and caused an advance of about 50 cents in the market with choice hand-picked

whites quoted at \$5.25 per 100 pounds f. o. b. Michigan shipping points for prompt shipment, \$5 for October, and \$4.50 for November shipment. Demand is dull and is unlikely to become active before October. In addition some imported beans are seeking an outlet in the east. The September crop estimate was 12,500,000 bushels compared with 9,100,000 bushels harvested last year and an average of 1916-1920, 13,300,000 bushels in the five years.

SEEDS

A survey of the prospective crop of red clover seed by the department of agriculture shows a yield about one-third larger than last year. This means approximately 1,880,000 bushels compared with an average of 1,538,000 bushels during the six preceding years. The crops of alsike and white clover also are larger than in 1921. Prices have been firm during the last ten days.

FEEDS

Feed markets have advanced sharply in the last few days, due primarily to light offerings. Bran has advanced nearly \$3 and cottonseed meal about \$2. The drought in the southwest has brought a brisk demand from that section, but sales elsewhere generally are small and the market is not expected to retain the advance.

HAY

Arrivals of hay at distributing markets, and country loadings in the surplus sections both are comparatively light. Prices are firm in a few cities but most points report weakness.

POTATOES

The potato markets were uneven last week. Prices declined on the eastern stock and advanced on northern and western potatoes. Shipments are running smaller than a few weeks ago but are up to normal for this season of the year. The September forecast shows

a slightly smaller crop than a month ago but the combined crop of white and sweet potatoes is the largest ever produced. Northern round whites are quoted at \$1.40@1.75 per 100 pounds in midwestern cities.

APPLES

The apple market is holding at about the same level as in the two preceding weeks with summer apples quoted at a range of 75 cents to \$1.25 per bushel on midwestern markets, and Grimes Golden and Jonathans bringing \$3.25 to \$4 a barrel. The September forecast placed the commercial crop at 32,583,000 barrels compared with 21,200,000 barrels last year and an average of 26,800,000 barrels in the five years 1916 to 1920. Receipts continue to reflect the big crop, the carlot movement for the entire United States in the week ending September 9 being 1,768 cars compared with 1,215 cars last year, 1,068 cars two years ago and 913 cars three years ago.

POULTRY AND EGGS

Egg prices have retained nearly all the recent advance. Receipts of fresh eggs at the leading cities are running lighter than last year and slightly below the average for the corresponding season in the three preceding years. Demand is brisk and, in addition to current receipts, rather heavy withdrawals from cold storage are necessary. Poultry prices are holding up as receipts are not running as much above the average for the corresponding season as they were two months ago. Indications are, however, that the crop to be marketed this fall and winter will be larger than during any recent year.

Chicago.—Eggs miscellaneous 27@28c; dirties 20@21c; checks 19@20c; fresh firsts 27@30c; ordinary firsts 25@26c. Live poultry, hens 24½c per pound; springers 24½c; roosters 14c; ducks 20c; geese 20c; turkeys 25c.

Detroit.—Eggs, fresh candled and graded 32@34c; storage 27@28c. Live poultry, heavy springers 24@25c; light springers 18@20c; heavy hens 25@26c; light hens 18c; roosters 15c; geese 13c; ducks 18@22c; turkeys 25c.

BUTTER

Although a weaker tone was noticeable in the butter market last week the prices at eastern points advanced slightly and the decline at Chicago was negligible. Rains and cooler weather have improved the prospects for autumn production but it is improbable that the make will be sufficient to supply the consumptive demand so that steady inroads must be made into cold storage holdings from this time on. Fancy butter has been scarce as most of the recent receipts were made during the hot weather period. The butter situation is comparatively strong, although advances from this level may be rather slow.

Prices for fresh 92-score creamery butter on September 16 were: Chicago 38½c; New York 40c. In Detroit fresh creamery was 34@34½c.

WOOL

The wool market is showing a healthy tone and activity is more marked than a few weeks ago as manufacturers have resumed buying on a broader scale. Higher prices on woolen goods are rather freely predicted. The London auction reports prices steady to ten per cent higher than the preceding series. The duty recommended in a conference report on the wool tariff is 31 cents per pound and makes but little change in the situation, although it may effect sales upon some of the wool held in bond, of which there were 103,549,776 pounds on July 31. Part of these wools have been on hand for a long time and a few forced sales have been made recently. Some buyers are holding back until more of these wools are put on the market in the hope of picking up bargains.

DETROIT CITY MARKET

The market is quite liberally supplied with produce but the trading was quiet. Complaints of selling poor eggs and short weight in potatoes have been made. Both of these are punishable by fine and imprisonment. Cauliflower, peaches, grapes, corn and gerkins are in greatest demand, while potatoes and apples are among the most plentiful. Apples sell for 85c@2 per bu; cauliflower \$1@2.50 bu; gerkin cucumbers \$3.50@6 per bu; cabbage 50@74c per bu; eggs 35@45c per dozen; grapes \$2@3.50 per bu; green corn 15@25c a dozen; lettuce 50@75c per bu; dry onions \$1@1.50 per bu; potatoes 90c@1 per bu; peaches \$1.25@2 per bu; pears \$1@3.50 per bu; plums \$1.25@2 per bu; tomatoes 50c@1.25 per bu.

GRAND RAPIDS

Potatoes have been firm around 60@70c per bushel to the grower. Supplies are fair, but are expected to increase from now on. Prices on apples, plums and peaches were firm to slightly higher. Apples bringing 40@75c; plums 40@75c; peaches \$1@2; crab apples 75c@1 and pears 40@75c. Vegetables are generally weak with prices tending downward. Onions 60c per bu; cabbage 25@40c; beets 50c; carrots 50c; tomatoes 60@80c. Unbaled hay sells at \$14@15 per ton; No. 1 dairy butter 25@35c; creamery butter 39@41c; eggs 30@31c per dozen. White beans are bringing farmers \$4@4.25 per cwt; No. 1 wheat 90@92c; rye at 55c; barley 76c; oats 38c; corn, No. 2 yellow 70c; alsike clover seed at \$7@7.50; red clover \$7@7.50; vetch seed 11@12c per pound.

CATTLE FEEDERS CONTINUE INACTIVE.

Combined shipments of stockers and feeders from the leading markets continue to run far above the corresponding period in either of the two preceding years and are increasing rather consistently each week. Widespread rains and revival of fall pastures was an additional stimulus recently. Prices show but little change, since the supply from the western range, the southwestern pastoral area and Canada is adequate for the demand. Light weights at prevailing prices seem to offer the safest opportunity for the feeder.

Live Stock Market Service

Monday, September 18.

DETROIT

Cattle

Receipts 1,611. Good grades and canners are strong; others 25c lower. Best heavy strs, dry-fed, \$8.25@9.00. Handyweight bu., dry-fed 7.25@8.00. Mixed strs, hfrs, dry-fed 6.00@7.00. Handy light bu., dry-fed 5.25@6.00. Light butchers 4.75@5.00. Best cows 5.00@5.25. Butcher cows 4.00@4.50. Common cows 3.00@3.25. Canners 2.50@3.00. Choice bulls 4.50@4.75. Bologna bulls 3.75@4.25. Stock bulls 3.25@3.50. Feeders 5.50@6.75. Stockers 4.00@5.25. Milkers and springers 40.00@75.00.

Veal Calves

Receipts 465. Market steady. Best \$15.00@15.50. Others 5.50@14.00.

Sheep and Lambs

Receipts 3,363. Market strong. Best lambs \$14.00. Fair lambs 9.00@12.00. Light to common 6.00@8.50. Fair to good sheep 5.00@6.25. Culls and common 1.50@2.50. Heavy sheep 4.00@4.50.

Hogs

Receipts 2,021. Market slow. Mixed hogs and yorkers \$10.15@15.25. Heavies 220 lbs up 8.00@9.25. Roughs 7.10. Pigs 10.00.

BUFFALO

Cattle

Receipts 2,800. Market strong and 25c higher. Shipping steers at \$9@10.25; butchers \$7.50@9.25; yearlings \$9.50@11.40; heifers \$6.50@8.25; cows \$2.25@6.25; bulls \$3.25@5.25; stockers and feeders \$5.50@6.50. Fresh cows and springers \$40@110. Calves, re-

ceipts 1,300; market 50c lower at \$5@14.50, a few at \$15.

Hogs

Receipts 10,500. Market is 10@15c higher. Heavy \$9.50@10; pigs \$10.35@10.50; roughs \$7.25@7.50; stags \$4@5.

Sheep and Lambs

Receipts 9,400. Lambs are 10c lower. Lambs \$6@14.75; yearlings \$6@10; wethers \$7@7.50; ewes \$2@6.50; mixed sheep \$6.50@7.

CHICAGO

Hogs

Estimated receipts today are 38,000; holdover 2,532. Market slow, mostly 10c higher. Bulk of sales \$7.75@10.75; tops \$10.10; heavy 250 lbs up \$8.75@9.80; medium 200 to 250 lbs at \$9.50@10.10; light 150 to 200 lbs \$9.85@10.10; light lights 130 to 150 lbs \$9.40@9.75; heavy packing sows 250 lbs up \$7.70@8.40; packing sows 200 lbs up \$7.25@7.75; pigs 130 lbs down \$8.50@9.25.

Cattle

Estimated receipts today are 24,000. Market active and steady to strong; stockers and feeders higher. Beef steers medium and heavy weight 1100 lbs up \$10.75@11.50; do medium and good \$7.90@10.75; do common \$6.85@7.90; light weight 1100 lbs down \$9.40@11.15; do common and medium at \$6@9.40; butcher cattle heifers \$4.85@9.50; cows \$4@8.40; bulls bologna and beef \$4.15@6.85; canners and cutters cows and heifers \$2.90@4; do canner steers \$3.75@4.50; veal calves light and handyweight \$11.75@13.50; feeder steers \$5.85@8.25; stocker steers \$4@7.25.

Sheep and Lambs

Estimated receipts today are 24,000. Market steady. Lambs 84 lbs down \$13@14.10; do culls and common \$9@12.15; spring lambs \$9@11.75; ewes at \$3.75@7; ewes cull and common \$2@3.75; breeding ewes full mouths to yearlings \$4.50@11.25; yearling wethers \$12@13.75.

LIVE STOCK AWARDS AT STATE FAIR.

(Continued from page 329).

Rambouillet—Type C.

Aged rams—1st, (champion ram), and 2nd, Orth; 3rd, Moeckel.
 Yearlings—1st, Calhoon Bros.; 2nd, Nye; 3rd, Shaw & Son.
 Lambs—1st, Nye; 2nd, Orth; 3rd, Parmenter.
 Aged ewes—1st, (champion ewe), Orth; 2nd, Calhoon Bros.; 3rd, Nye.
 Yearlings—1st, Orth; 2nd, Nye; 3rd, Calhoon Bros.
 Lambs—1st, Orth; 2nd, Moeckel; 3rd, Calhoon Bros.
 Flock—1st, Orth; 2d, Calhoon Bros.; 3rd, Moeckel.
 Breeder's young flock—1st, Orth; 2nd, Moeckel; 3rd, Parmenter.
 Lamb flock—1st, Orth; 2nd, Moeckel; 3rd, Parmenter.
 Get of sire—1st, Orth; 2nd, Parmenter; 3rd, Moeckel.

Fat Sheep.

Middlewool wether over two years—1st, B. D. Kelly; 2nd, Welch.
 Middlewool yearling wether—1st, (grand champion), M. A. C., East Lansing; 2nd, B. D. Kelly.
 Middlewool lamb—1st, M. A. C.; 2d, Welch.
 Longwool yearling wether—1st, (champion Longwool wether), and 2nd, Shuttleworth Bros., Ypsilanti.
 Longwool lamb—1st, C. D. McLean, Kerwood, Ont.; 2nd, M. A. C.
 Merino wether over two years—1st, Moeckel.
 Merino yearling wether—1st, M. A. C.; 2nd and 3rd, Moeckel.
 Merino lamb—1st and 2nd, Moeckel.

Other Breeds of Sheep.

L. C. Kelly, Plymouth, Mich., Rolling View Stock Farm, Cass City, Mich., and L. A. Bradford, Rochester, Ohio, exhibited Horned Dorsets, the latter having both champion ram and champion ewe. Three Tunis breeders were out: L. R. Kuney, Adrian, Mich., M. L. Owen, of Fulton, New York, and Ralph E. Owen, of the same place. Kuney won most of the firsts and the ram championship. M. L. Owen had the champion ewe and divided the rest of the honors fairly evenly with R. E. Fulton. In the Cheviot class, but three flocks faced the judge, those of L. C. Kelly, Plymouth, Mich.; Wayne C. Postle, Centerville, Ohio, and L. A. Bradford, Rochester, Ohio. Postle won both ram and ewe championships and most of the firsts. Kelly and Bradford divided the remainder fairly evenly. Shuttleworth Bros., Ypsilanti, Mich., Clarence Cranston, Merlin, Ont., William McLean & Son, and C. D. McLean, Kerwood, Ont., exhibited Leicesters. McLean & Son brought out the champion ram and champion ewe and divided all firsts but one with McLean. Cranston won first on yearling ewe. Six flocks of Lincolns were out for inspection. C. D. McLean, Kerwood, Ont., won most of the firsts and both ram and ewe championships. Harry Crandall, of Cass City, Mich., won first in the ram lamb yearling ewe and ewe lamb classes. The balance was divided among L. R. Kuney, Adrian, Mich., F. E. Simpson, Ypsilanti, Mich.; C. Middleton, Clayton, Mich., and W. J. Borthwick, Thedford, Ontario.

DAIRY CATTLE.

The showing of dairy cattle was excellent, quality and numbers considered. Several out of the state herds competing with the best herds in Michigan made an exceptional showing in the five dairy breeds. The show of Guernseys was especially good in numbers and in quality. Most of the classes in the Jersey showing were good, although one or two classes of younger stuff presented a rather poor idea of Jersey type with the exception of one or two outstanding individuals. The Holstein section had a large number of entries and some very classy stuff. Ribbons were very well scattered between the breeders in this case, no one breeder cleaning the field. Only three herds of Ayrshires were represented and in many classes the competition was not keen.

Holstein-Friesians.

Bull, three years old or over—1st, E. Demaline, Ohio, on King Pauline Mohamet; 2nd, Loeb Farms, Charlevoix, on Werlmborg Piety Dan; 3rd, Peter Bogart & Sons, Munger, Mich.; on Beauty Walker Segis.

Bull, two years old—1st, A. R. Black & Sons, Lansing, on Capitol Cream Jupiter Hengerveld; 2nd, Loeb Farms on Charlevoix Ormsby.

Senior yearling bull—1st, John H. Winn, Rochester, Mich., on Tritomia

Pieterje Ormsby Burke Boy; 2nd, John A. Rinke, Warren, Mich., on Lawndale Canary Butter Boy; 3rd, Loeb Farms on Charlevoix Butter Boy Ormsby.

Junior yearling bull—1st, Lakefield Farm, Clarkston, Mich., on County Veeman Piebe Segis; 2nd, B. S. Gier, Lansing, on Avon Pontiac Skylark; 3d, Lenawee County Boys' and Girls' Club.

Senior bull calf—1st, Rinke on Rinkland Hengerveld Ryma; 2nd, John C. Buth, Grand Rapids, on Red Rock King Sylvia Hengerveld; 3rd, Buth on Red Stalk Cobia Segis Lad.

Junior bull calf—1st, Winn on Winnwood Ormsby Ona Wayne; 2nd, E. M. Bayne, Detroit, on King Pontiac Segis Lad De Kol Second; 3rd, Winn, on Winnwood Dictator Clifden Lad.

Cow, four years old or over—1st, Bayne on Utility Darris Segis; 2nd, Bayne on Hengerveld Pontiac Deeman; 3rd, Gier on Grace Segis Hengerveld De Kol.

Cow, three years old—1st, Buth on Starlight Veeman Hengerveld; 2nd, Bogart & Sons on Ruth Bonny De Kol; 3rd, Black & Sons on Daisy Pauline Butter Boy.

Two-year-old heifer in milk—1st, Detroit Creamery Farms on Swastika Ormsby Lady; 2nd, Gier on Utility Pietertje; 3rd, Bogart & Sons on Belle Korndyke Segis.

Two-year-old heifer never freshened—1st, Bayne on Baynewood Rose; 2nd, Winn on Winnwood Maplecrest Rosa Roeltje; 3rd, Loeb Farms on Charlevoix Signet Ormsby.

Senior yearling heifer—1st, Winn on Winnwood Maplecrest Ormsby Wayne; 2nd, Black & Sons on Martha Segis Pontiac; 3rd, Gier on Utility Walker Segis.

Junior yearling heifer—1st, Gier on Utility Aggie Segis Hengerveld; 2nd, Buth on Red Rock Colantha Butter Boy; 3rd, Bayne on Lady Lenox De Kol Posch.

Senior heifer calf—1st, Winn on Winnwood Pet Monroe Ormsby; 2nd, Detroit Creamery on Travers Segis Weg; 3rd, Winn on Winnwood Maplecrest Hortog De Kol.

Junior heifer calf—1st, F. M. Shennick, Rochester, Mich., on Avon Oaks Donna Segis Ormsby; 2nd, Winn on Winnwood Duchess Skylark Wayne; 3rd, Loeb Farms on Charlevoix Ormsby Danish Pontiac.

Senior champion bull—1st, Black & Sons on Capitol Cream Jupiter Hengerveld; reserve, Demaline on King Pauline Mohamet.

Junior champion bull—Lambert & Weber, Clarkston, Mich., on Segis Prebe; reserve, Rinke on Rinkland Hengerveld Ryma.

Senior champion female—Bayne on Utility Darris Segis; reserve, Bayne on Baynewood Rose.

Junior champion female—Winn on Winnwood Maplecrest Ormsby Wayne; reserve, Winn on Winnwood Pet Monroe Ormsby.

Grand champion bull—Black & Sons on Count Veeman Segis Prebe.

Grand champion female—Bayne on Utility Darris Segis; reserve, Winn on Ormsby Wayne.

Exhibitor's herd—1st, Loeb Farms; 2nd, Demaline; third, Buth.

Breeder's herd—1st, Winn; 2nd, Bayne; 3rd, Black & Sons.

Calf herd—1st, Winn; 2nd, Bayne; 3rd, Loeb Farms.

Four get of sire—1st, Winn; 2nd Winn; 3rd, Gier.

Two produce of cow—1st, Winn; 2d, Bayne; 3rd, Demaline.

Cow four years old or over with A. R. O. record above twenty pounds fat—1st, Bayne on Hengerveld Pontiac Veeman; 2nd, Buth on Winifred Mutual Friend; 3rd, Bogart & Sons on Burtondale Belle Korndyke.

Cow under four years with A. R. O. record above sixteen pounds of butterfat—1st, Buth on Starlight Veenman Hengerveld; 2nd, Bogart & Sons on Netherland Alice Segis.

Cow, four years old or over with advance registry record for 305 days or more—1st, Bayne on Doede De Kol Segis; 2nd, Loeb Farms; 3rd, Black & Sons on Maplecrest Pearl De Kol Butter Boy.

Cow under four years with advance registry record for 305 days or more—1st, Black & Sons, on Maple Daisy Pauline Butter Boy.

THE NATIONAL DAIRY SHOW.

DOUBLE emphasis is being placed on the producer end of the great National Dairy Exposition to be held in St. Paul-Minneapolis, October 7-14. Among other things will be special days for those interested in the various breeds of dairy cattle. They are as follows: Jersey Day, Tuesday, October 10; Ayrshire and Brown Swiss Day, Wednesday, October 11; Guernsey Day, Thursday October 12; Holstein Day, Friday, October 13.

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Order Quick! Don't put it off. Send today. Not one cent now—just name and address on postcard or letter and when shoes arrive pay postman only the smashed price, \$2.95 and postage. Then if not satisfied for any reason or no reason at all, return shoes and we will refund your money instantly. Order now—while stock lasts.

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In business at the same location and under the same management for thirty-three years. Our capital and surplus of \$250,000.00 insures financial reliability and sure returns. We deal honestly with every shipper and handle his goods as though they were our own.

Write us for instructions how to dress calves and prepare them for shipment. It is very simple. Quotations and shipping tags furnished on application.

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FRUIT SHIPPERS FOR HIGHEST PRICES

Quick Returns Consign to The E. L. Richmond Co., Detroit, Est. 1893.

NEW TRACTOR Special Sawmill for sale cheap.

W. F. CROWE, Dundee, Mich.

HOGS

L. T. P. C. Fall Boars

at bargain prices. Fall gilts open or with breeding privilege. Write or see them.
A. A. FELDKAMP, R. 2, Manchester, Mich.

LARGE TYPE POLANDCHINAS

Boars and gilts for sale from one of the best herds in Mich. Sired by B's Clansman Mich. 1921 Grand Champion. Also M and W's Orange and Daddy Long Legs 2nd. Give us a visit and look them over if not write to N. F. BORNOR, Parma, Mich.

Francisco Farm Poland Chinas

Big, stretchy Spring Boars as good as grow. Pairs and Trios not akin. Can spare two or three of our good herd sows bred for Sept.
P. F. POPE, Mt. Pleasant, Mich.

L.T.P.C. \$15, \$20 & \$25

Spring pigs with real breeding at the above prices. We are also offering a few choice fall gilts bred for summer farrow. Hart & Cline, Address F. T. HART, St. Louis, Mich.

LARGE TYPE P. C.

Largest in Mich. Pig ready to ship, why not order from the herd that has given so many their start in the hog business, the kind that makes good, they have quality as well as size.
W. E. LIVINGSTON, Parma, Mich.

Prosperity Have you seen it? No! Why? May be you have been throwing away 40% of your grain by feeding it to scrub hogs. We have some Big Type Poland Chinas that will bring you prosperity. Why not give them a chance? We can furnish anything you want.
JNO. C. BUTLER, Portland, Mich.

Big Type Poland China

Spring boars now ready for service weighing 200 lbs. Sired by Clansman Buster and Hoover's Liberator 600 lb. Jr. yearling. Come and see them or write DORUS HOVER, Akron, Mich.

Big Type Polands We have a fine bunch of spring pigs representing the best blood lines and all cholera immune. We raise them to sell. If in need of a real herd boar prospect, come over. Visitors are always welcome.
WESLEY HILE, Ionia, Mich.

Big Type P. C. some very choice boars double im-Bmune, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

L. T. P. C. Spring boars and gilts now being shipped, at farmer prices. They never last long. There's a reason. They talk for themselves. Call or write M. M. PATRICK, Grand Ledge, Mich.

BIG TYPE P. C. Boar Pigs, Sows and Fall Gilts bred for Sept. to Big Bob Mastodon and Peter A Pan, son of 1075 Boar. C. E. Garnant, Eaton Rapids, Mich.

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