

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY.
ESTABLISHED 1843.

The Only Weekly Agricultural, Horticultural, and Live Stock Journal in the State.

OL. CXLVIII, No. 24
Whole Number 3945

DETROIT, MICH., SATURDAY, JUNE 16, 1917

\$1.00 A YEAR
\$3.00 FOR 5 YEARS

Alfalfa---the Great Preparedness Crop

By PROF. JOSEPH S. COX

THE word "alfalfa," to those who consider, immediately brings to mind the great word of the present world crisis, "preparedness." Of all crops alfalfa will put the grower in the best state of "preparedness" to meet the great demand for a cheap protein forage. As a crop, it requires for success, thorough "preparedness" on the part of the grower. This last fact possibly explains the great diversity of opinion in regard to alfalfa. There are many who have tried it and failed and who claim that "alfalfa is not for Michigan." Twenty years ago the same was said of beets, a crop which has made thousands of Michigan homes prosperous and happy. Fortunately, here and there all over Michigan are successful alfalfa fields which stand out as monuments to effectiveness of the methods of growers who understand the crop, and which indicate the future value of this wonderfully productive crop for Michigan when proper cultural methods are more thoroughly understood.

Those who succeed with alfalfa swear by it; those who fail swear at it. "Preparedness" is the key to the situation. The farmer who understands the requirements of alfalfa, in a great majority of cases is successful, while he who follows the methods of "Grandfather," even though they may give good yields of corn and potatoes on rich land, almost assuredly will not succeed with alfalfa. Other things must be understood--inoculation and liming, for instance. Briefly stated, the successful growers of alfalfa understand and do these things:

1. Select fields for alfalfa which are well drained and which can be put in proper condition. Alfalfa should not be planted after sod, but should follow cultivated crops such as potatoes, corn or beans, which leave the land fairly clean.

If early potatoes are harvested before mid-July, alfalfa can be seeded un-

der excellent conditions. Peas are another crop which can be followed with alfalfa. These last two crops offer excellent opportunity for securing alfalfa at little expense.

2. Lime the land for alfalfa. Apply two tons of ground limestone or several cubic yards of marl before seeding. This crop requires more lime than any other crop grown in the state. The soils of Michigan are so widely deficient in calcium carbonate that in nearly all cases fields should be limed in preparation for alfalfa.

3. Inoculate properly. Unless alfalfa or sweet clover has been grown pre-

4. Prepare the seed bed thoroughly. Alfalfa should be seeded on land free of grass. June grass is its great enemy in Michigan. Follow after cultivated crop. Plow land five or six weeks before seeding, firming with roller and working thoroughly at frequent intervals. It should be kept in mind that alfalfa is to remain on the land from four to six years. A much more thorough preparation is warranted than in the case of crops which are to occupy land for a single season.

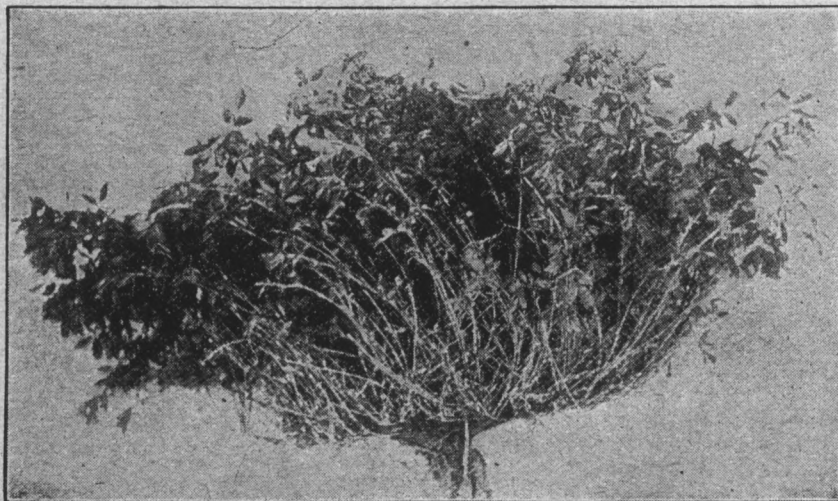
5. Plant at proper time. Good results are secured with seedings made about mid-July on land which has been

6. Drill fifteen pounds, or broadcast twenty pounds per acre of good seed. Northern grown seed or Grimm seed is best adapted to Michigan and will withstand winter-killing better than ordinary alfalfa seed.

The man who establishes a good stand of alfalfa can expect it to do these things for him: Alfalfa will furnish large yields of valuable hay; his stock will thrive on it as on no other hay crop; more stock can be kept on the farm; the grower's expense account for costly concentrated feeds will be cut down, since alfalfa and corn can be fed so as to furnish an almost balanced ration. Alfalfa will benefit the soil, increasing the organic matter and nitrogen content and enable it to yield greater crops of corn and potatoes, on being broken.

The live stock, the farm, the farmer, the farmer's wife and children, will experience the benefits of successful fields of alfalfa. It is only just that ye "do unto alfalfa, as ye would have it do unto you." Improve conditions for alfalfa, and it will improve them for you. Sweeten the soil with lime so that it will prosper. Plant on well-drained fields lest it get "cold feet." Apply 200 or 250 pounds of acid phosphate to give stronger growth. Leaven the soil with the proper bacteria which makes the land hospitable to alfalfa. Plant the seed under these conditions and it will push its roots to a depth not reached by ordinary field crops, penetrating four to six feet, causing new farms as yet untouched, to pay tribute to the farmer. The upward growth of alfalfa is equally as great, though not often realized, due to the fact that three or four cuttings are removed for hay. As a matter of fact, a good field of alfalfa will produce the equivalent of a hay crop eight or ten feet high, or from four to six tons per year.

"Do unto alfalfa as you would have it do unto you."



A Well Established Alfalfa Plant "Prepared" to Make a Big Growth.

viously on the land, inoculation with the proper bacteria is necessary. Pure cultures of the bacteria may be used for this purpose. The soil method is also reliable. Spread several hundred pounds per acre of fresh surface soil from a successful alfalfa or sweet clover patch over the ground to be seeded. Apply on cloudy day or in evening and follow with harrow.

plowed early and worked thoroughly so as to control grass and weeds. No nurse crop or companion crop should be seeded except on sandy soils or soils which are inclined to wash, in which case a peck or so of buckwheat will be beneficial. Early spring seedings should be made with a companion crop of barley or oats, seeded light at about one bushel per acre.

CULTIVATION should not be delayed in the corn until the field looks weedy. Only a little stirring of the soil is required to kill weeds immediately after they germinate and before they have used much soil moisture, but to destroy weeds that are well rooted, the soil must be worked deeply and thoroughly. Such deep cultivation, specialists in the United States Department of Agriculture say, not only means more labor but it can not be accomplished without breaking and destroying many corn roots.

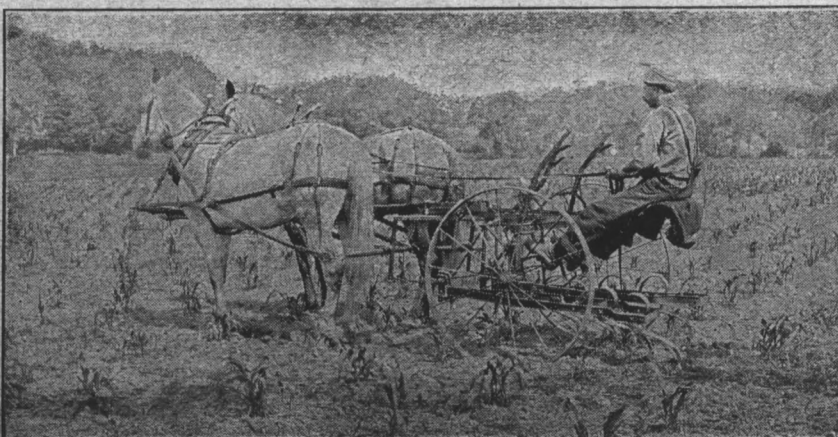
If corn land has been properly prepared deep cultivation is not advisable. It should never be done close to the plants after they are a foot high, as much harm would be done by breaking the roots.

To get an early start of the weeds, in many sections or in seasons when seed germinates slowly, it is advisable to harrow once or twice or otherwise to cultivate the field before the corn comes up. Limited moisture makes

thin stands necessary and it is poor management to allow grass and weeds to rob the corn of this moisture.

Aside from destroying weeds, timely cultivation is beneficial in preventing

the loss of moisture by evaporation and also in hastening the warming of the soil. The loss of soil moisture by evaporation continues much longer from a compact, damp surface than



Cultivate the Corn Early

from a loose, dry surface, and the evaporation tends to keep the soil cold.

In northern localities and at high altitudes the conservation of heat is frequently as important as the conservation of moisture. Luckily, both heat and moisture may be conserved by good, timely cultivation. Heat is wasted in evaporating or wasting soil moisture. Making the surface loose and dry saves both soil heat and soil moisture.

Cultivating after heavy rains is a good practice. To be most effective the cultivating should be done as soon as the surface is dry enough to work well. If the soil is allowed to dry until it breaks up cloddy, much moisture will be lost, a good mulch can not be obtained, and harm is more likely to be done to the corn roots. As long as rapid evaporation is taking place, the surface will remain cold and the growth of the corn will be slow. In order to cover large areas quickly, cul-

(Continued on page 695).

The Michigan Farmer

Established 1843.

Copyright 1917.

The Lawrence Publishing Co.

Editors and Proprietors

39 to 45 Congress St. West, Detroit, Michigan
TELEPHONE MAIN 4525.NEW YORK OFFICE—381 Fourth Ave.
CHICAGO OFFICE—111 W. Washington Street.
CLEVELAND OFFICE—101-103 Oregon Ave., N. E.
PHILADELPHIA OFFICE—261-263 South Third St.M. J. LAWRENCE.....President
M. L. LAWRENCE.....Vice-President
E. H. HOUGHTON.....Sec.-Treas.I. R. WATERBURY.....Associate Editors
L. R. WERMUTH.....
FRANK A. WILKEN.....
ALTA LAWSON LITTELL.....

E. H. HOUGHTON.....Business Manager

TERMS OF SUBSCRIPTION:

One year, 52 issues.....\$1.00
Two years, 104 issues.....\$1.50
Three years, 156 issues.....\$2.00
Five years, 260 issues.....\$3.00

All sent postpaid.
Canadian subscriptions 50c a year extra for postage.

RATES OF ADVERTISING:

40 cents per line agate type measurement, or \$5.00 per inch (14 agate lines per inch) per insertion. No advt. inserted for less than \$1.20 each insertion. No objectionable advertisements inserted at any price.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as second class matter at the Detroit, Michigan, post office.

DETROIT, JUNE 16, 1917



CURRENT COMMENT

A few readers have expressed their disappointment over the fact that the young men of the farms, in common with those of the factories and offices were required to register for military service, and will become subject to draft under the selective service law. A very few protest against the injustice of such a course, having gotten the idea that the men drafted under the selective service law will be subjected to harder service and receive less recognition in every way where same may be merited, than would those who enlist voluntarily.

It is perhaps unavoidable that a great deal of misinformation should circulate with regard to such a momentous move as the raising of a great army on the selective draft plan. At the outset it should be remembered that this is unquestionably the fairest plan of selection which could be devised, in that its operation will disturb industry less than would any other method which might be employed in raising an efficient army. Just as obviously, it would not be fair to wholly exempt those engaged in any occupation from the operation of the draft, but under this plan the value of each man's services to the country in his normal pursuit will be taken into consideration in the determination of the question of his proper exemption from service.

As previously noted, the rules under which exemptions will be made have not yet been promulgated. The registration of approximately 10,000,000 men of military age was accomplished in a single day. Some time will be required for the copying of registration cards, and their assortment into suitable groups previous to the actual placing in operation of the draft itself. As soon as the details can be arranged, a sufficient number of men will be selected from these lists by lot to insure the required number of men for the first training unit of the great army which must be raised. This draft will be equitably apportioned to different sections of the country, as indicated by the registration lists and many more

will be drafted than are required to fill the first quota, so as to provide for exemptions which will be made under fixed rules by local boards, to whom claims for exemptions may be made with an appeal to a central board still available to the applicant for exemption.

Regarding grounds for exemption, the Official Bulletin of June 7 contains the following statement authorized by the War Department:

Rules for exemptions can not be known until the Secretary of War and the President have approved the recommendations which are in preparation, or even now before these officials. It is pointed out, however, that a careful reading of General Crowder's statement warrants the inference that class exemptions are not looked for; that is, that farmers, machinists, or any such class not specifically exempted in the selective-service law itself will not be exempted in toto. But that indispensable persons in all needful occupations will be exempted, with definite direction from the President and the Secretary of War as to what occupations are needful and within what limits workers in them are to be considered by exemption boards as exemptable.

Under the operation of this selective service law the drafted man will have exactly the same status as a soldier that the enlisted man enjoys. Every man's claim for exemption will have a fair hearing first before a competent body, and the question of exemption will be determined under general rules which will provide so far as possible for the greatest degree of justice and equity compatible with the necessity of raising an adequate army in the present crisis. No patriotic citizen could ask more, and none should hesitate to cheerfully make the needed sacrifice should the fair operation of this equitable law call loved ones from their homes to serve the country in the hour of her supreme trial and need.

American agricultural engineers have for years been talking standardization, and in some lines of manufacture have brought about desirable results along these lines. For something more than a year the Society of Automotive Engineers has, through its various committees, been co-operating with government officials in the preparation of specifications for motor trucks for government use, with the idea of effecting a degree of standardization as between different makes of trucks, which will facilitate ease in making field repairs and substitutions.

These standard specifications are said to be so comprehensive as to enable the substitution of the most important parts in any of the different makes of trucks manufactured under the specifications. This move has entailed the giving up of personal considerations for the public good in a period of great emergency, but it undoubtedly will result in a most valuable demonstration of the desirability of standardization along every line of construction where same may be possible of application. It would be a great convenience to any farmer, for instance, if he happened to need a new section to a spring-tooth harrow if he could substitute one of another make without alterations, provided he could not immediately secure one of the same make as the original implement. This is but a simple illustration of the standardization idea which could be applied to the manufacture of very many types of farm implements as well as to carriages, wagons, and motor trucks which are the most conspicuous examples of equipment to which the principle of standardization has been generally applied.

The cold and backward spring has been a great handicap for Michigan farmers, particularly those located upon heavy land. A careful review of state and national crop reports which appear in another column of this issue will reas-

sure every thinking farmer who has been doubtful of continued high prices for farm products after this season's crops have been grown.

Weather conditions during the next few weeks will have a most important bearing upon the season's crop yields. The next important factor will be the efforts of the farmers themselves in making the most of the conditions which nature imposes upon them. It is obviously a time for careful planning and for the application of executive ability in the prosecution of the work. This is a season in which good farm management will count far more than under normal conditions.

MICHIGAN CROP REPORT.

Wheat.—The average condition of wheat is 72 in the state, 70 in the southern counties, 66 in the central counties, 82 in the northern counties and 91 in the upper peninsula. The condition on May 1 was 76 in the state, 73 in the southern counties, 67 in the central counties, 88 in the northern counties and 96 in the upper peninsula. The condition one year ago was 81 in the state and central counties, 78 in the southern counties, 85 in the northern counties and 97 in the upper peninsula. The ten years' average condition of wheat in the state on June 1, from 1907 to 1916, both inclusive, is 86.

The total number of bushels of wheat marketed by farmers in May at 98 flouring mills was 95,056 and at 94 elevators and to grain dealers 108,616, or a total of 203,672 bushels. Of this amount 160,442 bushels were marketed in the southern four tiers of counties, 34,892 in the central counties and 8,338 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed and consumed by growers in the ten months August-May is 11,000,000. Sixty-six mills, elevators and grain dealers report no wheat marketed in May.

Rye.—The condition of rye in the state is 83, in the southern and central counties 81, in the northern counties 87 and in the upper peninsula 94. One year ago the condition in the state and central counties was 87, in the southern counties 85, in the northern counties 88 and in the upper peninsula 97.

Corn.—The acreage of corn planted or to be planted as compared with last year is 109 in the state, 108 in the southern counties, 115 in the central counties, 107 in the northern counties and 105 in the upper peninsula. The condition of corn as compared with an average is 82 in the state, 77 in the southern counties, 86 in the central counties, 87 in the northern counties and 92 in the upper peninsula.

Oats.—The condition of oats as compared with an average is 86 in the state, 82 in the southern counties, 88 in the central counties, 91 in the northern counties and 97 in the upper peninsula. The condition one year ago was 87 in the state and southern counties, 78 in the central counties, 95 in the northern counties and 98 in the upper peninsula.

Barley.—The acreage of barley sown or that will be sown as compared with last year is 98 in the state, 101 in the southern counties, 96 in the central counties, 90 in the northern counties, and 106 in the upper peninsula.

Meadows.—The condition of meadows as compared with an average is 83 in the state, 82 in the southern counties, 81 in the central counties, 86 in the northern counties and 93 in the upper peninsula. The condition one year ago was 96 in the state, southern, central and northern counties and 99 in the upper peninsula.

Potatoes.—The acreage of potatoes planted or to be planted as compared with last year is 113 in the state, 105 in the southern counties, 122 in the central counties, 119 in the northern counties and 127 in the upper peninsula. The condition as compared with an average is 83 in the state, 77 in the southern counties, 87 in the central counties, 94 in the northern counties and 99 in the upper peninsula.

Cabbage and Celery.—The number of acres of cabbage planted or to be planted so far as reported, is 10,176 in the state and the number of acres of celery 5,684.

Sugar Beets.—The acreage of sugar beets planted or to be planted as compared with last year is 109 in the state, 110 in the southern counties, 114 in the central counties, 93 in the northern counties and 100 in the upper peninsula.

Colts and Calves.—The number of colts as compared with last year is 89 in the state and central counties, 87 in the southern counties, 93 in the northern counties and 100 in the upper peninsula. The number of calves as

compared with last year is 98 in the state, 97 in the southern counties and upper peninsula and 99 in the central and northern counties.

Fruit.—The following table will show the prospect at the present time for a crop of the various kinds of fruit in the state and the different sections:

	State.	Sou.	Central.	Northern.	Upper Peninsula.
Apples.....	71	71	68	74	93
Pears.....	82	82	86	76	82
Peaches.....	23	23	21	29	..
Plums.....	76	76	80	69	93
Cherries.....	85	85	84	84	95
Strawberries.....	83	85	77	83	94

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The English were successful in another offensive on the western front last week, the operations netting them practically the whole of the Messines-Wyschaete ridge which is about fourteen miles long and from two to four miles deep. The battle was preceded by the explosion of one million pounds of high explosives which the British had been placing during the past year. This ridge which is more important than Vimy ridge is regarded as the key to all the northern sector of the western front. Only a plain lies between it and the important commercial center of Lille. Counter attacks by the Germans failed to dislodge the British. Later additional gains were made in the vicinity of Ypres. The French farther to the south and east have succeeded in defeating every attempt of the Germans in surprise attacks upon their lines about Craonne and along the Meuse river.—The Italian drive has slowed up and no accomplishments have been reported on this front during the past few days. Operating out of Avlona in Albania the Italians have taken over various places, including several Greek towns. The latest of these is Janina, over which the Greek cabinet is now formulating a protest.—Nothing of importance has been reported from the Russian frontier, where the Slavs remain inactive.—The recent bombardment of Ostend on the Belgian coast has resulted in the Germans removing all the large ships from that harbor.

Events are moving rapidly toward a crisis in China. The former military governor of Anhwei with several thousand military followers has reached Peking to deliver an ultimatum demanding the dissolution of parliament within forty-eight hours. The dissolution was demanded by military governors a short time ago after parliament had refused to declare war on Germany.

Lord Northcliffe has been made the head of a British mission to this country to co-operate with the American government in military activities on the western front. He is now present and his first advice is that America prepare herself fully to maintain her army abroad before she sends it, and not to repeat the mistake of Great Britain in the Gallipoli campaign.

San Salvador, capitol of the republic of Salvador in Central America, with a population of more than 60,000, and other neighboring towns and villages, were almost completely destroyed by an earthquake on June 8. Many persons are said to have been killed or injured.

Through the failure of coalition negotiations by the Canadian government a grave political crisis has been developed which in all probability will force an election during the summer or early fall. The issue, of course, is whether conscription will be adopted as part of the military program of that government.

The Spanish cabinet, under the leadership of Marquis Prieto, has resigned. King Alfonso speaks of the situation as being the gravest which his country has faced during the past forty years. It is probable that a conservative leader will be asked to formulate a new government.

National.

Major General Pershing, who is to lead the first American command in France, has arrived in England with 198 officers. At the same time one hundred American aviators from the United States navy flying corps landed safely in France.

Although complete figures are not available, estimates place the number of persons registered in this country on June 5 for military drill at over 9,000,000. While the federal estimates for many of the states failed to be realized in the registrations, Michigan's allotment was exceeded by about 60,000, her quota being placed at 288,000.

A powerful radio plant operated in the interest of Germany has been discovered in New York City where it has been effectively concealed by large electric signs on the roof of a Broadway theatre. The men in control, who are German aliens, have been arrested.

CULTIVATE THE CORN EARLY.

(Continued from first page).

tivators which work two or more rows are a great advantage.

The number of cultivations necessary and the best time for them depend upon weather and soil conditions. Weeds should not be allowed to grow, and a mellow surface should be maintained. In some seasons this may be effectually accomplished with one or two cultivations; in other seasons from four to six cultivations may be necessary.

Nothing can be gained by continuing cultivation in corn fields free from weeds and in which the soil surface is mellow. When the surface is sufficiently loose and dry to reduce evaporation, is open enough to prevent runoff, and no weeds are starting, a cultivation could do no good and if carelessly performed would do injury to the corn.

Corn should be cultivated only when one or more objects will be accomplished by the cultivation and when the total effects will be more beneficial than injurious. The beneficial effects of cultivation are:

(1) Preventing weeds from robbing the corn of soil moisture and fertility.

(2) Putting the surface in condition to take in rainfall, thus preventing runoff and erosion, which mean losses of water and soil fertility.

(3) Warming the soil by drying its surface quickly.

(4) Saving moisture by checking its capillary rise to the soil surface.

Some injurious effects of cultivation are:

(1) Breaking the corn roots which otherwise would use some of the moisture of light showers before it evaporates; and

(2) Forming large clods and air spaces, thus permitting air to enter and dry the soil.

LILLIE FARMSTEAD NOTES.

Plowing Alfalfa Sod.

After careful examination it was evident that my best field of alfalfa was so badly winter-killed that the only thing for a dairyman to do was to plow it up and plant it to corn. In a previous article I stated that we would cut it and take what we could get because we had so much other work, but a heavy rain changed conditions somewhat so we couldn't prepare the other land or plant it, but we could plow this sod ground. If it doesn't rain again we will plant this tomorrow, June 5. Think of it! Corn ought to be planted the middle of May and here it is the fifth of June for the first field and we have forty-eight acres to plant, but it takes a little of the anxiety out of the proposition when you consider that it is sweet corn intended for the canning factory and doesn't have to mature beyond the boiling stage, so even if it is planted as late as the fifth of June, in all probability the corn will mature sufficiently for the canning factory before frosts come.

It is a job to plow alfalfa sod. Did you ever try it? If not, remember that to plow it you must have a very sharp plow point and sharp plow shear, especially the shear part of the point. A brand new point is no good, it is not sharp. It will do, of course, for ordinary plowing, but when it comes to plowing alfalfa sod it is no good at all, consequently one might just as well use points that are somewhat worn so that they will not go into hard ground, then by sharpening them on an emery wheel one can fix them so that they will cut the alfalfa roots. They must be ground right down to a keen edge. Ordinary plow points, of course, can be reversed so that they will work fairly well in ordinary ground, but for the alfalfa sod they must be ground so that they cannot be reversed. If one has no emery wheel on his own farm,

before he comes to plowing his alfalfa sod he should take enough points to town so that he can have a sufficient number to change every two and one-half hours at least. It takes two points in the forenoon and two points in the afternoon to do good work at all, and it would be better if you used three points in a half day, but if they are well sharpened you could get along with two points and cut the roots. We have a power-driven emery wheel on the farm, which makes it handy in a case like this, so we can sharpen the plow points and it takes considerable of one man's time to keep the plow points properly ground for two teams plowing. They want to be ground so that the beveled edge is not too straight and yet, of course, they cannot be ground back too much or the points break easily but they should be ground every time so that the bottom side of the point is absolutely straight, making a keen edge. One ought to try the shear with his finger, as he would if he were sharpening a knife, so that you know there is a good cutting edge. With the plow equipped with this kind of point the team can go along in alfalfa sod very well, but just as soon as the shear gets dull and you begin to pull the roots instead of cutting them, it takes a tremendous amount of power to do it.

As I have stated before, this field was heavily top-dressed with manure during the winter time and now with all these alfalfa roots, if we have anything like a decent corn season, I expect to get a bumper crop. I shall use about 250 pounds of acid phosphate per acre to try and encourage an extra ear development.

Sheep-shearing Time.

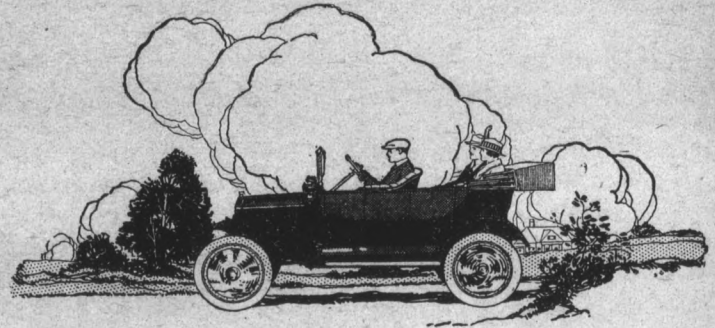
Sheep shearing time has come and gone again. We only have a small flock of twenty-five Oxford ewes. The art of shearing sheep in our neighborhood is almost a lost art; there are no professional sheep-shearers that go about the country as there used to be. I used to do a little of this work myself. Three years ago I purchased a shearing machine just because the hired man, who had had no experience in shearing, could shear with this machine and not cut the sheep all to pieces. They do a fairly good job, but it is slow and awkward work for them and I am always glad when the last sheep is sheared.

This year we dipped our sheep for ticks twice, allowing several days to intervene between the dipping so that all the ticks would be destroyed. The lambs, of course, need dipping really more than the sheep; the ticks migrate from the sheep to the lambs. There seems to be an unusual number of ticks on our sheep this year and yet they were all dipped last year, lambs and all. With a small flock one cannot have conveniences for dipping as you would for a large flock. It has to be done by main strength and awkwardness. We have a galvanized steel tank and we put the dip preparation in this, then catch the sheep, and two men, one taking hold of the legs and one hold of the forelegs and the head, dipping them into the tank. It is not such a big job after you once get after it. We dipped our sheep and lambs in about an hour's time after we got things ready.

Pasture.

It is a great relief on a stock farm to have spring come and grass grow, so that the young cattle and the sheep and the colts can be turned out to pasture. On our farm it is almost impossible for the regular men to do anything at farming early in the spring; we have to hire men by the day to put in the early spring crops because the chores are just as much as they were in the winter time. This season has been so late that we have just barely got the young stock and sheep out to pasture, the first of June. In ordinary years we get them out by the tenth or

Your Ford Car



Why it should be lubricated with Gargoyle Mobiloil "E"

In lubricating Ford Cars, there are eight vital considerations. Each one must be met if the engine is to deliver its full power and be free from undue heat and wear.

These factors are:

(1) Speed, Bore and Stroke.

Under the hood you have a small, high-speed engine. The Ford speed conditions demand oil of a different body from that demanded by low-speed conditions. The body of Gargoyle Mobiloil "E" meets this Ford need with scientific exactness.

(2) Piston Clearance. The Ford pistons are closely fitted. Each piston has two upper rings and one lower ring and an oil groove. The lower ring tends to prevent a surplus of oil working into the combustion chamber, while the oil groove insures proper lubrication of the wrist-pin. Engineering tests show that the body of Gargoyle Mobiloil "E" forms the correct film for the Ford piston clearance.

(3) Lubricating System. The oil is supplied to the forward end of the crank case and flows back to the fly wheel compartment which acts as an oil reservoir, the lower portion of the fly-wheel being submerged below the oil level.

The fly-wheel in revolving, picks up the oil which is thrown by the centrifugal force of the revolving fly-wheel into the catch-basin, from where it is led by $\frac{1}{4}$ " copper piping to the timing gears and then to the oil splash trough under the front cylinder.

From the front splash trough the oil overflows into the second splash trough; from the second splash trough into the third splash trough. From the third splash trough the oil returns to the oil reservoir in the fly-wheel compartment, whence it is again circulated.

Gargoyle Mobiloil "E" has the scientifically correct body to properly distribute to all friction surfaces.

(4) Cooling.

The Ford engine is water-cooled by the thermosiphon system, and is equipped with two forward speeds. The con-

tinued use of low gear often causes over-heating. For full protection, oil should be used which distributes freely to the heated frictional surfaces, as Gargoyle Mobiloil "E" does.

(5) Ignition. The Ford system of ignition is by low-tension magneto, located in the fly-wheel, employing a four-unit coil of the vibrator type. Gargoyle Mobiloil "E" will burn cleanly from ignition points—a most important consideration.

(6) Bearings. The Ford bearings are of the two-bolt type, brass with Babbitt lining, closely fitted. The correct body of Gargoyle Mobiloil "E" enables it to properly reach all parts of the closely-fitted bearings.

(7) Carbon Deposit. To insure the least carbon under all conditions, an oil should be used whose only deposit will be of a dry, non-adhesive character—easily and naturally expelled through the exhaust. Gargoyle Mobiloil "E", if the proper level is maintained, will deposit little, if any, carbon in a Ford engine.

(8) Extreme Weather Conditions. On hot Summer days you will sometimes see Fords running under over-heated conditions, often due to faulty lubrication. Ford owners, who use Gargoyle Mobiloil "E" are free from this trouble, owing to the ability of the oil to absorb and radiate heat. On cold Winter days oil is required of a fluidity which enables it to meet low-temperature conditions and permit ease in cranking the engine. Gargoyle Mobiloil "E" completely fills these requirements.

We guarantee Gargoyle Mobiloil "E" to be fully up to the high standard demanded of all Gargoyle products. It easily reaches all friction surfaces and gives thorough protection after distribution.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloil "E" from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. If the dealer has not Gargoyle Mobiloil "E", kindly write our nearest branch, giving dealer's name and address.

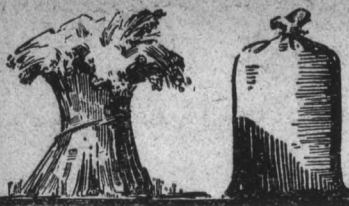
YOUR TRACTOR

also may be lubricated efficiently with Gargoyle Mobiloils. On request we will mail you a separate Chart specifying the correct grade for each make and model of tractor.

VACUUM OIL COMPANY, Rochester, N.Y., U.S.A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches: Detroit, Philadelphia, Indianapolis, Pittsburgh, Boston, Kansas City, Kan., Minneapolis, Chicago, New York, Des Moines



Get the Grain From the Bundle to the Sack

YOU can do it with a Red River Special. It beats out the grain. The giant cylinder with surplus teeth and large concave surface throws grain, straw and chaff against the "Man Behind the Gun." Grain goes through. Straw and chaff go over. Shakers beat out remaining grain.

Hire the man with a

Red River Special

It Saves the Farmer's Thresh Bill

Or, get our Junior Red River Special and thresh your own grain. Has the same essential features as the Red River Special. The ideal thresher for medium size tractors. It gives you high efficiency in a small machine. Can do almost twice the work of usual small threshers. Has same guarantee that we put back of our large threshers. Write for Description.

Nichols & Shepard Co.

In Continuous Business Since 1848
Builders Exclusively of Red River Special
Threshers, Wind Stackers, Feeders, Steam
Traction Engines and Oil-Gas Tractors
Battle Creek Michigan



Wind and rain can't find a chink or a crack in a Buckeye Grain Bin--there aren't any to find!

Built of heavy, 20 gauge galvanized steel securely bolted to stout angle steel ribs, the bin stands as sturdy, strong and weather tight as a building of granite.

Naturally then, grain or corn stored in a

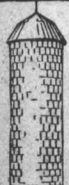
BUCKEYE
The CRIB
With The STEEL RIB

keeps absolutely dry and mouldless. Through an opening in the roof you can run wheat, rye, oats or barley directly from the thresher into this crib and leave it there safe from fire, storm, birds, vermin and thieves till market conditions suit you to move it. And then, a handy door 2 ft. x 6 ft. with a spout for sacking, permits easy and speedy emptying.

Buckeye Grain Bins and Crib can be had in sizes to hold 200 bushels up to 4000 bushels--a splendid investment for any farmer to make. Write for handsome folder giving detailed description.

THE THOMAS & ARMSTRONG CO.
362 Main St. London, Ohio

BUILD AN EVERLASTING SILO



Glazed Vitrified Tile. Scientifically correct. Complete descriptive literature sent on request. Write today.

LEWIS McNUTT
23 South Clay Products
Walnut St. Brazil, Ind.



DITCHES and Terraces

Also grade roads, build dikes, levees with

Martin Farm Ditcher and Grader

Works in any soil. Makes V-shaped ditch or cleans ditches up to 4 feet deep. Does labor of 100 men. All Steel. Reversible. Adjustable. Write for free book and our proposition.

Owensboro Ditcher & Grader Co. Inc. Box 215 Owensboro, Ky.

When writing to advertisers please mention The Michigan Farmer.

fifteenth of May, and so all this work of caring for all these animals has continued, and it certainly is a great relief now that they are all out to pasture where they can care for themselves.

There is much less work with the cows also; they can get a good share of their food now from the pasture. Of course, we feed them grain and just as soon as peas are harvested we will have pea-vine silage and it will be necessary at that time because we haven't a sufficient amount of pasture to furnish a full ration for more than June.

This late spring has been pretty expensive for us as we have had to purchase about twenty-five tons of hay to carry us through and the price kept going up. The first ton of hay I bought for \$10, and it has kept gradually increasing until the last we purchased we had to pay \$14 per ton for mixed hay in the barn, so my prediction, made last fall, that while hay was a bountiful crop last year, and the only cheap feed on the market at that time, there was liable to be a shortage just because people would feed more hay than usual to save high-priced grain, thus making a shortage and increasing the value. This proves also that supply and demand makes the price of commodities.

COLON C. LILLIE.

THE BEAN MAGGOT.

Early plowing of bean land as a measure for ridding sod of the bean maggot which worked much damage in Michigan last season, is recommended to farmers, by the M. A. C. departments of entomology and farm crops as means of minimizing this danger this spring.

"There is little danger from the bean maggot on land plowed three weeks or more before planting," M. A. C. entomologists say, "but the maggot may cause ruin on fields planted soon after the turning under of clover sod or manure. It is recommended that bean ground be plowed to a good depth, firmed with the roller, and harrowed immediately after rolling, and a thorough harrowing or discing should in addition be given at weekly intervals until planting time.

"Beans require a weed-free seed bed, firm underneath, with a surface approaching 'garden tilth' as nearly as possible. Beans are particularly sensitive to conditions prevailing at the time of germination. The bean differs

from most other common crops in its growth in that every seed which produces a plant must be pushed above the surface of the ground to form the seed leaves. A uniform and vigorous start can only be secured on a well-warmed seed bed in good tilth.

"Where possible, beans should be planted on fall plowed, or early spring plowed land, but in any event, the plowing should be completed at least three weeks before the seed is put in. This permits the furrow slice to settle properly, and affords time for the thorough fitting of the soil with disc and harrow."

FERTILIZER FOR POTATOES.

Commercial fertilizers, if applied judiciously, may be employed profitably on most potato soils, but they should be used as a supplement to stable manure, which is the most desirable form of fertilizer, and not to take the place of the manure. Under war conditions potash is too expensive to warrant its general use for potatoes, and as nitrogen is also high in price, it likewise should be used sparingly and with judgment.

When a clover or alfalfa sod is plowed under the percentage of nitrogen need not be very great. A fertilizer containing from two to four per cent nitrogen and from eight to twelve per cent phosphoric acid is very desirable for the potato crop under present conditions. When a clover or alfalfa sod is plowed under from two hundred and fifty to five hundred pounds of fertilizer containing two per cent nitrogen and eight to ten per cent phosphoric acid may be used in addition to the acid phosphate. Acid phosphate may be used in larger quantity with profit, on the heavier than the lighter soils. The results from the use of commercial fertilizers depend to a considerable extent upon the method of application. Very little benefit will result from the scattering of the fertilizer on the surface of the ground unless it is worked into the moist soil. A grain drill with a fertilizer attachment is a good tool with which to apply the fertilizer. If the potatoes are planted with a horse planter which has a fertilizer attachment, two hundred to two hundred and fifty pounds of fertilizer may be applied in the furrow and the remainder broadcast. This may also be done when the furrows are opened and the potatoes dropped by hand. The fertilizer should be mixed with the soil to prevent its coming in contact with the potato seed or sprouts.

Mich. Ag. Col. C. W. WAID.

WHITE PINE BLISTER RUST IS FOUND IN MICHIGAN.

The white pine blister rust, a disease which has been introduced into the United States from Europe is spreading throughout the east and recently has been found in Michigan. It is estimated that the value of the present stand of white pine in Michigan is about \$15,000,000, and while the disease is confined principally to young trees, it will, doubtless, unless controlled, do an immense amount of damage.

So far as is now known there is no cure for the rust. It kills all the young trees it infects and spreads rapidly. The disease, however, while it does most damage to the pine, requires currant or gooseberry bushes in order to complete its life cycle. In May and June small oval bodies are blown from the diseased pines to the currant and gooseberry leaves, where they germinate and produce clusters of yellow spots; these spots produce millions of small oval armed bodies which are blown to other currant and gooseberry bushes and infect them. In August these same yellow spots are found and also some dark horn-like formations.

These horn-like structures are covered with small round bodies, which are blown about by the wind and when they fall on the pines they germinate. The disease spreads around the branch or trunk of the tree, blisters the bark and cuts off the circulation, causing the tree to die.

In order to stop the spread of the disease all diseased pines, when found, should be destroyed at once and any currants or gooseberries in the vicinity should be uprooted and burned. Persons in the state finding the symptoms of this deadly disease on either currants, gooseberries or pines, should report the fact at once to the Michigan Agricultural College, East Lansing. Mich. Ag. Col. A. K. CHITTENDEN.

ROAD BUILDING IN MICHIGAN.

Branch county has voted to build a mile of concrete road through Bronson, on Chicago street.

Leon V. Belknap is the new engineer in charge of road building in Oakland county. Three heavy auto trucks have been purchased for use in maintaining county highways.

Dover township, Lenawee county, has let the contract to B. C. Lord, of Clayton, to build three miles of gravel road, which is another link in the Adrian-Hudson trunk line road and leaves but three miles in Dover to be completed.

Four townships of Montcalm county have voted bond issues for good roads as follows: Bloomer, \$50,000; Home, \$40,000; Pierson, \$20,000; Richland, \$20,000.

Hillsdale county will continue its road improvements, including the long-talked-of trunk lines from the county seat to Hudson and Pioneer. Litchfield township will build about six miles of state road. Fayette township is cutting down the big hill near Hillsdale and will build a fine road between Hillsdale and Jonesville. Allen township will replace the bad two-mile stretch between Allen and Jonesville with state reward road. Reading and Woodbridge will expend about \$7,000 each for road improvement. Pittsford will improve the bad roads near the village. Somerset will build three miles of state road. Camden township has \$5,000 to spend this summer for good roads.

Barry county has let contracts to O. W. Struble, of Middleville, to build a mile of road in Yankee Springs for \$6,500, and a mile of trunk line in Thornapple for \$4,000.

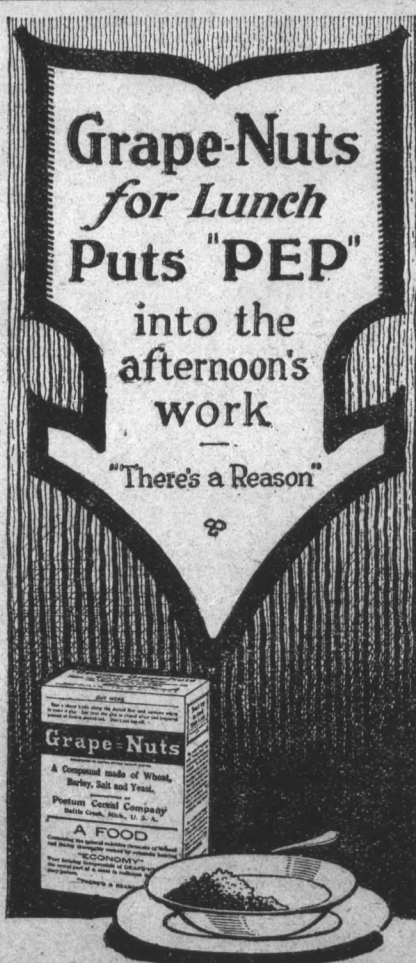
Saginaw is taking a complete traffic census of the main traveled roads in the county, with names of roads withheld to prevent any possible padding of the records.

Washtenaw county has provided for grade separation of the Whitmore Lake road by voting a fund of \$10,000 to build bridges over the Michigan Central Railroad and Huron river north of Ann Arbor.

Jackson county has adopted the patrol system of maintaining its roads. Kent Co. ALMOND GRIFFEN.

GRAIN FOR THE CALF.

When skim-milk is substituted for whole milk in feeding the calf, something needs to be added to replace the butter-fat removed in the cream. Corn can be used to good advantage. It is better cracked than ground fine. Bran is good, and ground oats are splendid. A mixture is better than just one of them. The calf will begin to eat feed when two to three weeks old, and should have access to it. The best way to feed grain is dry and care should be taken not to allow any of it to remain in the corners of the feeding box as it will sour and may cause digestive troubles. Boiled ground flax seed is also used with skim-milk to make up for the fat removed.—N. D. Ex. Sta.



Raspberry Cane Blight and Anthracnose

RASPBERRY canes in Michigan fields almost without exception show attacks of the two diseases, raspberry cane blight and raspberry anthracnose. Both of these diseases are caused by parasitic fungi which work within the canes, either girdling or injuring them.

Cane blight, caused by *Leptosphaeria coniothyrii*, usually develops about the time of ripening of the berries. The grower's attention is called to the dying and withering of leaves of an entire branch. The berries also dry up. This withering can be traced to the point of fungous attack lower down on the stem. The point of attack is marked by a great number of black pustules—pimple specks which are the fruiting bodies of the fungus. The fruiting bodies produce spores, the "seeds" of the parasite, in great numbers. The amount is sometimes so great that the stems may be turned a smoky, sooty color.

Anthracnose is caused by the fungus, *Gloeosporium venetum*. It shows itself especially in wet seasons by the production of circular or elliptical white blotches on the canes. Occasionally the leaves and berries will show slight attacks. Old canes crack badly as a result of the attack of the fungus. The effect on the plant is a general unthriftiness.

Methods of Control.

These diseases have as yet been only imperfectly controlled by spraying. There is considerable promise in the work done by the horticultural department with commercial lime sulphur, 33 degrees Baume, at the rate of one gallon to nineteen of water. This was applied as a dormant spray. Noticeable improvement was evident in the sprayed plots.

If summer sprays are to be used, no doubt frequent sprayings in the spring with one to thirty-five lime-sulphur is preferable to later sprayings. The matter is as yet in the experimental stage. The gain in yield has not as yet paid for extensive spraying operations.

For the most part, however, the grower will need to rely upon the sanitary measures in which the badly diseased canes are removed after the fruit is picked. This gives the sound canes opportunity to develop.—Department of Botany, M. A. C.

The Anthracnose.

Anthracnose occurs on the fruiting canes of the current season, and also on the new shoots which will be the fruiting canes for next year. It usually appears in the form of spots or blotches on the canes, varying from one-sixteenth to one-fourth of an inch in diameter. These blotches are brownish or reddish toward the center and usually have a purplish ring around the outer border. Where the fruiting canes are badly affected, a weak growth is likely to result. The berries are undersized and some of them may even dry up and fail to mature fully. In severe cases fruiting shoots may more or less die back.

Treatment for anthracnose of the raspberry consists of two things. Pruning back the fruiting canes more severely than usual in late winter or early spring, and spraying the canes thoroughly with Bordeaux mixture just before the buds begin growth in the spring. Spray before the canes leaf out as the leaves are very susceptible to burning from spray.

Anthracnose-spotted canes cannot carry as much fruiting wood as healthy ones. For that reason, the side branches should be cut shorter than usual. Cut those branches most spotted with the disease, most severely so as to eliminate so far as possible the worst infected parts. This will prevent weakening the canes by setting too heavy a load of fruit and will insure better development of the berries which do set next year. To further reduce the spread of the disease, spray

with Bordeaux mixture just before the plants start into growth in the spring.—Mo. Ag. College.

TROUBLE DEPARTMENT.

Spraying Currants.

Will you please tell me when to spray my currants and what to use to prevent them dropping off when they begin ripening. B. F. W.

The chief insect enemy the currant has is the common currant worm. This can be controlled by spraying with some poison, either Paris green at the rate of five ounces to fifty gallons of water, and one pound of lime, or arsenate of lead, two pounds to fifty gallons. This should be applied when the currants are beginning to form, and if necessary repeated in two weeks.

There is also a green plant louse which attacks the currant foliage and frequently causes considerable damage by sucking the sap. The only way this can be controlled is by the application of Black Leaf 40, before the lice cause the leaves to curl. After the leaves curl, there is very little that can be done to check this pest. It usually disappears about midsummer, as at that time it goes to another host plant.

Occasionally the currant is attacked by the San Jose scale, or more frequently by the European plant scale. Either of these scales can be controlled by the regular application of lime-sulphur before the buds start in the spring. The regular commercial lime sulphur testing thirty-two degrees Beaume should be diluted at the rate of one gallon to eight gallons of water.

An insect which frequently causes trouble in currant patches is the currant borer. This insect bores into the center of the stem and lives on the pith. There is no spray which will control it, but every spring when the bushes are pruned, one should be on the outlook for the canes with black centers. These should be cut out, and the cut should be made back to a place where the pith is green and in a healthy condition.

There are few fungous diseases which attack the currant, but these are never very serious. They can be controlled by the use of Bordeaux mixture, with the poison for the worm.

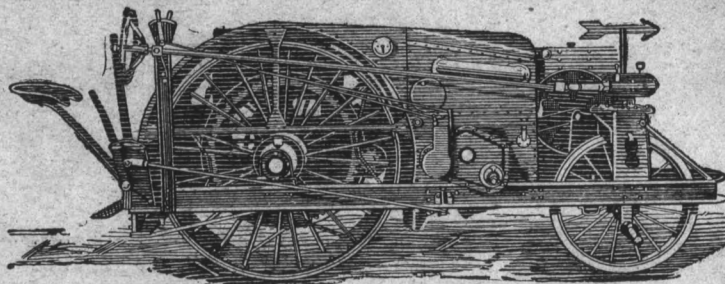
THE SIDE WORM.

While in the past the calyx spray, put on just as the blossoms had fallen, was the most important in controlling codlin moth changes, within the past two or three years, in the habits of the insects has given much greater importance to the next latter spray generally applied two or three weeks later.

Observations in the orchard of J. A. Burton, Orange county, Indiana, last year indicated that omitting the calyx spray entirely had little effect upon the number of wormy apples, though it did greatly reduce the curculio injury. Whereas a few years ago it was estimated that eighty per cent of the codlin moth larvae entered the fruit through the calyx, limited observations within the last year indicate that now practically all the worms enter the sides of the fruit. Several theories for this change have been advanced, one being that the lime-sulphur now used is more objectionable when it collects in the calyx end of the apples than was the Bordeaux mixture that was used several years ago.

The importance of spraying and the profit to be expected are indicated by the results of work in an orchard near Washington, Indiana. On trees that were sprayed 99.37 per cent of the fruit was free from worms, while on trees in adjoining rows that were unsprayed, 98.58 per cent of the fruit was unsound, largely as a result of the work of the codlin moth.

CASE



"Better Be Safe Than Sorry"

When buying power farming machinery, take no risk. —Invest your money safely—Buy Case Machinery.

When you select a Case Tractor or Thresher you are buying a product that is built honestly and carefully—a product that is built to uphold a name, one that is built *right*; that is neither too small, too light, nor too cheap. You are buying a product that is the choice of all thinking and studious farmers.

The Case 10-20 Tractor, like all other Case Tractors, holds top place in the Tractor field. Its motor is especially Case designed and Case made. The Case 10-20 is simple, efficient, economical and noted for its constant responsive power. It is adapted to all farm work—drives a 20x36 Case separator or hay baler, hauls, operates a silo filler, etc., etc.

A Case 10-20 Tractor with a Case 20x36-inch Thresher forms an ideal combination. The all-steel construction of Case Threshers that make them fire, wind and water-proof; the ease of operation, the strength of the cylinders that enables them to handle damp and tough grain, together with the fact that Case Threshers get the greatest amount of grain out of the crops, have made farmers who seek *capacity, durability and easy running qualities*, prefer them to all others.

Case builds five sizes of tractors and seven sizes of threshers.

There is a combination suitable for every size farm.

Their efficiency and simplicity make it desirable for every farmer to own a threshing outfit.



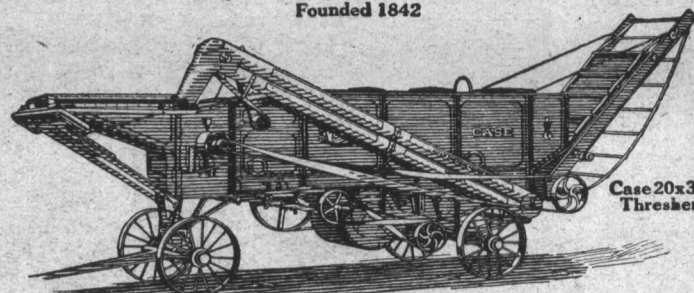
Write today for our new catalog.

We think it is the finest yet produced in the agricultural world.

No farmer can afford to be without it.

It will be sent you on request, absolutely free.

J. I. Case Threshing Machine Co., Inc., 463 Erie St., Racine, Wis. Founded 1842



Contractors to Government

TAPES

FOR TYING

CELERY

ASPARAGUS

IN FAST COLORS

TAPES FOR ALL PURPOSES

Hoffman-Corr Tape Mfg. Co.

308 Market Street, Philadelphia

GOOD PROFITS IN MAKING CIDER

Mount Gilead Cider and Grape Juice Presses produce 10 to 400 barrels daily. All sizes, hand or power. No need to feed apple culls to the hogs.

Fully Guaranteed

We make cider evaporators, apple-butter cookers, vinegar generators, cider and vinegar filters. Write for catalog.

Hydraulic Press Mfg. Co.

131 Lincoln Ave. Mount Gilead, Ohio

Augusta Basket Co.

Manufacturers of Best Quality Fruit Packages, Baskets, Crates, etc., Write for 1917 catalogue and price list. Augusta, Michigan.

Guaranteed Genuine Everlasting Grimm Alfalfa

Does not winter kill. Outyields other varieties in hay and seed. I recommend summer planting. Booklet "How I Discovered the Grimm Alfalfa" and sample free. A. B. LYMAN, Grimm Alfalfa Introducer, Alfalfadale Farm, Excelsior, Minn.

LIME

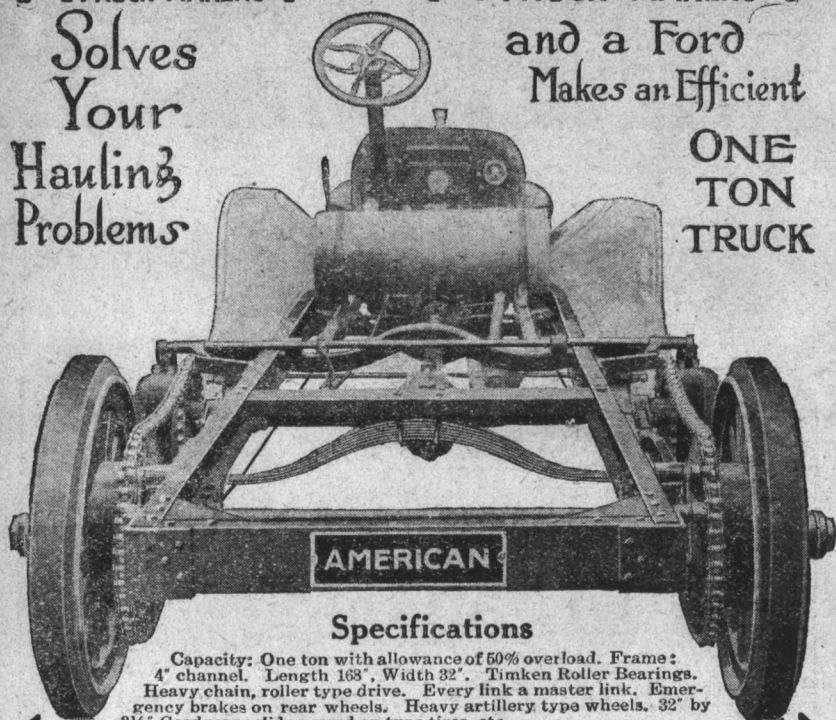
Pulverized lime/rock for "sour" soils. Write for LOW PRICES DIRECT TO YOU and we will send sample and full particulars. Write to office nearest you.

LAKE SHORE STONE COMPANY.

Muskegon, Mich., and South Haven, Mich.

AGRICULTURAL LIME Northern Hydrated Limestone, also pulverized burned lime, all made from high calcium limestone. Guaranteed to be the best on the market. Your inquiries solicited. Samples furnished on request. Northern Lime Co., Petoskey, Mich.

When writing to advertisers please mention The Michigan Farmer.

AMERICAN
TRUCK-MAKERAMERICAN
TRUCK-MAKERSolves
Your
Hauling
Problemsand a Ford
Makes an Efficient
ONE
TON
TRUCK

Specifications

Capacity: One ton with allowance of 50% overload. Frame: 4" channel. Length 163". Width 32". Timken Roller Bearings. Heavy chain, roller type drive. Every link a master link. Emergency brakes on rear wheels. Heavy artillery type wheels. 32" by 3 1/2" Goodyear solid pressed on type tires, etc.

Now \$269⁵⁰

—Buys the American Truck-Maker

Revolutionary selling plan smashes truck prices. This is a \$360.00 Truck-Maker value if ever a Ford attachment was. **Be your own salesman and save from \$50.00 to \$75.00.** We have put the price so low every farmer can now afford one.

The American Truck-Maker contains special features found in no other Truck attachment. It is made of only the highest grade materials and has been thoroughly tried out under all conditions. It will solve all your hauling problems.

Sold Direct Factory to Farm
No Agents—No Dealers

Do not buy a Truck attachment of any kind, at any price, until you get full particulars regarding the American Truck-Maker. We want you to compare it point for point with any and all other Truck attachments. We know you cannot equal this remarkable value anywhere at any price. We sell only direct from Factory to Farm. One price to all, whether you buy one or one hundred. Send for full particulars.

American Manufacturing Co., 306 New York St., Goshen, Ind.

The Dairy Cow and the War

IN war times it is necessary to feed as many people from one acre as possible. This can be done most efficiently with such crops as wheat, corn and beans. In order, however, to keep the farm in proper balance as to labor, fertility of the soil, and permanency of production, it is necessary to grow some crops that can best be marketed because of their bulky nature and greater financial returns by so doing in the form of animal food products. The dairy cow because of her efficiency stands foremost of our farm animals in converting these rough feeds into highly nutritious and easily digestible food products. She returns at the same time three-fourths of the fertilizing value of farm feeds to the soil if the excrements are properly conserved. Milk is nature's most perfect food. Milk, butter, cheese, ice cream, and other dairy products are our most economical, nutritious, and healthful foods. A quart of milk equals in food value eight eggs, three-quarters of a pound of lean beef, and four-fifths of a pound of pork. A dairy cow producing 8000 pounds of four per cent milk per year will produce as much food in one year as four 1250-pound steers will in one and one-half to two years. At the same time, she produces a heifer on the average of every two years to replace herself and stands ready to repeat her yearly performance for at least six years. For these reasons, too much attention cannot be given, in these times requiring maximum food production, to the production of dairy products.

The Value of Heredity.

In order to get good returns for feed and labor in the dairy business, the cow must first possess in a marked degree the ability to convert feed into milk. This is an hereditary characteristic and one that cannot be changed, no matter how well fed and cared for the cow may be. This emphasizes the importance of using a pure-bred bull, possessing good individuality, of some breed selected for milk production for generations, and from a cow whose yearly milk production is considerably above that of the cows in the herd.

The cows must be fed a liberal and a properly balanced ration. Half of the food in a ration of a cow on full feed goes for maintenance and consequently if a cow is supplied only about half rations the feed must either go entirely for maintenance or she will produce milk at the sacrifice of her body. Liberal yet not excessive feeding pays. There is a point beyond which it does not pay to go—this point varies with cows and prices of feed. Weighing the milk is the only way to determine this point. The ration should be properly balanced as to the different nutrients required for maintenance and milk production. A balanced ration is more efficient. Weighing the milk will tell which rations are most efficient. The cows should be well housed and handled carefully. A comfortable, dry, well lighted, well ventilated barn for winter, and a cool, darkened shed for summer where the cows may be safe from flies, save feed bills. Chasing by dogs and rough treatment lower production.

Essentials of Successful Dairying.

Practices to follow for success in dairying are:

1. Use pure-bred bull.
2. Weigh and test milk regularly and keep a feed record.
 - (a) To weed out poor producers.
 - (b) To aid in feeding properly.
3. Feed liberally of a balanced ration.
4. Give the cows good care.

Plant a patch of corn near the barn for summer feeding. It will aid you in increasing production. Know your cows and how you are feeding them. Feed is too valuable to allow it to be stolen

by robber cows. You would arrest your neighbor for stealing a sack of feed but you allow every year some cow in your herd to steal ten off you.

There are fourteen associations in Michigan under the supervision of the Extension Division, Michigan Agricultural College, and the United States Department of Agriculture. Write for information.

Mich. Ag. Col. J. A. WALDRON.

DAIRY PROBLEMS.

The Underground Silo.

I would like some information regarding the underground silo. We do not hear much about them in Michigan, but I understand that throughout the west they are used considerably. It would seem to me that they would be practical. Am wondering what method is used in getting the silage out of them.

U. C. M.

The underground silo was the first, or original silo. People discovered that you could keep green stuff in a proper condition for food by putting it in pits in the ground and covering it over, thus keeping it from the air. From this the modern silo resulted.

The underground silo is impractical. Usually, it is not desirable to go over ten or fifteen feet into the ground and it is almost impossible to cement it so that the water will not seep into the silo when it is empty, because the pressure is all on one side. A shallow pit silo is impracticable because the silage has to be heavily weighted with stone and earth which makes unnecessary work. If it is the right kind of soil you can have the silo fifteen or twenty feet in the ground.

There are those in this state that are being used at the present time but they are impracticable because of the expense of getting the silage out when you want to feed it. We can fill a silo above the ground with an ensilage cutter and have power to elevate the silage, but when it comes to feeding the silage out it is not practicable to have power and, consequently, the labor of getting it from the pit silo is a great deal more than getting it out of a silo above ground.

Not only that, but it would cost more to make the excavation and cement and stone up the wall down in the ground than it would to build one above the ground. It would be an immense amount of labor to dig this pit twenty or thirty feet deep and wall it up and plaster it, while it can be built above ground with comparatively small expense.

Butter-fat vs. Butter.

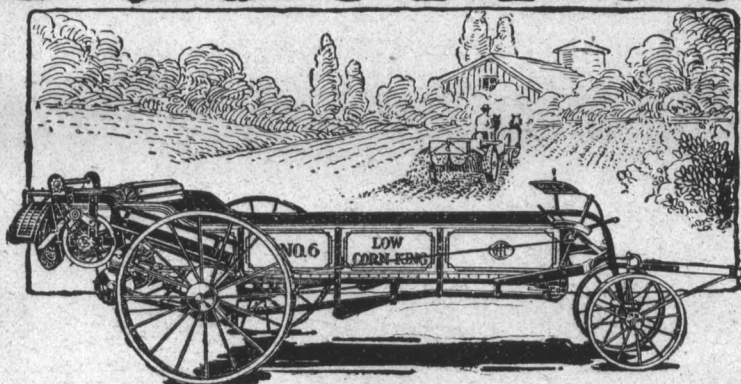
What is the value in butter of one per cent butter-fat in milk, or how much butter will 100 lbs. of 4.5 milk make?

A. F. C.

Butter-fat is pure fat containing no moisture or other substances whatever. Butter is composed of about eighty to eighty-five per cent butter-fat and the balance is a small per cent of casein and salt and water. You can't manufacture butter out of butter-fat without incorporating these three ingredients—casein, salt and water. Now, the excess in butter over pure butter-fat is called over-run. The best butter contains fifteen to twenty per cent over-run, but the amount of over-run all depends upon the skill of the butter maker.

Now, 100 pounds of four and a half per cent milk contains 4.5 pounds of pure butter-fat, providing you could get every particle of it, but it is impossible to get absolutely all. The very small amount of 0.10 per cent under the most favorable conditions is left with the skim-milk. When 4.5 pounds of butter-fat are made into butter, under favorable conditions, it will make 5.4 pounds of butter, but many times less than this amount of butter is produced, and then again by incorporating an excessive amount of moisture this amount is exceeded.

COLON C. LILLIE.



Settle the Spreader Question

THE farmer who uses a Low Cloverleaf, Low Corn King or Low 20th Century spreader these days is the man who makes the most money. His land increases in value when regularly fertilized. His crops grow better in quality and larger in yield when supplied with available plant food. Of all the spreaders on the market, the Low Cloverleaf, Low Corn King and Low 20th Century come nearest to doing this work as it should be done.

It is a long jump from the ordinary machine to the modern low spreader with its double beater and wide spread. Every farmer who knows the value of good spreading is buying one of these wide spread machines. As a matter of fact, no farmer can afford to buy any other kind, because the saving of time and labor and the better job of spreading done by a Low Cloverleaf, Low Corn King or Low 20th Century makes them worth more than ordinary spreaders.

Complete information about these machines is worth money to you. Drop us a line at the address below and we will show you very plainly why it will pay you to buy a Low Cloverleaf, Low Corn King or Low 20th Century spreader.

International Harvester Company of America

(Incorporated)

CHICAGO

U S A

Champion Deering McCormick Milwaukee Osborne Plano

FITTING HORSE COLLARS—CARE OF NECK AND SHOULDERS.

With the present great demand for horse power on the farm and in the army, we are looking after the welfare of our horses somewhat more carefully. Protecting them from pain while at work or at rest is about on a par with good food and shelter in aiding these faithful animals to generate their maximum amount of power.

Sore shoulders and neck are common sources of pain to the working horse. Since these important parts are under such severe pressure while pulling a load, it is very necessary to keep them sound. It has been found that practically all injuries to these regions can be avoided if proper care is exercised. Poorly fitting collars and neglect to the parts themselves are potent causes of shoulder and neck troubles.

It is well to remember the old maxim, "fit the collar to the horse and not the horse to the collar." The necks and shoulders of horses are found to differ about as much in shape as those of people, so a collar fitting one horse is oftentimes a misfit for another.

Best results are obtained where the collar follows closely the contour of the shoulders and fits in closely to the sides of the neck. Collars that are too wide, which stand away from the sides of the neck too far, cause harmful friction upon the working surface of the shoulders, often resulting in the formation of abscesses, ulcers and shoulder sweeney.

The length, too, must be regulated. The best condition of the length is found to be when there is just enough room between the lower border of the neck and the collar to allow the hand to be easily inserted between the two. To make this test for length the animal's head is held in the natural position it takes when he is pulling a load. A collar that is too short is apt to choke the animal by excessive pressure on the wind-pipe when he is put to a heavy pull, then, too, it is one of the conditions that cause sore necks. On the other hand, a collar that is too long is apt to cause injury to the point of the shoulder where important muscles pass over the shoulder joint.

Besides fitting the collar it is important to keep the surface which comes in contact with the shoulder and neck, smooth and hard at all times. Close inspection of all parts each time before harnessing the animal is essential. When accumulations of sweat and dirt are removed precautions are necessary not to roughen the parts which are being cleaned.

The care of these important regions of the horse's body is simple enough if the proper collar is chosen for the animal. In hot summer weather it is good practice to wash the shoulders and necks of horses every evening when the collar is removed. It should never be done just before the animal is to be worked, for the skin should always be dry when the collar is to work upon it.

Common soap of non-irritating qualities may be used for bathing these parts, or a choice of two or three other preparations may be made. Cold salt water, water with a little vinegar added or about a one per cent solution of, or about a one per cent alum water may be substituted for the soap and water and seem to be somewhat more toughening to the skin than the latter.

Mich. Ag. Col. J. W. BENNER.

A progressive stock feeder of Du Page county, Illinois, was in the Chicago market recently with 45 steers which averaged 1267 lbs. and brought \$12.45. These cattle had been on feed for 140 days and made average gains of 282 lbs. per head. They cost at the start as feeders in the Chicago market \$7.50 and were fed on silage, alfalfa and corn. The carload of hogs which followed them brought on the same day \$16.35, and averaged 265 lbs.

Fair List Prices

Fair Treatment

Tested on the Teeth of the Road—GOODRICH BLACK SAFETY TREAD TIRES

PICTURE to yourself the ROAD TEST Goodrich's Test Car Fleets put to Goodrich Tires.

With light and heavy cars, the fleets hammer Goodrich Tires against sand, rock and gravel in every part of the country.

The Atlantic Fleet, crunching over the hills and valleys of New York and New England;

The Pacific Fleet, pounding along the Western Coast;

The Dixie Fleet, braving the sun grilled roads of the South;

The Lake Fleet, ploughing the sands of Minnesota;

The Prairie Fleet, scouring the region of Kansas City;

The Mountain Fleet, grinding over the rocky trails of Yellowstone and Glacier Park;

All put the ROAD TEST cruelly to Goodrich Tires through millions of miles of roughing it.

Only the *BEST* can withstand such a TEST. ONLY the *BEST* does.

You get it, the TESTED certainty of lasting service, freedom from tire trouble, mileage, backed up by Goodrich Fair Treatment, in Goodrich Black Safety Treads.

Where You See This Sign Goodrich Tires are Stocked.



Ask Your Dealer for Them

The B. F. GOODRICH CO.
Akron, Ohio

Goodrich also makes the famous Silvertown Cord Tires which won the 1916 Racing Championship

The Best Tubes—Brown and Gray



"Best in the Long Run"

The President Says:

"It is of the most imperative importance that everything possible be done and done immediately to make sure of large harvests."

Conserve and Increase Your Forage Crops

Turn under part of your pasture and plant it to saleable crops. Feed your stock cheaper, easier, more profitably with a few acres of corn cut into ensilage with a Kalamazoo Ensilage Cutter and stored in a Kalamazoo silo. Stop wasting land that should be used for money crops. This year, if ever, farmers have a chance to make big profits.

Kalamazoo LIFE-TIME-SILOS

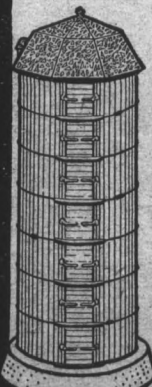
are built to meet the exacting farmer's needs. Best in design, material and workmanship. Have every desirable feature a silo should have and embody the "know how" acquired through more than twenty years experience in silo building.

Glazed Tile Silos—fire-proof, frost-proof, storm-proof, decay-proof, vermin-proof. Galvanized reinforcing. Require no paint, no upkeep expense or repairs. First cost is the last cost—a written guarantee goes with every one.

Wood Stave Silos—Your choice of four of the best time-defying woods. Kalamazoo Silos are manufactured complete ready to set up. Quickly and easily erected by inexperienced home labor. All Kalamazoo Silos are made with Galvanized Steel Door Frames and continuous doors, forming a safe ladder entire height of silo.

Write today for our free descriptive booklet. If interested in an Ensilage Cutter, ask for Kalamazoo Cutter catalog. Easy Payments, if you wish.

KALAMAZOO TANK & SILO COMPANY Dept. 218 Kalamazoo, Mich.



Save Your Horse HEAVES It Costs Little

PRUSSIAN HEAVE POWDER

Quickly relieves Heaves, Coughs, Distemper, Indigestion, Wind Troubles, Staggers and Pink Eye.

An excellent conditioner and worm expeller for horses, cattle and hogs.

Many cases cured by 1st or 2nd \$1.00 can. We will refund your money if three \$1.00 cans do not relieve the horse, cow or hog afflicted.

More animals have been cured of Heaves by Prussian Heave Powder in the past 85 years than all other Heave Powders combined.

If your dealer can't supply you, write us. Don't put this off! The cost is little and it pays you big!

PRUSSIAN REMEDY CO.

Dept. 2 Established 1883 St. Paul, Minn.

SELF-OILING WINDMILL

With INCLOSED MOTOR

Keeping OUT DUST and RAIN - Keeping IN OIL

SPLASH OILING SYSTEM

Constantly Flooding Every Bearing With Oil, Makes It Pump In The Lightest Breeze - And Prevents Wear

OIL SUPPLY REPLENISHED ONLY ONCE A YEAR

DOUBLE GEARS - Each Carrying Half the Load

Every feature desirable in a windmill in the

AUTO-OILED AERMOTOR

Gasoline Engines - Pumps - Tanks

Water Supply Goods - Steel Frame Saws

WRITE AERMOTOR CO. 2500 12TH ST. CHICAGO

LEARN AUCTIONEERING at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught in 5 weeks. Write today for free catalog. JONES' NAT'L SCHOOL OF AUCTIONEERING, 28 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

Splendid Opportunity For Young Men

Study Veterinary Medicine

Catalog Free

GRAND RAPIDS VETERINARY COLLEGE, 172 Louis St., Grand Rapids, Mich.

Smith Form-a-Tractor Catalog

Smith Form-a-Tractor
\$255 and a Ford

GET READY NOW!

Send for this BIG BOOK

Put your farm on a basis of big crops—big profits—no labor troubles. Use Smith Form-a-Tractor and be one of the 30,000 progressive farmers who will make a 75% saving in their farm costs this year.

PROTECT YOUR INTERESTS

Regardless of how busy you are now—take a few minutes and protect your own interests.

If a day off now would put \$400 into your pockets you would not hesitate to take it.

That is what a few minutes taken now to order your Smith Form-a-Tractor, will do for you. And if you own a big farm, it will add even more.

For Smith Form-a-Tractor costs \$400 less a year to operate than four farm horses—and does every bit of work the best 4-horse team you own can do.

NOW IS THE TIME TO BUY

Farmers all over the country who bought early, used Smith Form-a-Tractors in Spring plowing—drilling—cultivating—and are already getting a tremendously increased yield from their land.

Profit by their experience. They have proved Smith Form-a-Tractor for you. The results they are getting are definite—and they are so big that you cannot afford to overlook them. Get ready for your late plowing—do your binding and harvesting with Smith Form-a-Tractor. Now is the time to buy.

DO ALL YOUR WORK

The day you put Smith Form-a-Tractor at work for you will be the day you get rid of horses—and you know horses are costly to maintain—subject to all kinds of disease—affected by weather—easily tired—and only 7% efficient. Smith Form-a-Tractor gives you the high efficiency of the automobile motor—over 22%.

It can be worked in all kinds of weather—will do its work 75% faster than horses—plow seven acres to every four plowed by horses—do other work with the same big time-saving—and while it uses your Ford for the power plant, it gives you the Ford touring car for pleasure driving in fifteen minutes after you drive your tractor out of your fields.

THE BEST AT ANY PRICE

You cannot buy your tractor on the basis of price alone. You must buy it on the basis of what it is and what it does. Smith Form-a-Tractor is a thoroughly proved tractor. Every detail of design and construction has been carefully worked out.

It has many exclusive features:

- 1—A radiator that guarantees perfect cooling—replaces Ford radiator. It will not overheat.
- 2—An oiling system that gives perfect lubrication—stays on the car permanently.

3—A sub-frame that extends the full length of the Ford but that is removed completely when change is made back to touring car.

4—10-inch tractor wheels—for soft soil without packing.

5—15 minutes change from touring car to tractor or back again.

You must have these features.

We Will Fill Your Order

If there is no Smith Form-a-Tractor dealer near you, send the coupon with \$10 attached. We will ship your Smith Form-a-Tractor to you at once. You pay the full cost less \$10 when it reaches you.

Smith Form-a-Tractor, Michigan Ave. at 16th St., Chicago, Ill.

This Amazing Book FREE!

Send for Smith Form-a-Tractor catalog. It is FREE. The finest catalog of Tractors and what Tractors will do that has ever been published. Big color illustrations showing Tractor in all kinds of work, with government statistics on tractor cost vs. horse cost.

Ask for it today—write NOW!

Mich. Farmer 6-16-17

SMITH FORM-A-TRACTOR, Michigan Ave. at 16th St., Chicago
Gentlemen:—Please send me your big, FREE catalog. I own

a farm of.....acres and my principal crops are.....
Enclosed find \$10.00 for which please enter my order for one Smith Form-a-Tractor with the understanding that I will pay the balance of \$245 plus freight, on sight draft attached to bill of lading. (Cross-off if you do not want to place your order now.)

Name.....

Street.....

Town.....

State.....

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND **LIVE STOCK**
PUBLISHED WEEKLY
JOURNAL
ESTABLISHED 1843.

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

WHAT heroines will the present war with Germany produce? In other wars the women have helped by cooking and nursing and sewing, but only occasionally have they gotten into the firing line. Indeed, that is no fault of theirs for our regulations forbid it. Molly Hayes, who participated in the Battle of Monmouth in the Revolutionary War, may be rivalled many times by her modern sisters in the present conflict if they can find a way to gain the forefront as Molly did.

The twenty-eighth day of June, 1778, was one of the hottest days of that summer. The weather was so oppressive that Washington, believing his

A Courageous Cannoneer

By YULE CARDIGAN

soldiers could fight with greater comfort, commanded them to discard their coats. There were clouds of choking dust and sweltering smoke. Molly Hayes, wife of a gunner in Proctor's First Pennsylvania Artillery, saw her opportunity for service and seized a pitcher to carry water to the thirsty soldiers as they fought for freedom.

You have often heard of the name of Molly Pitcher. Well, she was thus christened that day. Molly had a number of names which have caused some

confusion. She was born Mary Ludwig, then she married John Hayes, became Molly Pitcher at Monmouth, and when her husband died from his wound she married a few years later a man named McCaulay.

As Molly carried water in her pitcher the bullets spattered around her. She knew that thirst detracts from the fighting power of a soldier and she continued to run to the little spring at the foot of the hill where she procured the cooling water. The soldiers became

accustomed to her frequent visits. As she went down the line they invariably shouted:

"Here comes Molly Pitcher."

Molly's husband, John Hayes, was one of the men who snatched hasty drinks from her pitcher as he manned his cannon. The fire of his gun was withering, and the enemy's cavalry charged the position. John Hayes fell mortally wounded. As the cavalry retreated to their lines after attaining their object, the American commanding officer ordered:

"Wheel back the cannon. There's no one here to serve it!"

Before the order could be executed, Molly dropped her pitcher, wiped away

WORLD EVENTS IN PICTURES



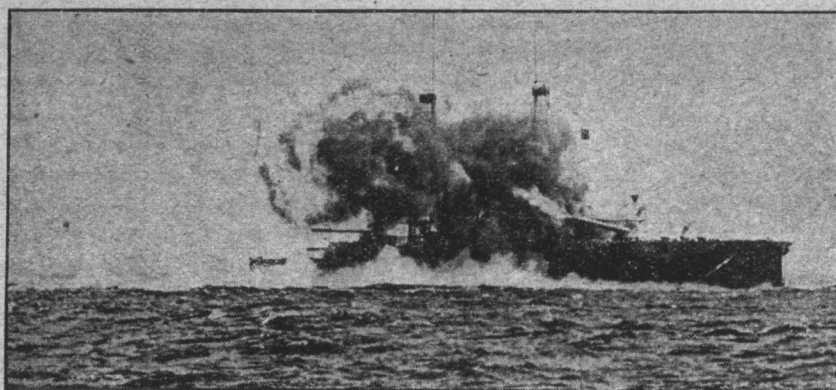
French Soldier Captures German Battery.



Populace of French Town Welcomes Allies as Germans Retreat.



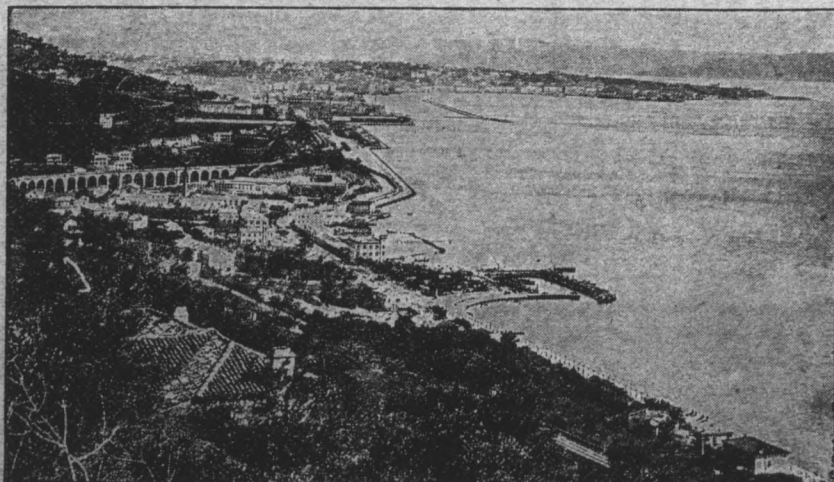
Temporary Shelters in Districts Devastated by Tronadoes.



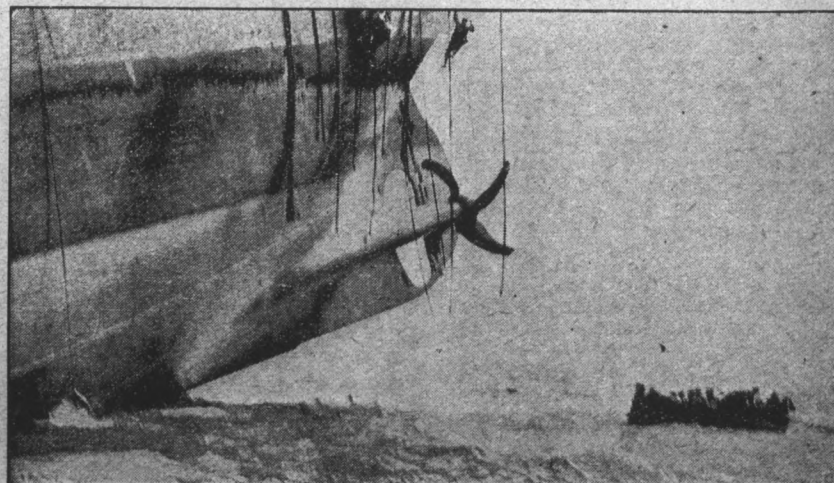
Firing a 14-inch Salvo from the U. S. S. Pennsylvania.



Camping in Ruins of Village on the Ancre Battlefield.



Italian Armies are Only 11 Miles from Trieste—Austria's Great Naval Base.



Picture Showing Horrors of Being Torpedoed in Mid-ocean.

The Citizens' Mutual Automobile Insurance Company has Succeeded

Because:

- 1st It organized in the fall of 1915 after the heavy losses of the season were over.
- 2nd It insured only farmers' cars and those living in the small towns, so the hazard was light.
- 3rd It prepared through the winter and spring to complete an agency force of about 400 to properly look after the business.
- 4th It has issued about 23,000 policies and has a surplus fund of \$65,000.00.
- 5th The experimental stage is over, the preliminary expenses paid.
- 6th The company has paid over 300 claims and prudent automobile owners are joining at the rate of 500 per week.
- 7th This company had the best pick of the careful automobile owners and the most responsible agents, who are recommending the company.
- 8th The only mutual company in Michigan that can stand the shock of serious losses and able to pay \$65,000.00 of claims.
- 9th Cost, \$1.00 for policy and 25c per horse power, covering fire, theft and liability.

See local agent, or write

Citizens' Mutual Auto. Insurance Co.,
Of Howell, Michigan

MICHIGAN FARMER PATTERNS.

Be sure to give proper pattern number and size of pattern desired. Address all orders for patterns to The Michigan Farmer, 29-45 West Congress Street, Detroit, Mich.



No. 2121—Girls' Dress. Cut in three sizes, 12, 14 and 16 years. Size 14 will require 5½ yards of 32-inch material. Price, 10 cents.

No. 2109—Ladies' Waist. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches, bust measure. It requires 2½ yards of 36-inch material for a 36-inch size. Price, 10 cents.

No. 2110—Ladies' Tunic Skirt in Raised Waistline. Cut in seven sizes, 22, 24, 26, 28, 30, 32 and 34 inches waist measure. It requires 3½ yards of 44-inch material for the skirt, and 2½ yards for the tunic, for a 24-inch size. The skirt measures about 2½ yards at the foot. Price, 10 cents.

No. 1784—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. It requires 3½ yards of 44-inch material for a ten-year size. Price, 10 cents.

No. 2115—Ladies' "Cover All" Apron. Cut in four sizes, small, medium, large and extra large. Size medium will require 5½ yards of 36-inch material. Price, 10 cents.



Fine Wheat Land

\$10.00 to \$15.00 AN ACRE
10 Years to Pay

Are you an experienced farmer?
Are you willing to work?
Do you understand dry land wheat?

Have you money enough to start?
THEN READ ON!

Promontory - Curlew project—greatest dry farm wheat land opportunity ever offered in the West! 400,000 acres of virgin wheat land located in northern Utah (look at map); over 200,000 acres already purchased and under cultivation by farmers from every state in the Union. Over 500,000 bushels of wheat, oats, barley and rye raised last year. Land yields up to 45 bushels of wheat per acre first year. Costs only \$9.00 per acre to clear, plow, harrow, seed, cut and thresh. Good markets, close; transcontinental railroad (Southern Pacific) through the property; good schools—churches—prosperous towns everywhere.

Soil rich, sandy, clayey loam. Last year Utah averaged more wheat to the acre than any other state but one; and more oats per acre than all other states except one.

Officers and directors of company include as President, former U. S. Congressman, Joseph Howell of Utah—for 17 years member House of Representatives, United States Congress. Write today for free illustrated booklet. Address

Promontory-Curlew Land Company,
Logan, Utah.

her tears at the mortal wounding of her husband, and picked up the fallen ramrod. Then she turned to the officer and resolutely proclaimed:

"I can fire it!"

Who knows what might have happened on that day if Molly had not volunteered to take her husband's place? With his gun silenced and off the firing line, the Continental forces might have lost the battle and also the cause for which they fought. Such are the fortunes of war that the outcome may turn upon a single incident, unimportant in itself but in the general scheme intimately related.

Molly Pitcher was an extremist in all that she did. She carried water as rapidly as she could. She fired the cannon as rapidly as she could. No half-way business prevailed while she was in charge of the gun.

A surprise awaited Molly the next morning. General Nathaniel Greene sent for her and took her before the commander-in-chief of the patriots. Washington praised her work and

thanked her for the service she had rendered the army. After complimenting the brave little woman, he made her an officer; and congress subsequently granted her half-pay for life.

A plain stone monument is now mounted on a pedestal in the city of Carlisle, Pennsylvania, where Molly Pitcher was born. And this is the inscription it bears:

MOLLIE McCaULAY

Renowned in History as Mollie Pitcher

The Heroine of Monmouth.
Died January, 1833, aged 79 years.
Erected by the Citizens of Cumberland County, July 4, 1876.

The Battle of Monmouth had some striking features. It was the only battle of the Revolution in which every one of the thirteen colonies had representatives, and it was the only battle in which a woman acted as cannoneer.

Whenever and wherever you may see the Stars and Stripes, let it remind you of Molly Pitcher and how on a sweltering summer day at Monmouth she did more than her duty.

"Contraband" RANDALL PARRISH

"Very well then; go ahead into the galley until you're sent for. Tell the cook to have supper aft at seven sharp."

He disappeared, and a moment later the door of number five opened, and the girl greeted me pleasantly, crossing the cabin swiftly, and extending her hand, as I arose to my feet. If her gray suit had greatly suffered, my eyes failed to note the extent of damage, while she had contrived to rearrange her hair, and her eyes were no longer haggard.

"I fell actually born anew, Mr. Hollis," she exclaimed. "I am almost afraid I was losing my nerve in that little boat. Where is this steamer bound?"

"That is what I called upon you to discuss."

"Called upon me to discuss; how ridiculous! What should a girl know about such things?"

"It is rather odd, I confess; but, as it happens, the situation is a strange one. You know nothing about the conditions on board?"

"Very little; only that the ship was struck by lightning, and several men killed. You came to tell me about it?"

"Yes; sit down here, and I will give you the whole story. The captain and both mates are dead; the fellow on deck in charge when we came aboard was the chief engineer. The owner of boat and cargo, however, is here; I have just been talking with him in the cabin yonder. He is in poor health, and crippled in one limb."

"What is his name?"

"Foolishly I forgot to ask, and Masters—that is the name of the engineer—neglected to mention it when he introduced us. However, that makes no difference in the facts. I'll tell you the story, as briefly as I can."

She listened intently, leaning forward in her chair, her ringless hands clasped, her eyes on my face. The simple story seemed to thrill her, breathing as it did the mystery and romance of the sea. Again and again she interrupted with some swift question, or exclamation of surprise, but generally remained silent, her lips parted in breathless anticipation.

"And that, Miss Vera," I said at last, "is the present situation. It is for you to furnish the final solution."

"For me! You tell me all this merely to leave the decision with me?"

"Yes; I shall do nothing against your expressed wish."

"Why—but what would you do, if you were here alone?"

"That would be entirely different. I

have no family, no near relatives living; not even any special friends to mourn greatly over my demise. I might willingly risk my life in such an adventure, and think little of it. I know the sea, and its perils, and such a game as this is likely to have its attractions. I confess frankly that if I was here alone on board I should probably accept the chance."

"You—you consider the attempt very dangerous?"

"Of capture, and possible imprisonment—yes. Probably our lives will not be in any special peril. We have no arms with which to resist. If once overhauled a prize crew would be put on board, and we would be taken to the nearest British, or French port, as prisoners of war. Our cargo, destined for the German government, would be amply sufficient to condemn us. Under the circumstances, our own country would make no effort to protect us."

"Yet you believe there is actually a chance to get through safely?"

"A chance, that's about all; it is purely a question of good luck, and good seamanship. I'd rather like to serve that fellow in there; he's certainly up against it hard; absolutely ruined if this venture fails. But it means danger, no doubt of it. I should not mind, but I cannot expose you to hardship, and possible imprisonment."

Her eyes were shining, and her hand reached forth, unconsciously, and rested on mine.

"How long would it require?"

"Weeks probably; I should choose the more northern route, around Scotland, and then skirt the Norway coast through the North Sea. Those are stormy waters; and besides we shall have to jockey back and forth to escape being seen, and reported."

"To place me on some other vessel at sea would spoil your plan, Mr. Hollis?"

"It would render our chances of success much less. The only possibility would be the meeting of some American ship, homeward bound, whose captain would promise to make no report. Such a one might be hard to find, especially if he suspected we were endeavoring to carry munitions of war to Germany; then if we closed his mouth that would be no guarantee that his crew would not talk, so soon as they landed."

"Do you believe the Germans are right in this war—that you ought to aid them?"

"I cannot answer that," I answered honestly enough, "for I do not fully understand the conditions. To be per-

fectly frank, however, my sympathies are with England and France. In this case I am not considering either side, but the poor devil who owns this ship and cargo. What we carry on board here will not be a drop in the bucket, but its loss will spell ruin to him, and that is the thought which influences me now."

"And I could not even dispatch a message—wireless?"

"The Indian Chief has no equipment. No, Miss Vera, we shall be absolutely lost to the world until we are either captured, or safe in some German port. Even then it may prove extremely difficult to communicate with our friends. I would not deceive you—the project is both a desperate, and a dangerous one."

The girl remained silent, her eyes lowered to the deck. I had said all possible, determined as I was not to influence her decision. As she did not speak, or change her attitude, I arose and walked across the cabin to where I could look out forward. I hardly knew what I had hoped her decision would be, for my sympathies were about equally divided between the desperate man sitting alone in the after cabin and this girl so unexpectedly called upon to meet this emergency. As to my own interests, and inclinations, they were entirely blotted out.

"Mr. Hollis."

"Yes," I turned, and met her questioning eyes.

"I must decide this? You mean to leave it all to me?"

"There is no other way."

"But I do not know what to say. I thought at first I could answer yes, gladly. I am not afraid, not the least bit afraid; and if I could only get some word back to my people in New York that I am safe, I would almost welcome the adventure." I am only a girl, you know, and I—I like such things. But they will worry horribly, for they have no knowledge of where I am. No one knows. I—I have simply disappeared, and papa will have detectives hunting for me, and will have to tell mother. They will imagine all sorts of horrid things. Truly it—it doesn't seem as though I could remain here, and—and not even let them know that I am alive. And you say it may be weeks, or even months before I could get a message to America?"

"I am afraid so, Miss Vera; I wished you to understand the exact truth."

"Oh! I do not think that would be right—do you?"

"I thought you might feel that way, and so made no pledge before telling you the story. Of course, I knew nothing of how you were situated; or under what circumstances you had left your home."

"I stole away unknown to anyone; it was just a lark, a foolish joke. No one knows where I am."

"Your home then is in New York?"

"Yes; all my people live there." She hid her face in her hands. "They are probably wild about me by now. Oh! I cannot; it would be too cruel. If I could only send them word!"

I touched the bent head gently with my hand.

"Do not worry," I said kindly. "We will give the scheme up entirely, and head toward the nearest American port. Perhaps luck may favor us, and if we meet an American ship, we can tranship you, and then take a chance, knowing that you are safely homeward bound."

"But I understood you to say that that would only increase your peril."

"It might, and it might not. At least I will not consent to have you implicated in the affair any further than you are now. Your first duty is to your mother. I will not sacrifice you to help our friend yonder save his fortune. I'll give him my answer now."

I took a step aft, but paused suddenly, for the door of the owner's cabin opened, and he came limping forth,

resting heavily on a cane, his white face clearly revealed in the glare of the overhead skylight. I stepped back beside the girl, who, aroused by my sudden movement, glanced quickly up, and saw him. Almost instantly she was upon her feet, hesitated an instant as though perplexed at the man's appearance; then advanced, and met him.

"Mr. Bascom," she exclaimed, "can this indeed be you?"

"You speak my name certainly," he replied, but gazing into her face seemingly without recognition. "Yet I do not recall—"

"Oh, yes, you do! surely you must," she interrupted. "Why, you have changed more than I. Do you not remember the moonlight nights at Palm Beach? The fishing parties along the coast?"

"Vera!" he cried, a note of delight in his voice. "Of course I remember; but you have become a woman, the very last person in the world I expected to see. And so you are the lady we were fortunate enough to rescue. Mr. Hollis never even mentioned your name."

"There was no reason why I should," I said, "having no thought of your previous acquaintance. The young lady and I have just been discussing the situation—"

"Wait, just a moment, Mr. Hollis," she interrupted, her eyes still on Bascom's face. "This discovery changes everything. Mr. Bascom is an old friend."

"So I judge; but I do not intend to let that influence your decision."

"But it will, and does!" a certain impetuous appeal in her voice. "I did not understand before, as I do now. You are the owner, Mr. Bascom? This is your boat, and cargo?"

"Yes, Vera; things have not gone very well with me of late, and my entire fortune is here," he answered rather bitterly.

"I am sorry; I had not heard. You have been terribly ill from your looks, and are lame. It—it was that affair in New York, from which you never recovered?" (Continued next week).

SYRUP FOR TABLE USE FROM BEETS MADE AT HOME.

It has not been heretofore deemed feasible to make home use of the sugar beet for syrup, but a very late bulletin No. 823, of the Department of Agriculture at Washington makes a decided contribution to the home utilization of the sugar beets as a source of domestic syrup supply. This bulletin has the endorsement of Wm. A. Taylor, of the Bureau of Plant Industry, and Carl Alsburg, Chief of the Bureau of Chemistry, and opens up the possibility of everyone who has a garden to have several gallons at least of syrup for cooking and table use.

Sugar beets are as easy to grow as the ordinary garden beet and can be planted in the same way. Thin to eight or ten inches wide a single plant in a place. When harvested the roots can be washed and sliced very thin with a kraut cutter or any way that provides thin slices. One bushel of beets, sliced, will make about two bushels of pulp. Ten gallons of hot water placed in a barrel, or even a ten-gallon milk can with the less amount of pulp and water can be utilized to advantage. Allow the water to remain for an hour and draw off. The sugar of the beet is now in the water, like maple sap, and is boiled down in a kettle and skimmed of the scum while being slowly evaporated. From three to five quarts of syrup per bushel of beets may be expected, owing to the syrup density. The bulletin advises slow boiling and care to prevent scorching. The syrup is dark, and extensive operations would be required to lighten its color.

Probably this utilization of beets may take the place of sorghum and be a valuable aid to reduction of the sugar bill. As a manufacturing process it has little promise.

Jackson

"No hill too steep—
No sand too deep"

Valve-in-Head Eight Power and Speed with Economy

Just as the Six is better than the four, so is the Eight a vast improvement over both six and four.

You have only to drive an "Eight" a few moments to realize the superiority.

Jackson Valve-in-Head Eight—the product of three years' experience building eights—is now the only model built by the Jackson Company.

Its Ferro-Jackson Valve-in-Head motor, with cylinders 3 x 3½ in., develops more power per cubic inch of piston displacement and more power per pound of weight than any other motor built and it is free from vibration at any speed.

This motor is a marvel of accessibility. You can adjust valves and tappets in

a few minutes. It is surprisingly economical. Owners average 17.7 miles to the gallon of gas—many claim 20 miles! It will give you a mile-a-minute speed.

And you drive in Comfort at any speed because you ride on FOUR FULL ELLIPTIC SPRINGS. You know you can't beat full elliptic springs for comfort!

Every detail of Jackson "Eight" construction is the best. Genuine A1 leather upholstery. Dreadnaught top. Slanting windshield. Power Tire Pump. High grade painting and trimming. Tires are 32 x 4. Wheelbase 118 inches. Weight 2800 lbs. Five passenger Touring Car \$1395. Four other models at attractive prices.

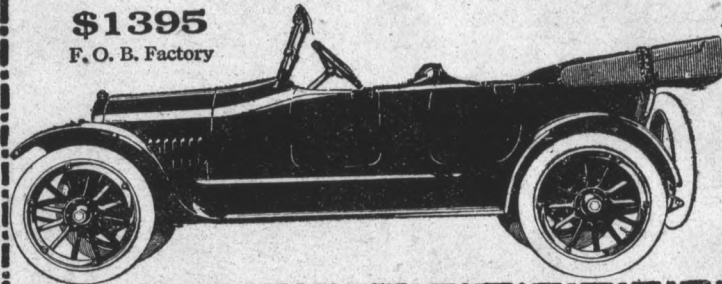
Full details of construction and a book on the Ferro-Jackson motor will be mailed on request. Write for it or better still, order your Jackson Eight today.

Jackson Automobile Company

1508 East Main Street, Jackson, Mich.

Jackson Automobile Company,
978 Woodward Avenue, Detroit, Michigan
DISTRIBUTORS

\$1395
F. O. B. Factory



Auto Thief

Many Farmers' Cars Stolen

Every day one reads of automobile thieves and joy riders; not only are the cities infested with these parasites but the small towns and country districts are being molested. Some cars are never returned; others are found days, weeks, months after, damaged, sometimes completely wrecked.

It is the duty of the farmer to lock his car when visiting the city, and much better to put it in a garage, and still there is danger of losing the car by theft; in addition many cars burn each year and many accidents are continually occurring.

A child runs out from behind a wagon too quick for you to dodge it or put on your brakes; a claim is made against you; and damages as high as \$5,000 have been awarded in Michigan to a widow of a man killed by an automobile.

The only company prepared to meet these large claims with a reserve fund of \$65,000 is the Citizen's Mutual Automobile Insurance Company, of Howell. The experimental stage is over; the Company is operating on its third season of success.

The policy will only cost you \$1.00 and 25c per H. P., state rating. Write

William E. Robb, Secretary,
Citizens' Mutual Auto. Ins. Co.,
Howell, Mich.

Agents Wanted—Sell the Goodlight Farm Lighting Plant. Guaranteed Satisfactory Electric Lighting on the farm. Product of 18 years manufacturing experience. Attractive proposition. Good profits. Write for Information and Special Proposition to Agents, The Goodlight Co., 601 Lombard Bldg., Indianapolis, Ind.

Bee Keepers Supplies

Bee Hives, Sections, Comb Foundation, Smokers, etc. Everything for the bees including Beginners Outfits. Send for catalog. 34c per pound cash for average beeswax delivered here. General agents for Root's bee supplies in Michigan.

BERRY SUPPLIES

Send for prices on berry baskets and 16 qt. crates. Special 200 A grade berry baskets postpaid for \$1.35 or 200 B grade for \$1.25 within 150 miles of Lansing. No waxlined paper baskets this season.



M.H. Hunt & Son, Box 525, Lansing, Mich.

ANCHORTITE

A SPLENDID ECONOMY

IT ANCHORS TIGHT

Graphite Protecting Covering for wood, metal, brick, etc. Ready to brush on. Makes handsomest house, barn, roof, etc. Spreads, wears equal to any paint. Costs little over half. Colors: The Natural Graphite Grayish Black, and three shades each of Drab, Red, Brown, Green, Yellow. \$1.05 to \$1.49 per gal. f. o. b. Saginaw, according to quantity. Quick shipment. Write us now. Saginaw Graphite Co., Saginaw, Mich.

WANTED: Man and wife as caretakers for bungalow on lake farm nine miles North of Pontiac. Bungalow is occupied part of time by city owner and family. Woman must do cooking and general house work. Must be good plain cook. Man must do gardening and general work. Willing, capable, and reliable middle age couple preferred. Good living quarters. Wages for couple \$50. per month and living. References required. Apply in writing to Box J-16, Mich. Farmer, Detroit, Mich.

WANTED—AN IDEA. Who can think of simple thing to patent? Protect your ideas they may bring you wealth. Write for "Needed Inventions" and "How to get Your Patent and Your Money." RANDOLPH & CO. PATENT ATTORNEYS, DEPT. 67, WASHINGTON, D. O.

AMERICAN BUNCHERS SAVE THE CLOVER SEED

In one day's use it saves its cost. Write for catalog showing how to harvest clover seed. AMERICAN BUNCHER CO., Indianapolis, Indiana

FARMER Wanted. Highest pay to first class experienced man. Don't want any other kind. Farm less than one hundred acres. Near Detroit. Box H-616, Michigan Farmer, Detroit, Michigan.

When writing to advertisers please mention the Michigan Farmer.



To Soothe Baby's Skin

When you bathe the baby be sure to sprinkle a little 20 Mule Team Borax in the water. This Borax softens the water, destroys perspiration odors and has a remarkably soothing effect on the skin. You will find many uses for

20 MULE TEAM BORAX

in the laundry and kitchen. By softening the water, this Borax helps the soap to do its best work, loosens and drives out the dirt better, lightens your work and makes the clothes snowy white and sweet smelling.

20 Mule Team Borax Soap Chips

Soap in chip form. Saves you soap cutting. Blended in the right proportions, one part Borax to three parts of pure soap. Not a substitute for Borax but a time, labor and money saver that will pay you to use every wash day. See the picture of the famous 20 Mules on each of the above packages. Sold by all dealers.

Woman and Her Needs

Curing Sulkiness

HOW can I break a child of sulking?" asks a "Discouraged Mother." "My ten-year-old boy is good natured so long as he can do just as he likes, but if he is crossed in any way he sulks for an hour. Scolding, reasoning, even whipping has no effect. The only thing that keeps him sweet is to let him do everything he wants to, and that is bad for him. What would you advise?"

Having had similar trouble I am passing the letter on for advice by other mothers who have met the demon of sulkiness and conquered it. Perhaps other women do not regard it just as I do, but to me sulkiness is worse than an outburst of temper and insubordination. The quick-tempered child is over the outburst in a moment, and ready to repent and abase himself in any way to make good. But the sulky child will spoil hours, and even days, not only for himself but the family as well, and usually ends by thinking he was quite right and a greatly abused person. And the sulky grownup, haven't you seen them go about for days and weeks with a grouch and a frown, over some little thing which did not amount to a pin to begin with?

The average ten-year-old is a problem any way you take him. He is just beginning to develop the idea that he is growing up, and is quite apt to think he should be a law unto himself, especially where there are older children who have more liberty. It is better to let him have his own way as much as possible, never confusing liberty with license. By that I mean, do not openly cross him if you can avoid it. Get around him diplomatically. Play on his grown-up air, and by giving him a chance of two or three courses, try to manage that he chooses the one you think best. But if it comes to a clash and you are positive you are right, insist patiently, kindly and firmly on having your own way. He must learn in this world that his will can not be a law, even when he is grown up in every case. He will have to learn some time to submit to circumstances or get into trouble, and he had better learn it now. If he sulks, do not scold nor whip him. Send him to his room for a day if necessary and send up his meals. Tell him you can not have the whole family made unhappy because he is, so he must stay by himself until he is good tempered.

A large amount of sulkiness is due to the fact that children are not allowed to do things simply because they bother grown people. Perhaps ninety-nine out of every one hundred things a real live boy wants to do and is not allowed to do, are not in the least bit wrong. It is the natural thing for a healthy youngster to do, but his mother uses different glasses. She is a woman, and worse still, a fussy woman. The thing looks to her silly or dangerous and she forbids small son to do things he really ought to do. He either sulks and obeys, or whistles and does them when mother isn't around, either one of which is bad.

If you have a ten-year-old boy to deal with, make up your mind you can't keep him playing with dolls and walking sedately along by your side unless there is something unnatural about him. Give him all the liberty you can, and don't bother about his manners too much. He'll come to that in good time.

And above all, don't nag him. Dozens of boys sulk for that one cause alone. The healthy small boy really seems to have little place in a perfect-

ly kept house. He is just naturally bound to be dirty every time you look at him. He can't seem to help scuffing and kicking and stubbing his toes, and banging chairs about instead of sitting them down softly. And if one was ever known to take a decent sized mouthful of food and chew it properly unless he was half sick, I have yet to see him. Life is so full for the healthy small boy that he hasn't time for what his fond mother considers essential. Hence he is nagged and scolded and scolded and nagged some more, until he, all too often, develops a frown where he ought to have only a smile.

Patience and firmness are indispensable in dealing with them. And when patience seems to cease to be a virtue, don't fall back on scolding. It never does any good, and adds to your own wrinkles. Ridicule is far better and usually works if not overdone, not sarcasm which cuts, but a little good-natured teasing. Calling one small boy "Little Happy Face," or "Mother's Sunshine," quite effectually broke up cases of sulks.

DEBORAH.

LETTER BOX.

Clara Barton says: "Even while we say there is nothing we can do, we stumble over the opportunities for service that we are passing by in our tear-blinded self pity."

So I am not sorry when you, Deborah, in "doing your bit" wrote as you did, for it aroused two questions. Am I doing all I can for those who may be called to offer their all? Am I really as careful as I think I am or may be?

On June 5 your boy, your neighbor's boy, and perhaps mine, place themselves at the call of their country. They give up every ambition and everything dear to them. Surely, I must keep trying to give aid and comfort whenever it can be given.

The Red Cross work is certainly a noble and a needy work. It is a work at one's hand and it is also far reaching. To many it is an actual service. To some a time to learn how to give actual service. "Be always ready to lend a helping hand to those that need assistance," and "the only real fun is to do things."

It may be we are prepared for a year's or three years' war, but let us keep on being prepared for any emergency where suffering may exist. Such as the Mississippi river flood, the Texas famine, the Charleston earthquake, the Johnstown flood, the Mattoon tornado and the present crisis. It will take many of your loving stitches and many of mine, to make a clean, comfortable cot, to say nothing of the comfortable clothing for the boy we have watched from childhood.

The Red Cross work is a school for all. Only the very best is wanted and used. Girls like to be together and like to be doing something. Here we find a way to help the girls to learn cleanliness, neatness, accuracy, and to learn the art of knitting, of sewing by hand and of learning to be useful in times of suffering. Above all it teaches that "Charity and kindness are the soft music which regulates the march of life, and cheers the hearts of soldiers."

Since you feel that "Doing Your Bit" is in writing, help us to show those using tobacco and stimulants that we are doing our utmost to make ends meet and that to show us their appreciation and honor, they give up that which is not necessary, and in the end harmful.

RUTH.

World's Best Roofing Freight Paid

"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Sidings, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Positively greatest offer ever made. **We Pay the Freight.**

Edwards "Reo" Metal Shingles
cost less; outlast three ordinary roofs. No painting or repairs. Guaranteed rot, fire, rust, lightning proof.

Free Roofing Book
Get our wonderfully low prices and free samples. We sell direct to you and save you all in-between dealer's profits. Ask for Book No. 667.

GARAGE \$69.50 AND UP
Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles. **THE EDWARDS MFG. CO.** 617-637 Pike St., Cincinnati, O.

FREE Samples & Roofing Book

Only \$2 Down One Year to Pay!

\$29 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. **Guaranteed a lifetime.** Skims 95 quarts per hour. Made also in five larger sizes up to No. 8 shown here.

30 Days' Free Trial Earns its own cost it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO. (INC.) 2165 Marshall Blvd. CHICAGO

Buy COFFEE WHOLESALE IN 5-LB LOTS
Get the BEST and SAVE 10 cts per pound. **WE PAY POST, EXPRESS or FREIGHT** IF YOU LOVE GOOD COFFEE SEND FOR PRICE LIST

JEVNE COFFEE CO. (Est. 1891) Coffee Specialists
Dept. 7, 2855-57 W. Madison St., CHICAGO.

DANDY Pansy Plants in bud and bloom, prepaid in Mich., Ind., Ill. and Ohio, 25c doz., elsewhere 30c. Salvia, Verbena, Snapdragon, prepaid 40c doz. Extras with every order. **P. L. WARD, Hillsdale, Michigan.**

AGENTS WANTED

to represent a reliable concern canvassing among farmers in you own neighborhood or elsewhere. No experience necessary. Liberal pay and supplies furnished free to right parties. Reference required. Address,

ADVERTISER, CARE THE MICHIGAN FARMER
Detroit, Michigan

"UNITED" Cream Separators

On a Wonderful Offer
FREE FOR TRIAL Without Cost

Yes—the wonderful **Guaranteed United** at this astonishing price, these amazing terms—on absolute **FREE** trial without a penny risk. Write at once for details—absolute proof and facts about this Separator Marvel—Today.

Your Own Terms
The United, at this **Lowest** world beating price, **Prices \$25.00 and up**, is sold by United dealers everywhere—direct factory representatives. There's one near you. He'll arrange terms to suit. Get acquainted. He's a man you want to know. A post card brings his name and particulars of new

\$1000 Challenge
Defies the world to produce a better Separator than the United, in all its important features, and at a lower price. Your Free Trial is proof that the United is the **Easiest Running—Easiest Cleaned—Closest Skimming** separator made.

Sensational Offer
Write: Don't buy a separator until you investigate the United—this astounding offer—this new liberal plan. Get all facts. A letter or post card—your name and address brings all details. Write Now—Today.

UNITED ENGINE CO.
DEPT. C23
LANSING, MICH.

APOLLO ROOFING

Made from highest quality **APOLLO-KEYSTONE** Copper Steel Galvanized Sheets, in all standard patterns of Formed Roofing and Siding Products.

These products are fireproof, durable, reasonable in cost, satisfactory—accept no substitute. Sold by weight by leading dealers everywhere. Look for the Keystone added below Apollo stencil, indicating that Copper Steel is used. **APOLLO-KEYSTONE** Copper Steel Galvanized Sheets are unequalled for Roofing, Siding, Culverts, Silos, Cisterns, Tanks, Flumes, Sheds, Bins, and all forms of exposed sheet metal work. Write for a free copy of our "Better Buildings" booklet containing building plans and valuable information.

AMERICAN SHEET AND TIN PLATE COMPANY,
General Offices: Frick Building, Pittsburgh, Pa.

BEEES PAY WELL
Free catalog and Poultry Feed price list upon request. **S. J. Griggs & Co. Dept. No. 27, Toledo, Ohio**

The Value of Scales on the Farm

By J. HUGH MCKENNEY

It has been said, presumably by one who knows, that "Where ignorance is bliss 'tis folly to be wise." Whether or not, the poetic sage had in mind the "lump and bargain" method by which many farmers do business, we have no actual record. It is, however, to be regretted, that so many cases exist, where such an assertion applies only too well. For a couple of decades, the various departments of agriculture have been trying to impress the farming community with the importance of weighing the milk of individual cows in order to weed out the star boarders. Those who have been sufficiently progressive to see which way the wind blows, and have tested out this advice in their own herds have been well repaid. But why not extend the weighing habit to other phases of the farmers' business?

The day for guessing on the farm is rapidly passing. The high cost of living, keen competition and all the other elements that demand a careful plugging of the leaks, cannot be surmounted if our buying and selling operations are not protected. Neglect of this point is bound to place us at the mercy of the public with which we deal. What we produce and sell from our farms is our stock-in-trade. We must therefore have the same means of protecting ourselves as the grocer and hardware man. These dealers sell us sugar or nails by weight, as the case may be, and what is more, each does the weighing himself. No guessing for them.

In our sales of cattle, hogs, grain, potatoes, etc., we must have scales or in the great majority of cases we stand to lose. On articles we buy, such as seed, coal, feed, live stock, etc., we need them to verify weight. Also, we should know the amount of hay, grain or other foods we are feeding to our live stock; the advancement in weight of animals being fattened; which of the grains, potatoes, etc., raised on the farm is the most profitable. In fact, there is hardly a day that the scales do not serve some useful purpose.

While on an institute trip last January, the writer was much interested in hearing W. C. Shearer give a detailed statement of how he was making the scales keep tab of his business. Mr. Shearer specializes in that money-making trinity—the cow, the hog and the hen. Each of these he has forced to yield a handsome profit; the gross income from his one-hundred-acre farm last year totaling \$3,600. Separate accounts are kept with each department of live stock with a view to knowing just what each are doing. His ambition, he claims, is not so much to keep stock as to have the stock keep him. By keeping strict account of these sources of revenue he has the necessary data for future action—whether to retain or disburse any department that might otherwise be carried at a loss.

In connection with a small herd of registered Holsteins he was feeding a ration of oil cake, cottonseed meal and bran, a combination costing him just eighteen cents per cow for a day's feed. As a result those cows recently freshened were averaging fifty pounds a day, which at \$1.75 per cwt. means eighty-seven cents as the day's earnings for each cow, as indicated by the scales.

Turning to the hogs, Mr. Shearer made another interesting point. He was starting to feed twenty-nine shoats weighing on an average of 120 pounds each. The meal fed, including a liberal supply of oil cake, was carefully weighed out as a preliminary operation. The day's ration was divided into two feeds, and on the first and fifteenth of each month the whole bunch was weighed to determine the

gain. In this case the scales showed, that calculated at prevailing prices, the daily increase of live weight amounted to \$3.60. Evidently, the frequent weighings were an incentive to good management and close attention to details.

Nor did the hens escape "trial by weight." Last year Mr. Shearer had 180 Brown Leghorns. He was, however, new to the breed, having formerly kept the Barred Rocks. "I had always considered a hen a hen," he explained, "regardless of what breed she inclined to. So I supposed the amount of food necessary for a Rock to do business upon would be equally effective with Leghorns. But here I was mistaken. The little fellows began to get fat under such prodigal feeding and as a result the eggs began to fall off. Then I thought of the scales as a remedy. I started to feed less and weigh what I was feeding. Gradually the egg supply increased. Various quantities were tried and I finally concluded that two and one-half ounces of mixed grains was about right for a Leghorn feed, or one-third less than I had thought necessary." Largely as a result of his feeding by weight, Mr. Shearer harvested last year \$500 worth of eggs, or at the rate of nearly \$2.80 per hen.

Personally, I am of the opinion that a good platform scale would be a splendid investment, and more. A little figuring will show this. Besides the convenience and satisfaction of having it on the farm, always ready for use, it will save the owner enough in good hard dollars to actually pay for itself in a year or two.

Apropos of this point, I have in mind a certain butcher of my acquaintance, who when going out among the farmers to buy cattle always made a pretty careful search about the barn, unsuspected by the owner, of course, in quest of scales before getting down to business. Whether he found or did not find such equipment had a material influence on the price he subsequently offered the farmer. His rather questionable shrewdness has enabled him to retire from business a comparatively rich man. The moral is obvious.

Scales on the farm will result in better relations being maintained between farmers and merchants and produce dealers, giving the farmer equally with the men who trade in his commodities an opportunity to know and demand his own.

ACTIVITIES OF MICHIGAN FARMERS.

Cabbage growers of Jonesville, Hillsdale county, will be paid a premium of one dollar a ton at the local kraut factory over the contracting price of \$6 for all cabbage delivered on or before October 6.

Supervisors of the townships in Oakland county, after a canvass, estimate an increase of twenty-five per cent in bean acreage this year over last year. Corn shows a normal acreage but other spring crops show a falling off. Potato acreage is below last year, due to scarcity of seed and high prices. Wheat is badly winter-killed.

Judge Des Voignes, of the circuit court, Paw Paw, is offering over \$300 in cash premiums to boys and girls of Van Buren and Cass counties, for best results in growing corn, potatoes and vegetables, also in dairying and poultry raising.

The Halpin creamery at Vassar, Tuscola county, which was destroyed by fire, has been replaced by a two-story fire-proof building to be used in the manufacture of dairy products.

Kent Co. ALMOND GRIFFEN.

"WHAT WOULD MAKE ME USE A BETTER MOTOR OIL?"

"The knowledge that I *could* get an oil of greater lubricating efficiency—a Better Motor Oil—than the one I am now using."

Here Is That Knowledge—Act On It!

In its manufacture, EN-AR-CO National Motor Oil is heated three times to a temperature of over 600° F., and once cooled down to zero.

In the exclusive process of its making—our own private and scientific methods—the oil has twice been converted into a vapor and then condensed back into a liquid—further refined and filtered.

Thus producing an oil marvelous for its lubricating efficiency and freedom from residue.

Were you to buy distilled water, and be offered a muddy concoction, you would refuse to accept it.

Why—because you could see that the impurities in the water had not been removed.

Were you unable to secure distilled water, you would probably boil the water—and after doing this, would you use the impurities left? Certainly not!

Here is the comparison between pure and impure water and Motor Oil.



Barrel orders for EN-AR-CO National Motor Oil will be shipped in this new, reversible lock Faucet Steel Barrel which we give Free.

You can see the impurities in undistilled water, but cannot see the impurities in Motor Oil—and therefore buy any kind—with the thought that oil is oil.

Yet you want in a Motor Oil "one that will best prevent friction without carbonization."

The oil that does that most effectively is EN-AR-CO National Motor Oil. The "why" is in our process of making.

Its use is the best insurance of your motor's longer life, efficiency and continued service.

It is perfect lubrication that gives the motor long life and greater efficiency throughout.

By the use of EN-AR-CO National Motor Oil, made in the manner it is, you are assured of uniformity at all times, which is most essential and important.

EN-AR-CO National Motor Oil is the result of the scientific experiments of men who, for the past 36 years, have refined and manufactured the highest grade in petroleum products—producing an oil of the right body, the right viscosity, and the right fire test to efficiently and economically lubricate the cylinders and moving parts of any motor.

These are the reasons "why" every automobile owner should use EN-AR-CO National Motor Oil.

Leading dealers and garages will supply you with EN-AR-CO Products. Call on them, or we will see that you are supplied on your order direct. Steel or Wood Barrels, Half Barrels, and Lithographed Tins—Get the original package. DEALERS in unoccupied territory, write for agency proposition.

OTHER EN-AR-CO PETROLEUM PRODUCTS

EN-AR-CO Motor Grease
Black Beauty Axle Grease
White Rose Gasoline National Light Oil

En-ar-co MOTOR OIL For National Use

THE NATIONAL REFINING CO.

General Offices, 1238 Rose Bldg., Cleveland, Ohio

75 Distributing Branches



This Handy Long Distance Oil Can FREE

To Auto and Tractor Owners

About 1/2 Actual Size

The National Refining Co.
1238 Rose Bldg., Cleveland, O.

and enclose two 2-cent stamps. Send me Long-Distance Oil Can FREE. Please give nearest shipping point or dealer and quote prices on items I have marked. I will be in the market about

I use.....gals. gasoline per year.		I use.....lbs. auto grease per year.
I use.....gals. motor oil per year.		I use.....gals. kerosene per year.
I use.....lbs. axle grease per year.		I use.....gals. tractor oil per year.
My Name is.....R.F.D. or Street No.....		
Postoffice..... State.....		
This Can Only to Auto or Tractor Owners. Not to Boys or Girls.		

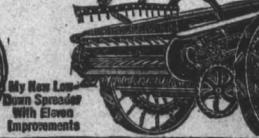
Get My New Patriotic Prices! On Spreaders — Tractors — Engines — Separators

Find out and satisfy yourself how much you can save by getting your farm implements direct from Galloway—the maker. This direct dealing is actually buying at wholesale, and even less, and saves you 25% to 50% on everything you need on the farm—Spreaders, Tractors, Engines, Separators, Wagons, Implements, Vehicles. I'll tell you why you can save by direct buying in my big, free book. I'll also tell you where the extra money goes—the money you save by dealing direct with the manufacturer.

Write for My Free Book That Keeps the Prices Down

It's the greatest bargain book ever published, and will save my farmer friends thousands and thousands of dollars. Write me for the book today. A postal will do. Let this book be your buying guide and save you \$200 to \$500 on your summer purchases. Don't hesitate. Don't put it off—but send tonight for my big money-saving book. Advantageous shipping points save you freight.

WM. GALLOWAY, Pres., WM. GALLOWAY CO., 187 GALLOWAY STATION, WATERLOO, IOWA



When Writing to advertisers please mention The Michigan Farmer.

Markets.

GRAINS AND SEEDS.

June 12, 1917.

Wheat.—Values show a revival from the recent slump, and especially futures show a liberal advance over last week's quotations. Although the recent government crop report showed improvement during May, the other factors of depleted stocks and unprecedented demand caused values to advance in spite of the better outlook. Flour is again being called for, and the mills are active buyers of cash wheat. The visible supply shows a decrease of over 5,000,000 bushel for the week, with the total scarcely one-half the amount in sight one year ago. On this date in 1916, No. 2 red wheat was quoted at \$1.09 1/4 per bushel. Last week's Detroit quotations were:

	No. 2 Red.	No. 1 White.	July
Wednesday	2.75	2.70	2.25
Thursday	2.80	2.75	2.25
Friday	2.80	2.85	2.33
Saturday	2.90	2.85	2.40
Monday	2.90	2.85	2.38
Tuesday	2.95	2.90	

Chicago.—July wheat \$2.33 per bu; Sept. \$2.08.

Corn.—This trade is firm at prices fully a dime above those of last week. Demand, both domestic and foreign, is very good. While reports indicate a substantial increase in the amount of corn planted and to be planted, the late dates on which the corn goes into the ground, and the cold spring, are handicaps, and in the northern districts undoubtedly much of the area intended for corn will be utilized for other crops. One year ago No. 3 corn was quoted liberally at 73c per bushel. The visible supply shows an increase of 79,000 bushels. Last week's Detroit quotations were:

	No. 3 Mixed.	No. 3 Yellow.
Wednesday	1.66	1.68
Thursday	1.66	1.69
Friday	1.69	1.71
Saturday	1.70	1.7
Monday	1.72	1.74
Tuesday	1.72	1.74

Chicago.—July corn \$1.57 1/2 per bu; Sept. \$1.48 1/4; Dec. \$1.12 1/4.

Oats.—The exporters are taking this grain liberally, while the domestic consumption is fully up to normal. Prices have advanced during the week. A year ago standard oats were quoted on the local market at 42 1/2c per bushel. Last week's Detroit quotations were:

	Standard.	No. 3 White.
Wednesday	67	66 1/2
Thursday	67 1/2	66
Friday	68	67 1/2
Saturday	68	68 1/2
Monday	69	68 1/2
Tuesday	69	68 1/2

Chicago.—July oats 62 1/2c per bu; Sept. 54c; Dec. 55 1/4c.

Rye.—Market firm and inactive with cash No. 2 quoted at \$2.25 per bushel, or five cents above last week's price.

Beans.—Market is nominal with cash and June shipment quoted at \$9, or 25c above the quotation of a week ago. The Chicago trade is quiet, with Michigan pea beans, hand-picked, steady at \$9.75@10; red kidneys higher at \$8@8.50 per bushel.

Seeds.—Prime red clover \$10.90 per bushel; October \$11.60; alsike \$11.50; timothy \$3.60.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$15.60; seconds \$15.20; straight \$14.90; spring patent \$16; rye flour \$13.50 per bbl.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$36; standard middlings \$41; fine middlings \$44; cracked corn \$64; coarse corn meal \$64; corn and oat chop \$56 per ton.

Hay.—In carlots at Detroit: No. 1 timothy \$17.50@18; standard timothy \$16.50@17; No. 2 timothy \$15.50@16; light mixed \$16.50@17; No. 1 mixed \$14.50@15; No. 1 clover \$13.50@14.

Pittsburg.—No. 1 timothy \$18.50@19; No. 2 timothy \$16.50@17.50; No. 1 light mixed \$16.50@17; No. 1 clover, mixed \$16.25@16.75; No. 1 clover \$16.25@16.75.

Straw.—In carlots, on track Detroit, rye straw \$10.50@11; wheat and oat straw \$9.50@10.

DAIRY AND POULTRY PRODUCTS.

Butter.—Market is easy and lower. Demand is only moderate. Creamery

extras offered at 38@39c; creamery firsts 37 1/2c.

Elgin.—Market somewhat weak and unsettled. Prices 1/2c lower. Price, based on sales, is 39 1/2c.

Chicago.—The feeling is weak, with demand poor and supply ample. Prices slightly lower. Extra creameries 39@39 1/2c; extra firsts 38 1/2c; packing stock 32@32 1/2c per pound.

Eggs.—Lack of consumptive demand has brought prices down. Market is unsettled. Fresh firsts were offered at 33 1/2@34 1/2c, bid 32 1/2c.

Chicago.—The receipts are good and demand just fair. Some are being put into storage. Fresh firsts 34@34 1/2c; ordinary firsts 31 1/2@32 1/2c; miscellaneous lots, cases included 32@34c.

Poultry.—Market steady, with prices lower. The supply is ample for the demand. No. 1 hens 23c; small and medium do 21@22c; broilers 38@40c; ducks 22@23c; geese 15@16c; turkeys 24@25c.

Chicago.—Prices are slightly higher than last week except for springers, which are lower. Fowls 22c; roosters 15 1/2c; broilers 1 1/2@2 lbs, 32@33c per lb; ducks 16@18c; geese 12@14c; turkeys 12@18c.

Dressed Calves.—Market at Detroit is steady. Fancy 20@21c; No. 2, 17@18c per lb.

Chicago.—The trade is light, receipts being small; 50@60 lbs. weight 16@17c; 60@80-lb. weight 17@17 1/2c; 90@110 lbs. 18@19c.

Dressed Hogs.—Best quality quoted at Detroit at 18@19c per lb.

Chicago.—Market rules firm with prices unchanged. Heavy hogs in demand. Quotations: 20@40 lbs, \$19; 40@60 lbs, \$17@19; 60@100 lbs, \$17@18; 100@250 lbs, \$18@19.

FRUITS AND VEGETABLES.

Apples.—The market is steady and prices remain unchanged. Baldwin \$6.50; Steele Red \$9 per bbl. At Chicago the market is firm, only a small supply on hand. Good stock sells at \$4.25@10, depending on variety.

Potatoes.—No old potatoes quoted in Detroit. At Chicago no Michigan stock was reported. Market is firm, the demand being good. Prices range from \$2.85@3.10 per bushel.

WOOL.

Boston.—The situation here continues on the strong basis previously reported, with prices tending toward higher levels. All grades of wool are very valuable. Fleeces are very scarce and farmers are holding clips expecting still higher values. The Boston prices for Michigan unwashed delaines are 58c; do combing 51@64c; do clothing 52@54c.

DETROIT EASTERN MARKET.

There was a comparatively small variety of produce on the Eastern Market on Tuesday morning. Lettuce was held at 65@75c per bu; onions 20c per bunch; asparagus 30@45c per bunch; tomatoes \$2.75 per 16-lb. basket; tomato plants 30@40c per dozen; eggs 43@45c per dozen.

GRAND RAPIDS.

The bean market is off about \$1 per bushel, with present basis around \$8.50. Old potatoes are pretty well out of the market now, the few bushels offered selling at \$3@3.25. New potatoes are selling retail at \$1.25 per peck. Strawberries continue in good demand, selling retail at 16@18c per quart. Michigan berries will arrive in a few days, possibly by the end of this week. In poultry, live fowls are quoted at 18@19c. The egg market continues firm at 33c. Scarcity of hay during the past few days has sent the price up to \$20.

LIVE STOCK MARKETS.

June 11, 1917.

Buffalo.

With 124 cars of cattle here today demand was strong on all good shipping cattle and the bulk of them sold 10@15c higher; we sold one load of prime heavy Michigan cattle at \$13.75, which was the top. There was a strong demand for all medium and light weight good butcher cattle and they all sold strong, with a new top on the yearlings of \$13.15. What few good cows and heifers were here sold good, but the medium and common grades showing grass were very slow and unevenly lower. We would advise being very careful in buying this class from now on as it is bound to sell considerably lower. We look for a fair run of cattle here next Monday and a good trade on all fat grades, but look for the medium and grassy kinds to sell lower. Hog prices broke badly today, the general market showing a loss of 25c per hundred on all but pig weights, this class ruled generally steady. A

few selected loads of hogs sold up to \$16, with the bulk at \$15.75@15.85 and some common kinds as low as \$15.50. Pigs and lights generally \$14.50, including thin hogs weighing from 130 to 150 lbs. average. Roughs generally \$13.75@14; stags \$12@13. Late market was dull and we do not look for any improvement for the next few days.

With a moderate run of lambs today our market opened up active and prices steady with the close of last week. All sold and we look for steady prices the balance of the week, depending chiefly on receipts.

We quote: Spring lambs \$17@18; yearlings \$15@15.25; cull to common \$10@12; wethers \$10.50@11; ewes \$10@10.50; bucks \$8@9; best calves \$15.25@15.50; common and light \$10@14.50; heavy \$8.50@11; grassers \$6@6.50.

Chicago.

June 11, 1917.

Cattle. Hogs. Sheep.
Receipts today. 18,000 45,000 4,000
Same day 1916. 16,241 32,629 14,464
Last week. 50,749 125,353 41,635
Same wk 1916. 40,509 125,559 71,695

The Monday cattle market is fairly active, with the average prices called steady, although heavy steers are not much wanted, while cattle not well fattened are a little slow and rather weak. Some prime fat steers brought \$13.75. Hogs are off 15c or more, with sales at an extreme range of \$14.40@15.70. Hogs marketed last week averaged in weight 223 lbs. The offerings of lambs are extremely meager today, with the packers receiving a fair share consigned direct to them. Some prime yearling wethers brought \$12.50, and prime ewes sold at \$9.50, while choice spring lambs brought \$16.50, with fat clipped lambs not of prime quality quotable at around \$14.50. Lambs offered on the market were apt to be too heavy to suit buyers.

Cattle were in better general demand than usual last week, and prices for desirable offerings averaged considerably higher, with the usual ups and downs, however. With close to 20,000 cattle received on Monday, lots that were not very desirable were apt to sell a little lower, but fat beefs sold all right. On Wednesday there was a higher average market, although bulls sold off sharply. Taking the week as a whole, the greater part of the steers found buyers at a range of \$11.25@13.25, with choice to fancy heavy cattle purchased at \$13.10@13.75. The top price makes still another high record in the history of the open market since the stock yards were started. It was paid for 19 head of strictly prime corn-fed Hereford and Shorthorn steers which averaged in weight 1381 lbs. Steers classed as good found a good sale at \$12.50@13, while a medium to pretty good class sold at \$11.50 and over, with an ordinary to fair class of light weight killers taken at \$10 and upward and scattering small sales of inferior little steers down to \$8@9. Yearlings of the better class sold decidedly higher, with a good demand, and lots with quality found an outlet at \$12@13.50, while sales were made all the way down to \$9.75 for ordinary offerings. Butchering cattle shared in the advance in values, with cows purchased at \$7.80@11.60 and heifers at \$7.50@12.50. Cutters had a good demand at \$7.20@7.75, while canners brought \$6.25@7.15. Bulls sold off sharply in most instances, with a slower demand at \$7.25@11. A good demand prevailed for calves, and prices ruled high, with light vealers purchased at \$12@14.50 and sales down to \$6.50@7.50 for ordinary to fair heavy lots. There was not much life to the stocker and feeder branch of the market, as the offerings were limited and prices above the views of average intending buyers. Stockers were quotable at \$7.50@10.25, with yearlings the high sellers, while feeders were quotable at \$9.50@11. Stockers below \$8.60 were undesirable.

Hogs fluctuated back and forth in price considerably during the last week, with more firmness shown for the best heavy shipping barrows than for other offerings. Owners shipped their hogs to market freely, and the good supplies helped the local packers and eastern shippers to hold prices down. Hogs sold a great deal higher than in former years, and normal prices look a long distance off, although after old brood sows begin to be marketed liberally they may be expected to go on a lower level. Most of the time common underweight hogs were hard to sell at well maintained prices, and they were the first to go lower. During the latter part of the week the prices broke severely, and the prevailing sentiment was extremely bearish, the week's receipts being much larger than a week earlier and about the same in number as a year ago. After selling early in the week as high as \$16.10 for the best hogs, the top on

Saturday was \$15.80, with heavy shippers at \$15.60@15.80; light shippers at \$15.40@15.60; light singeing lots averaging 170 to 200 lbs. at \$15.50@15.70; light bacon hogs at \$14.50@15.30; heavy packers at \$15@15.55; pigs at \$10.75@14.50.

Never in the past has a worse market for sellers of sheep and lambs been experienced than that of last week, prices going off daily in big chunks, despite the meager receipts every day. The decline in values took in everything in the line of fed lambs, spring lambs, yearlings, wethers and ewes, the packers and smaller city butchers insisting upon much reduced values before they would make purchases. It was simply a revolt on the part of the trade against recent unparalleled high prices, meat eaters having generally ceased buying lamb or mutton. Although the week's receipts were about 30,000 head less than a year ago, sheep and yearlings declined \$2.50@2.75 per 100 lbs., shorn lambs 60c@1 and spring lambs \$1. Spring lambs closed at \$10@16.50; clipped lambs at \$7.50@14.50; clipped yearlings at \$6.50@13.25; clipped wethers at \$6@11; clipped ewes at \$3@9.50 and clipped bucks at \$6@7.75.

Horses were in much smaller supply last week than a year ago, and more army horses could have been used to advantage, buyers for the allied powers taking only geldings. The demand centered on good big business horses, which were scarce. Prices remained unchanged, with farm chunks quotable at \$60@200, drafters at \$175@275 and expressers at \$75@210.

GOVERNMENT CROP REPORT.

A summary of the June crop report for the state of Michigan and for the United States, as compiled by the Bureau of Crop Estimates (and transmitted through the Weather Bureau), U. S. Department of Agriculture, is as follows:

All Wheat.—State.—June 1 forecast 12,300,000 bushels; production last year (final estimate) 13,600,000 bushels.

United States.—June 1 forecast 656,000,000 bushels; production last year (final estimate) 639,886,000 bushels.

Oats.—State.—June 1 forecast 49,200,000 bushels; production last year (final estimate) 42,690,000 bushels.

United States.—June 1 forecast 1,380,000,000 bushels; production last year (final estimate) 1,251,992,000 bu.

Barley.—State.—June 1 forecast 2,910,000 bushels; production last year (final estimate) 2,450,000 bushels.

United States.—June 1 forecast 214,000,000 bushels; production last year (final estimate) 180,927,000 bushels.

Rye.—State.—June 1 forecast 4,870,000 bushels; production last year (final estimate) 4,648,000 bushels.

United States.—June 1 forecast 57,900,000 bushels; production last year (final estimate) 47,383,000 bushels.

All Hay.—State.—June 1 forecast 3,170,000 tons; production last year (final estimate) 4,423,000 tons.

United States.—June 1 forecast 102,000,000 tons; production last year (final estimate) 109,786,000 tons.

Pasture.—State.—June 1 condition 81, compared with the ten-year average of 89.

United States.—June 1 condition 83.8 compared with the ten-year average of 89.5.

Apples (Agricultural Crop).—State.—June 1 forecast 1,250,000 barrels of three bushels; production last year (final estimate) 4,160,000 barrels.

United States.—June 1 forecast 25,400,000 barrels of three bushels; production last year (final estimate) 67,415,000 barrels.

Peaches.—State.—June 1 forecast 1,110,000 bushels; production last year (final estimate) 2,010,000 bushels.

United States.—June 1 forecast 45,400,000 bushels; production last year (final estimate) 36,639,000 bushels.

Sugar Beets.—State.—June 1 condition 85, compared with the ten-year average of 86.

United States.—June 1 condition 93.7, compared with the ten-year average of 89.7.

Prices.—The first price given below is the average on June 1 this year, and the second the average on June 1 last year.

State.—Wheat 260 and 107 cents per bushel; corn 160 and 79; oats 75 and 43; potatoes 277 and 92; hay \$13.50 and \$14 per ton; eggs 33 and 20 cents per dozen.

United States.—Wheat 248.5 and 100.0 cents per bushel; corn 160.1 and 74.1 cents; oats 69.9 and 42.1 cents; potatoes 274.0 and 98.8 cents; hay \$15.25 and \$12.46 per ton; cotton 20.2 and 12.2 cents per pound; eggs 31.1 and 19.0 cents per dozen.

The food requirements of the Allies and the European neutrals are placed at 971,000,000 of wheat, of which the larger part must come from America.

THIS IS THE FIRST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKET.

Thursday's Market.
June 7, 1917.
Cattle.

Receipts 1541. Dry-fed cattle steady; bulls, cows and all common grass grades were 50c lower; dry-fed opened steady, closing 25c lower than the early opening. Best heavy steers \$12@12.50; best handy weight butcher steers \$11@11.25; mixed steers and heifers \$10@10.25; handy light butchers \$9@9.50; light butchers \$8.25@9.25; best cows \$9.50@10; butcher cows \$8@9; common cows \$7@7.50; canners \$6.25@6.75; best heavy bulls \$9.50@9.75; ologna bulls \$8.50@9; stock bulls \$7.50@8; feeders \$8.50@9.50; stockers \$7.50@8.50; milkers and springers \$50@100.

Erwin, S. & J. sold Mason B. Co. 3 heifers av 601 at \$10, 1 do wgh 720 at \$9.50, 2 steers av 905 at \$11, 1 cow wgh 960 at \$8; to Bresnahan & Co. 1 do wgh 800 at \$7.50; to Nagle P. Co. 1 canner wgh 1000 at \$6.50, 1 do wgh 770 at \$5.50, 1 do wgh 1000 at \$6.50, 1 do wgh 1100 at \$7.50; to Newton P. Co. 5 cows av 1070 at \$9.25, 8 do av 960 at \$7, 5 do av 1016 at \$8.25, 3 bulls av 960 at \$9.25; to Walk 5 butchers av 492 at \$8; to Thompson 4 cows av 1045 at \$8; to Nagle P. Co. 1 do wgh 920 at \$6.75, 4 do av 812 at \$6.60; to Thompson 1 bull wgh 1270 at \$9, 2 steers av 930 at \$10, 10 do av 865 at \$11.65; to Sullivan P. Co. 4 cows av 1127 at \$8.75, 1 steer wgh 780 at \$7.75, 4 do av 702 at \$9, 3 steers av 790 at \$10, 3 cows av 813 at \$7.25, 2 do av 1030 at \$8.50, 9 do av 908 at \$8.50, 3 do av 1150 at \$8; to Mason B. Co. 3 steers av 990 at \$11.75, 5 do av 924 at \$10.35.

Bishop, B. & H. sold Mich. B. Co. 19 av 1113 at \$12, 1 do wgh 970 at \$10, 1 bull wgh 900 at \$9, 41 steers av 1130 at \$12.50; to Breitenbeck 15 butchers av 706 at \$9.10, 9 do av 828 at \$9; to Thompson 2 cows av 1175 at \$9, 5 do av 744 at \$7; to Parker, W. & Co. 5 do av 846 at \$6.75, 3 do av 970 at \$7.50, 4 steers av 817 at \$9.50, 1 bull wgh 1070 at \$9.50, 12 butchers av 535 at \$8, 2 cows av 650 at \$6.75; to Sullivan P. Co. 4 do av 967 at \$8.50, 1 do wgh 1070 at \$8, 2 do av 1085 at \$9, 11 steers av 1136 at \$11.85, 9 do av 1152 at \$11.85; to Kamman B. Co. 4 do av 1087 at \$11.25; to Thompson 2 bulls av 895 at \$9.25; to Garber 2 cows av 990 at \$8.75, 3 butchers av 483 at \$8.75; to Fineman 2 cows av 930 at \$8.75; to Mich. B. Co. 28 steers av 775 at \$10.75, 26 do av 767 at \$10.35, 25 do av 884 at \$11.50, 22 do av 940 at \$11.35, 3 do av 1330 at \$10; to Sullivan P. Co. 6 cows av 960 at \$8.50, 3 do av 953 at \$6.75, 5 do av 846 at \$8.50, 3 steers av 770 at \$10, 13 do av 890 at \$10.25, 2 do av 710 at \$9, 1 bull wgh 1500 at \$10, 1 do wgh 820 at \$8.75, 1 cow wgh 1060 at \$8.

McMullen, K. & J. sold Newton P. Co. 1 bull wgh 840 at \$9, 2 cows av 870 at \$7, 1 do wgh 850 at \$8.50; to Nagle P. Co. 1 do wgh 910 at \$7; to Thompson 1 bull wgh 1770 at \$11; to Hammond, S. & Co. 33 butchers av 765 at \$10.10; to Brown 11 stockers av 720 at \$8.40; to Nagle P. Co. 2 cows av 935 at \$7.75, 5 do av 920 at \$7; to Johnson 9 steers av 811 at \$10.75; to Thompson 21 do av 846 at \$10.75; to Breitenbeck 14 do av 860 at \$10.60.

Veal Calves.

Receipts 718. Market strong. Best \$14.75; others \$8@14.

Sandel, S. B. & G. sold Newton P. Co. 8 av 150 at \$14.75, 19 av 135 at \$14.50, 5 av 145 at \$14.50, 15 av 130 at \$14; to Nagle P. Co. 1 wgh 130 at \$14, 5 av 155 at \$14.50, 18 av 145 at \$14.75, 5 av 150 at \$13.25, 3 av 155 at \$10.50; to Shipiro 8 av 150 at \$14.50; to Sullivan P. Co. 7 av 155 at \$14.50, 3 av 148 at \$14; to Shipiro 13 av 135 at \$14.75.

Sheep and Lambs.

Receipts 1230. Market steady at Tuesday's prices. Best dry-fed lambs \$15; best grass lambs \$13@14; light to common lambs \$11@12; heavy ewes \$9@9.25; fair to good sheep \$10@10.25; culls and common \$6@8.

Bishop, B. & H. sold Michigan B. Co. 226 lambs av 68 at \$15.75, 278 do av 75 at \$15.40; to Thompson 20 do av 70 at \$15.40; to Hammond, S. & Co. 129 do av 75 at \$15.40; to Parker, W. & Co. 129 do av 75 at \$15.40; to Thompson 6 sheep av 100 at \$10.50; to Sullivan P. Co. 67 lambs av 75 at \$15; to Hammond, S. & Co. 80 do av 75 at \$15; to Parker, W. & Co. 80 do av 75 at \$15.

Hogs.

Receipts 2716. Market steady. Pigs \$14; mixed \$15.25@15.60.

Veterinary.

CONDUCTED BY W. C. FAIR, V. S.

Breeding Question.—Recently one of my sows had a litter of eight pigs, four males and four females; would you advise me to keep all four females for breeding purposes? M. R. S., White Cloud, Mich.—Not knowing how much land you own, how much hog feed you produce, I cannot advise you; however, you can safely count on ready sale for good pigs of any age, but I hesitate to advise you to buy high-priced grain and feed it to hogs, expecting large return of profit.

Chronic Indigestion.—I have a three-year-old colt that I have been feeding unusually ripe hay, and one quart of oats twice a day. This colt seems to have a slight cough and an abnormal appetite. C. W. S., Linwood, Mich.—Mix together one part of air-slaked lime, one part ginger, one part powdered charcoal, three parts of ground gentian, give a tablespoonful or two at a dose in feed two or three times a day. Feed one part wheat bran, two parts ground oats, three parts ground corn, and let the colt have enough grass to keep the bowels open.

Articular Rheumatism.—Sweeney.—I have a cow that seems to be stiff in joints and I might say that I have learned that some of the other cows in the same herd where I bought her are troubled with a similar ailment. I also have a five-year-old mare that is sweeneyed in both shoulders and it seems to affect her gait. After a day's work she is inclined to remain down. Do you believe I had better let her run in pasture? I have applied a blister, but it failed to do her much good. Mrs. H. P., Armada, Mich.—Give your cow 2 drs. of sodium salicylate at a dose in feed twice a day. Apply camphorated oil to joints that crack, twice a day. You had better continue using the liquid blister that you have on hand, but remember chronic sweeney is not easily cured.

Unthrifty Horse—Collar Galls.—I have a horse that is fed oats and timothy hay but he fails to lay on flesh, and his shoulders are inclined to gall easily, and I have noticed that his shoulder muscles tremble some. L. B., Belleville, Mich.—First of all let me say that feeding oats and timothy is not the right kind of food to feed an animal to cause it to lay on much flesh. Better feed some corn, oil meal and mixed hay or grass. I do not believe that your horse needs medicine, but only a change of feed. Also give him a small teaspoonful of salt daily. Dissolve ¼ lb. acetate of lead, 3 ozs. sulphate of zinc, 3 ozs. of tannic acid in a gallon of water and wet shoulders three times a day. Rub the muscles of shoulder that tremble with spirits of camphor two or three times a day.

Paralysis of Tail.—We have a cow that is unable to move her tail; she is unable to switch or raise it, but so far as we can tell she is perfectly healthy and came fresh the early part of January, 1917. She gives a good amount of milk and has been on pasture for some time. This tail trouble dates back about ten days. C. S., Rhodes, Mich.—She has perhaps met with an injury and fractured one of the bones of tail and will never get well until the bone is put back to place and held in position, which is usually very difficult to do. This being a mechanical trouble giving or applying drugs will do no good.

Rheumatism.—I have a three-year-old heifer that came fresh two months ago, at which time she appeared to lose her appetite and stiffened as if she was rheumatic. I thought her shoulder muscles seemed to shrink, but she is giving plenty of milk. She was stabled in a warm barn last winter, had good care and for some time has been out on grass. Mrs. W. O'M., Melvin, Mich.—Mix together one part of ground nux vomica, two parts cooking soda, one part salt, one part ginger, and five parts of ground gentian and give her a tablespoonful or two at a dose in feed two or three times a day.

Scirrhus Cord.—I have a yearling steer that was castrated last fall, now the scrotum is filled with a bunch that feels like a testicle, but of course it must be something else, and I might add that this bunch seems to be gradually increasing in size. C. S. H., Free Soil, Mich.—When the calf was castrated the cord was doubtless too long, it united to the skin of scrotum and on account of friction, it has grown to be a tumor on end of cord. By casting the steer and cutting this bunch out of scrotum and shortening the cord, he will soon heal and be well.

Cyclone Losses

The Past Week Has Melted
Away the Fortunes of
Those Who Failed To
Keep Insured.

Mr. Automobile Owner:

Insure against fire, theft, and liability in the Big Mutual that can stand the shock of serious losses.

23,000 policies issued and \$65,000 cash in bank makes the Company substantial. Cost only \$1.00 for policy and 25c per H. P. State rating. 500 new policy holders added each week.

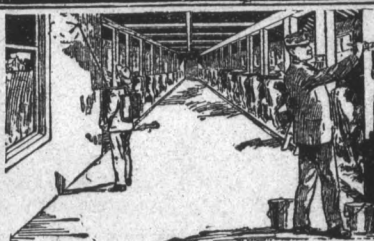
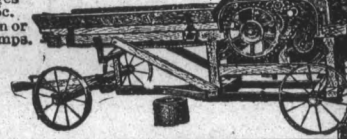
Citizens' Mutual
Auto. Ins. Co.,
Howell, Mich.

Fills
The Silo
on
TimeYou Can Depend On
SILVER'S "OHIO"
The Logical Silo Filler

and dependability is a big point at silo filling time. This is one of the reasons for the "Ohio" unbeatable leadership. It's always ready—built for big capacity—fast work—with least chances for breakage and delays. Backed by 62 years' manufacturing experience—by the silo filling farmers everywhere. Big features: Automatic beater feed, power-saving direct drive, friction reverse, single lever control. "Bull-dog" rollers, non-explosive blower. Better cut silage—packs air tight—ferments better—better food for stock. Write for catalog, also book on Silo Filling.

THE SILVER MFG. CO.
Box 390, Salem, Ohio

Modern Silage Methods—264
Pages
—26c
Coin or stamps.



Clean Barns

The time and trouble it takes to mix whitewash keeps many barns dirty, dark and gloomy. You can make yours snow-white and, without extra cost or labor, kill all lice and mites and prevent the germs of diseases that affect livestock, from getting a start in your herd.

CARBOLA
The Disinfecting White Paint

is a mineral paint combined with a germicide 20 times stronger than carbolic acid—a paint and disinfectant in one. Comes in powder form ready to use when mixed with water. Apply with brush or sprayer. Will not flake, blister or peel off nor spoil by standing. No disagreeable odor.

Use It Instead of Whitewash in stable, dairy, poultry house, piggery and cellar. Get some today from your dealer and have it handy for a rainy day job.

10 lbs. (10 gals.), \$1 and postage.
20 lbs. (20 gals.), \$2 delivered.
50 lbs. (50 gals.), \$4 delivered.
Trial package, enough to cover 250 sq. ft., and booklet "The Disinfectant That Paints" for 25 cents postpaid and your dealer's name.

Carbola Chemical Company
7 East 42nd St. Dept. X New York

EGG'S

We want new laid stock and can pay top prices for them. AMERICAN BUTTER & CHEESE CO. Detroit, Mich.

Make Your Feet
Comfortable

THIS shoe is built expressly for the farmer, the laborer and the factory man. Ask your dealer to show you a pair of "Wolverines."

Examine them, compare them to any other work shoes you have ever had and you will at once recognize the superior features, the soft feel of the tough veal uppers, the guaranteed counters that can't break down, the heavy nailed soles, full bellows tongue that keeps the dirt out. This shoe will make your feet comfortable.

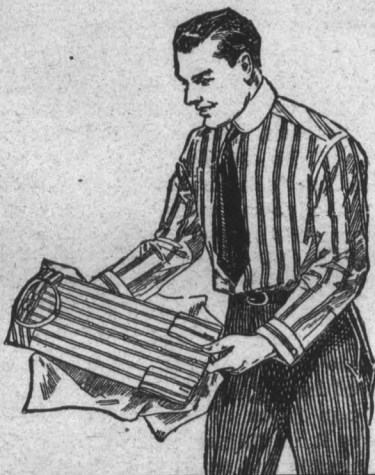
ROUGE REX
WOLVERINE

The Shoe for Workingmen

Rouge Rex No. 4125 is a Chocolate Wolverine veal stock shoe on bicycle pattern, with 1½-inch cuff at top. Full dirt excluding bellows tongue, nickel hooks and eyelets, heavy nailed sole, guaranteed counters, roomy comfortable and long wearing. No. 4126 is the same shoe in black.

Write for our catalog. Let us give you the name of the Rouge Rex dealer in your community.

HIRTH-KRAUSE CO.
GRAND RAPIDS, MICH.

QUALITY KEPT UP
HALLMARK
SHIRTS

Every garment is guaranteed
Standard in Fabric, Fast Colors and
Workmanship—Ask your dealer.

HALL, HARTWELL & CO., Makers, TROY, N. Y.

WE BUY EGGS

the year 'round. We pay the Detroit market quotation, day of arrival, f. o. b. Detroit, cases included for current receipts, but for White Leghorn Eggs, we pay a premium over the market quotation. We remit for all shipments the same day they are received.

Geo. R. Eldridge Co., 494-18th St., Detroit

We want Fresh White Leghorn Eggs. We pay a premium over the highest market quotation and remit immediately upon arrival.

Fox River Butter Co., Detroit, Michigan.

HAY Ship To The Old Reliable House
Daniel McCaffrey's Sons,
623-625 Wabash Bldg., Pittsburgh, Pa.

FRUIT

We want your entire crop. Write for rubber stamp. The E. L. Richmond Co., Detroit, Michigan.



Stretch of Concrete on the Ohio River Road near Parkersburg, W. Va.
Built in 1915 under the direction of Burdett Woodyard, Engineer.

The Farmer Can Pull Himself Out of the Mud

FARMERS know the value of permanent roads in their communities. They can get them if they act along the following definite lines:

1. All main highways should be built of concrete to withstand motor car traffic.
2. It is far better to lay out and build at once a system of concrete roads than to build a few scattered miles every year between stretches of mud.
3. It is better to raise a lot of money by a good roads bond issue and build right, than to spend each year the road funds on hand in temporary construction.
4. Concrete is as desirable for roads as for other important structures; and it is the least expensive permanent road material.

Some farmers may not like a bond issue. They do not realize

that a very few cents a year per acre is enough to pay off the bonds and all interest.

In Illinois it has been figured out by the State Highway Commissioners that a system of four thousand miles of permanent roads would tax farm land less than three cents per acre per year for twenty years. That's nothing. The whole four thousand miles can be built at once and make a tremendous saving in annual upkeep.

The farmer should act. He can spread information among his neighbors, he can talk to his road officials, influence his lawmakers to pass a good roads bond issue; and he can vote for it.

This Association can give you reliable information about the cost of building concrete roads and how to go about it.
Write for Bulletin No. 136.

PORTLAND CEMENT ASSOCIATION

Offices at

ATLANTA	DENVER	MILWAUKEE	SALT LAKE CITY
CHICAGO	INDIANAPOLIS	NEW YORK	SAN FRANCISCO
DALLAS	KANSAS CITY	PITTSBURGH	SEATTLE
WASHINGTON, D. C.			

CONCRETE FOR PERMANENCE

DEATH TO HEAVES

HEAVES, COUGH, DISTEMPERS AND INDIGESTION CURE.
Some cases cured by 1st or 2nd \$1 can.
Three cans are guaranteed to cure heaves or money refunded.



The original and the up-to-date Standard Veterinary Remedy for Heaves; free booklet explains fully. 35 years sale and veterinary use.

CURES HEAVES BY CORRECTING CAUSE—INDIGESTION. IT'S A GRAND CONDITIONER AND WORM EXPELLER

Safe. Most economical. Excellent for Cattle and Hogs. \$1.00 per can at dealers, at same price by parcel post.

THE NEWTON REMEDY CO., Toledo, Ohio

FARMERS' ACCOUNT BOOK FREE

A record book you will use every day. Write for it. Also for Silo Filler Catalog. For speed in silo filling, you want a Rosenthal. Extra large throat, cutter head with four knives. Three sizes, self-feed with automatic speed control.

ROSENTHAL SILO FILLERS



Rosenthal Corn Husker Co.
Box 2
Milwaukee, Wis.

DOGS

Fox Hounds of all ages, Skunk and Rabbit dogs. Send 2c stamp. Holmesville, Ohio. W. E. LECKY.

FOR SALE: Thoroughly broken beagle, rabbit and fox hounds, good hunters, also puppies of all ages ready for shipment. Rockfield Kennels, West Chester, Pa.

Fills Silos YOUR Way

You have your own ideas about a silo filler—and the Blizzard will meet them. Your small farm engine will furnish plenty of power. A bigger engine and bigger cutter will provide almost unlimited capacity. Capacity for capacity, minimum power is required with a



It's simple in construction, operation, adjustment. Steady as a clock. Fills highest silos easily. Cuts evenly. Regular work eater. Thoroughly well built. Parts of wear replaceable. Practically unwear-out-able. First machines still running. Get your Blizzard this year.

WRITE FOR LATEST CATALOG

—It's a book every silo owner should have. Explains the different principles of building silo fillers and describes the Blizzard in detail, including new double feed models.

THE JOS. DICK MFG. CO., Box 209 Canton, Ohio



MINERAL HEAVE CURES HEAVES
Booklet Free
\$3 Package guaranteed to give satisfaction or money back. \$1 Package sufficient for ordinary cases.
MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburgh, Pa.

Feeders' Problems

Cottonseed Meal for Pigs and Horses.

I will have a quantity of cottonseed meal left from feeding cattle. Can this be safely fed to hogs or work horses running on grass? The hogs are from two to three months old and the horses are doing fairly heavy work. Also, would like to know whether feed for hogs can be soaked in a galvanized tank without fear of poisoning of any kind.

Ingham Co.

L. A.

Cottonseed meal should not be fed to pigs. As commercially prepared, this meal is poisonous to swine. Every conceivable method of feeding this meal to hogs has been tried out under careful test. The pigs thrive all right on it at first, but in from four to six weeks some usually die, generally not all of them, but so many as to make the use of this concentrate unprofitable for pig feeding. Notwithstanding this fact, some experienced feeders use the meal, depending on their experience to enable them to avoid most of the losses which generally attend its use.

The principle has been laid down by feeding experts that if cottonseed meal is not fed continuously for more than forty days, and does not form over twenty-five per cent of the total grain ration, the pigs being fed on pasture, the risk from its use is slight.

It is not considered safe to feed cottonseed meal in large amounts to horses, although good results are secured when this feed is properly used in connection with other grains. Cottonseed meal is not very palatable to horses, and being a heavy concentrate, it should be mixed with some bulky and palatable feed. For work horses cottonseed meal should not, for best results, exceed ten per cent of the total ration by weight, and not more than two pounds per day per animal should be fed. When this maximum amount is used, it should be evenly distributed in the three grain feeds, well mixed with whatever other grain is used.

We know of no danger which could result from the feeding of hogs on slop mixed in a galvanized tank.

CROPS FOR HOG PASTURE.

Will you please give me a little advice about hog pasture? I have a hog lot which I manured and intend to plow as soon as dry enough. It was in clover last year. I intend to pasture my sows and spring pigs on this lot. I have a grass pasture for them now. What is best to sow on this lot? Can I sow grass seed also, and have a grass pasture of it next year, and what kind? Ottawa Co.

B. V.

The best plant I know of for hog pasture under these conditions would be Dwarf Essex rape. This could be sown any time now at the rate of about six pounds per acre. You ought to prepare the land thoroughly and get a good firm seed bed. I would also sow a few oats with the rape and it would be a good plan also to put in some field peas as the peas and oats will furnish pasture for the hogs before the rape gets large enough. If you would seed to clover at the time you sow the peas and oats and rape, you may get a good stand. I have done so some years but much will depend upon how close you pasture with the hogs, whether you allow them to root it up or not, and upon the amount of moisture this season.

If I wanted pasture here for hogs next year, I certainly would sow the clover, as you will only lose the seed anyway, and then next spring if you haven't a sufficient stand of clover you can put it into rape again for pasture.

I would mix the oats and peas equal parts by measure, and sow about one and one-half bushels of seed per acre, or a bushel will do. This will give the rape a little better chance than as if you sowed the oats and peas thicker. However, if you leave out the oats and peas and sow the rape, the rape will

come forward a little faster than if sown with the peas and oats, but you will get some good hog feed quicker by using a mixture of peas and oats with the rape.

A Model Hog Pasture.

Would I make any mistake in planning a hog pasture as follows: Three acres of alfalfa, one acre of rape, one-half acre of corn, all in connecting lots and adjacent to one-acre woodlot? How many brood sows and their pigs could I run by using a self-feeder? I could make a concrete wallow hole for these pigs, forcing water from the barn at small expense. Would that be a good idea? Could I run spring calves in the same pasture with success?

Tuscola Co.

T. L. F.

I think the plan proposed would be a splendid way to grow hogs. The alfalfa pasture is fine; the rape is also excellent, and, later on, the corn. The one trouble with the corn is that you haven't got area enough; if you had a larger field for the corn, then when the corn was ripe you could hog it down, that is, turn the hogs in and let them harvest it. Many farmers fatten their hogs in that way but half an acre of corn would not fatten a great many hogs, but, of course, it would give them a start.

Your self-feeder will certainly help out everything else and if you keep enough feed in the self-feeder, you will grow some fine hogs. One objection to your hog pasture is that the acre of brush land is clear to the back side of your place, and your hogs will have to run through the corn field to get to the woods. Now, the hogs would enjoy this brush pasture all through the summer and if I couldn't make any other arrangements I would have a lane run across the corn patch so that they could have free access to the wood pasture.

I am inclined to think, as there is only a half acre of corn it would be better to put this into rape with the acre already proposed, then it would do no harm to let your hogs have the range of the entire field after your rape has once started, and under this plan I think it would be a good thing to have the lane run back to the woods pasture so that the hogs could go through whenever they chose.

If you find that the hogs are eating too much corn and other feed out of the self-feeder, that they don't eat as much of the alfalfa and rape as you would like to have them, you can cut down the grain ration, then they will eat more of the pasture.

I am unable to say how many sows and pigs this field would support, but if you feed corn liberally it will take care of a good many of them.

There is no question but what your idea of having a cement wallow hole for hogs is an up-to-date idea, and I believe it would pay you well to go to this trouble and expense to furnish the water.

I am inclined to think that if you have very many hogs on this limited area that there won't be much food for calves. It doesn't give a calf a fair show anyway to run with a whole lot of hogs. The hogs dirty the grass and calves don't like it after the hogs have tramped over it. I don't think there would be any danger from injuring the calves from eating the clover after they once get used to the feed, but I never thought that a good clean calf was given a fair show, turned in with a lot of hogs.

COLON C. LILLIE.

G. D. Milner, of the Milner Live Stock Company, of Frankfort, Ind., was in the Chicago market a short time ago looking after the sale of six carloads of cattle. He said that fat cattle are moving out of Clinton county very rapidly and that the available supply left in Indiana for summer marketing is very small.

Otto Deisher, of Lineville, Iowa, one of the largest stock feeders of that region, marketed in Chicago recently seven carloads of cattle, comprising 145 head of 1106-lb. stags, which sold for \$11.40 per 100 pounds, netting the nice sum of \$17,755.

Grange.

A SUCCESSFUL "HOME-COMING."

Saturday, May 19, was the date of a very enjoyable meeting of Lonsdale Grange, Muskegon county. The writer had been secured to speak at the meeting, which was a home-coming.

At first thought we were discouraged about the matter of a Grange meeting in such a busy time. It had seemed to us that considering the world's need of food, and the scarcity of labor on the farm, to say nothing of the lateness of the season, and the need of employing every moment now that spring is really here, that few people indeed would turn out to a meeting of this kind in the daytime.

By dinner time a goodly number had arrived at the hall, and the people kept arriving until by the time the meeting was called, the hall was well filled.

Mrs. Whitbeck, the Worthy Master, called the meeting to order just a little late, for the day was fine and warm, and the old neighbors were having such a good time visiting that it seemed too bad to ask them to come to order and listen to a program.

She took occasion to announce that Lonsdale Grange would hold a fair in September, and that every member would be expected to contribute something toward its success. She said the fair would be held at the hall, the exhibits were going to be numerous, there was to be another big dinner, as good as the one we had just eaten, there would be some amusements, and the many exhibits would be judged.

But, said she, "Not one of you will take back the things you exhibit at this fair. They are to be the property of Lonsdale Grange, and will be sold at auction right here after they have been judged, and the money will go into our Grange treasury. Now we want everyone to begin to plan for this fair. Plant something and grow it with the express purpose of exhibiting it here next September."

The worthy lecturer of this Grange has a vision of her work. Her program opened with music, followed by roll call, the members giving their ideals of a father worthy of that privilege. She said by way of introduction, that so much had been said about mothers, that she thought it was time for the father to receive his share of appreciation.

The writer has listened to almost everything in the way of roll call, but this was new, and was most entertaining to him. It proved a delightful experience also to the company taking part.

It was good to listen to the responses and to see how the practical things that make up our lives were brought out. It was good to note the emphasis placed upon good old-fashioned honesty, upon the telling of the truth, and the living of the father's life every day before his children in such a way as shall impress them with the importance of those ordinary virtues that are apt to be undervalued, or overshadowed by selfish ambition.

One of the pleasantest features of the program was a selection rendered by Rev. Chamberlain, pastor of the local church. Brother Chamberlain is a member of the Order, and as pastor of a village charge with a county appointment, he is keeping in touch with rural life, and in consequence is able to serve his flock in a highly acceptable way.

The writer spoke upon the Grange and the Rural Community. He has often addressed the Grange, but has never before appreciated the privilege more highly.

Truly the Grange is a great institution. In many instances communities are not getting out of it what they should. This is in part due to the inability of the membership to catch a vision of the possibilities within their reach, and often because of the lack of just the right kind of local leadership.

Nine times out of ten, the very best work a Grange deeply can do, is not to instruct in "The Unwritten Work," not to show the Grange how to give any one of the degrees, though this is often very helpful, but to give to the Grange such a clear broad vision of the whole scheme of Grange endeavor as shall inspire its Grange membership to work out their own Grange salvation.

Lonsdale Grange is an old reliable organization, always ready to do its part, a strong force in the community, because its members clearly understand and feel the need of the organization in their midst, and are determined to use the Order for the good of the community.

W. F. TAYLOR.

Farmers' Clubs

Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.

CLUB DISCUSSIONS.

A Force in the Community.—One hundred and fifty of the leading farmers and their families of Grant, Burtchville, Clyde, and Fort Gratiot townships attended the June meeting of the Grant and Burtchville Farmers' Club, at the home of Mr. and Mrs. Angus McIntyre, in Burtchville township. After a splendid dinner had been served by the Ladies' Aid, the crowd gathered in the front yard and President James Reid called the meeting to order. A short business session was first held, and the consideration of a number of things of importance took place. The reading of the minutes of the previous meeting by Secretary Leota O'Connor brought up the question of the Fourth of July meeting and picnic which had been discussed in May, and a motion introduced by W. H. Dane providing for the holding of this event at Lakeport on July Fourth was unanimously carried. George McKenzie then made a few remarks regarding the name of the Club, stating that inasmuch as the membership had grown to include a large number of people from Clyde and Fort Gratiot townships, as well as from Grant and Burtchville, the name should be changed so as to cover all the territory reached by the organization. He suggested that the old title of Grant and Burtchville be dropped, and the name Northeastern St. Clair County Farmers' Club be adopted, and his motion to this effect was carried.

The program was opened with a patriotic song by the Club, and Rev. Brown, of the Washington Avenue Church, Port Huron, led in prayer. The minister then followed with the reading of an Indian legendary poem composed by himself, entitled, "The Birth of the Arbutus," which was thoroughly appreciated by all. Mrs. John Hull contributed a well rendered temperance reading. Her interpretation unmercifully flayed both booze and tobacco, and constituted one of the most substantial and best appreciated numbers of the afternoon.

Mr. A. E. Stevenson was then called upon for his address, "The Farmer's Patriotic Duty," and for an hour discussed the serious war situation, emphasizing the farmer's part and outlining the position we should take in facing the crisis. Among other things, he said that it would be much more patriotic on the part of the country in general, and helpful to the young men who will have to leave for the front in a few months, to cultivate as cheerful an attitude as possible and have the bands playing rather than the tolling of bells and the overdoing of the solemn features of the occasion.

Frank E. Beard, of the County Road Commission, then spoke on the Covert Road Act, and took up other highway matters of particular interest to the people in that part of the county, giving special attention to the proposed plans regarding the building of the shore road. The many questions showed that the interest in good roads is increasing rapidly among the farmers, and the cordial reception given the speaker emphasized the confidence the people had in their county road commissioners.

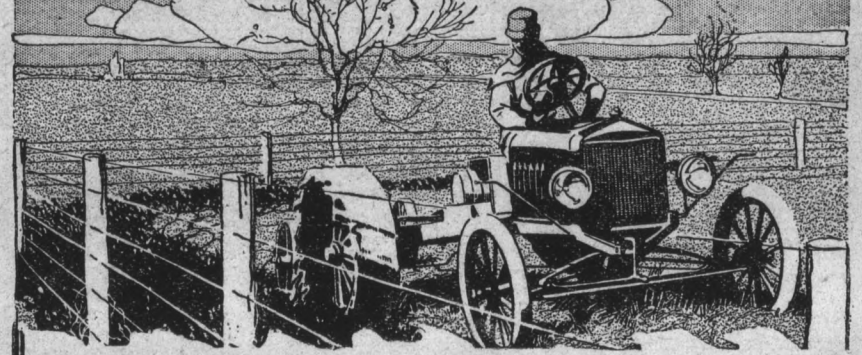
The meeting was also fortunate in having present Representative Alexander Cowan, who gave a very instructive address on the work and methods of the legislature. Mr. Cowan emphasized the importance of people being fair in their demands and said that no class of people could gain anything by asking for legislation for their own benefit which was distinctly detrimental to others. He also spoke highly of such organizations as the Farmers' Clubs as factors in the development of rural life, and stated that they constituted a splendid medium for the farmers to make their needs known to their representatives in the legislature.

Several well rendered vocal selections by a trio consisting of Rev. Butler, Fred Keeney and Fred Chamberlain, made pleasing variations in the program throughout the afternoon. A song was also contributed by Mrs. Brody.

The action on the part of the originators of the Club in adopting a more comprehensive name and thus welcoming their neighbors in the adjoining townships, is most commendable, and constitutes a very good illustration of the unrestricted democratic spirit prevailing in the Farmers' Club.

The next meeting will be held on the Fourth of July at Lakeport.

Every Acre-Every Fence Corner Must Be Tilled This Year



DEALERS!

Here's a light tractor proposition that you can sell under an absolute guarantee of satisfaction to the buyer. The pioneer Ford tractor attachment of them all—a tried and proven success on thousands of farms—we are offering you for a short time only the opportunity to sell TRACFORDS in your territory on most liberal terms.

TRACFORD agents have sold as many as 15 to 20 machines in a single demonstration—hundreds have sold out their allotment in a few days. So write or wire us for dealer information at once! This offer will remain open for only a short time.

Write or wire us TODAY

—the dependable and proven attachment for converting Fords into light farm tractors. With the TRACFORD, you can quickly turn your Ford car into a powerful tractor unit—a tractor light in weight and with a short turning radius, making it a most practical plowing machine for cultivating the open field—the smallest strip of land. Its short turning radius makes the TRACFORD splendidly adapted for orchard work—for working in and around—"to" and "away" from the trees.

The TRACFORD plows only on high gear—and is capable of doing any farm work formerly done by three good horses. It is the tractor unit for you—for your work—and your farm.

Let us put you in touch at once with the TRACFORD dealer in your district who can prove to you—with a demonstration—the possibilities of the TRACFORD on your farm.

Mail the coupon for "The Tractor Catechism" and the name of the nearest Tractor representative.

Standard-Detroit Tractor Co.
1520 W. Fort Street Detroit, Mich.

The food supply of the world is practically exhausted. Our success in the war is dependent upon the American farmer—and upon America's 1917 crops.

To meet the demand, every tillable acre must be put under cultivation—every small tract and fence corner must be profitably planted. The foresighted business man is planning on plowing every foot of his ground—and plowing and planting right up to the fence line. That is why thousands of American farmers are buying the

TRACFORD

"The Tractor Universal"

\$125 F.O.B. Detroit

Mail This Coupon TODAY!

Standard-Detroit Tractor Company
1520 W. Fort Street, Detroit

Please send me "The Tractor Catechism" and also put me in touch with the nearest Tractor dealer.

Name _____

Town _____

State _____

County _____

R.F.D. _____

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Gaustic Balsam

IT HAS NO EQUAL

For —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Gaustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."

Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B. The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Seed Buckwheat

\$5.00 Per 100 Lbs.

Bags Extra At 25 Cents Each
YOUNG-RANDOLPH SEED CO., Cwosao, Mich.

Farms and Farm Lands For Sale

160 Acre Farm with 15 Acres Corn, 7 of Wheat,
3 ac. potatoes, 3 ac. oats, and the hay, all growing; wire-fenced pasture; estimated 2500 cords wood; big orchard of 140 apple trees and cherries, plums, peaches, pears, grapes and strawberries; daily mail, near neighbors, convenient to high school village; comfortable residence in good repair, telephone; new barn, poultry place, makes low price \$4,500, and if taken soon throws in the above growing crops, 2 horses, colts, cows, 30 chickens, 30 geese, farm tools, wagons, machinery, harness, incubator, etc., etc., easy terms arranged. For details see page 30, "Strout's Spring Catalogue," copy mailed free.
E. A. STROUT FARM AGENCY, Dept. 101, 150 Nassau St., New York.

For Good Farms and FARMING LAND in Montmorency County, write me. J. W. FARRIER, Hillman, Michigan.

Wanted To Hear From Owner of farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

FOR SALE 77-acre farm, good shape, good buildings, 1/2 mile from town. 307 Michigan Ave., Ypsilanti, Michigan.



More Power—
Cheaper Operation
install

McQUAY-NORRIS LEAK-PROOF PISTON RINGS

Always gas and oil-tight—
Strong, long-wearing

Get the Genuine. All garage and repair men can give you immediate service on them. If you have any difficulty getting them, write us. We'll see you are supplied.

Send for Free Booklet

"To Have and to Hold Power." You need it.

McQuay-Norris Manufacturing Co.
2377 Locust Street, St. Louis, Mo.

WANTED Farm Manager: Wanted farm manager for 220-acre lake farm, 9 miles North of Pontiac. Married man between 30 and 40 preferred with active, capable wife willing to care for extra help needed on place. Farm owned by Detroit family who live part of time in bungalow on lake. Excellent farm house furnished heated. Man must be capable of taking full charge and using initiative. Must have good farm experience and full knowledge of modern stock and crop methods. Wages \$60. per month and usual food allowance. References required. Apply in writing to Box L 616, Mich. Farmer, Detroit.

Hardy Southern Grown Cabbage Plants

Extra Fine stock—Wakefield or Flats—Dollar fifty a thousand.
Farmers Plant Co., Martins Point, S. C.

AGENTS WANTED

to represent a reliable concern canvassing among farmers in your own neighborhood or elsewhere. No experience necessary. Liberal pay and supplies furnished free to right parties. Reference required. Address,

ADVERTISER, CARE THE MICHIGAN FARMER
Detroit, Michigan

POULTRY.

Baby Chicks

From Standard Bred S. C. White and Brown Leghorns, \$10.00 per 100; \$90.00 per 1,000. Bred to lay large white eggs. Safe arrival guaranteed. Catalogue free. **WOLVERINE HATCHERY, Box 2221, Zeeland, Mich.**

Baby Chicks and Hatching Eggs
From Bred-to-Lay Barred Rocks, S. O. White Leghorns and S. C. Buff Orpingtons. All high class stock at very reasonable prices. Send for our Chick Folder at once. **RUSSELL POULTRY RANCH, Petersburg, Mich.**

BABY CHICKS. S. C. White Leghorns now \$10 per 100. Safe delivery guaranteed. All breeders are farm raised and bred for high egg production. **SUNNYBROOK FARM, Hillsdale, Mich.**

Baby Chicks cheaper than hatching eggs. We specialize in Leghorns, Rocks and Reds. Send for catalogue. Twentieth Century Hatchery Company, Box 162, New Washington, Ohio.

CHICKS Rocks, Reds, Orpingtons, Wyandottes, Leghorns, Best laying strains. Ship everywhere. Prices right. **TIFFIN POULTRY FARMS & HATCHERY, Dept. 16, TIFFIN, OHIO.**

JOHN'S big beautiful hen-hatched Barred Rocks, good layers. Breeding pens (5 birds) \$10 to \$20. Eggs \$30, \$2.50; 100, \$7. Circulars. Photo. John Northon, Clare, Mich.

Barred Rocks: EGGS FROM STRAIN with records to 297 eggs a year, \$2 per 15. Delivered by parcel post, prepaid. Circular free. **Fred Astling, Constantine, Mich.**

Ferris White Leghorns
A real heavy laying strain, traced 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and guarantee results. Catalog gives prices; describes stock; tells all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free. **GEORGE B. FERRIS, 924 Union, Grand Rapids, Mich.**

CHICKS, are booking orders now for spring delivery, livery, different varieties, free booklet. **Freeport Hatchery, Box 12, Freeport, Michigan**

LAYBILT S. C. W. LEGHORNS
Large, Great Layers, Pure White

Proved egg type from like ancestry. Not the "Best in the World," but **None Better** for beauty and laying ability. **Laybilt Leghorns** mean either better quality at the same price or the same quality at a less price. Selected hatching eggs, \$1.50 per 15, Parcel Post paid \$5 per 100; 90% fertility guaranteed. **Strong Day-Old Chicks**, now \$10 per 100. Hatch every week. Guaranteed delivery alive and lively. **Everfresh Egg Farm, Ionia, Mich.**

BUFF LEGHORNS Special June Sale. Hens, Pens & Eggs. **Dr. William A. Smith, Petersburg, Mich.**

Fowler's Buff Rocks. I am now booking orders for eggs at \$1.50 for 15, \$3 for 30, \$4 for 50, \$7 for 100. Pen No. 1, \$4 for 15. Also one 2 yr. old White Holland Tom. **R. B. Fowler, Hartford, Mich.**

EGGS for setting from R. C. Brown Leghorns, leading strains in America. Also W. China Geese and M. Pekin ducks. **MRS. CLAUDIA BETTS, Hillsdale, Michigan**

Eggaday White Wyandottes, Eggs \$1.25 per 15; \$2.25 per 30; \$6.50 per 100. **EGGADAY RANCH, Marshall, Mich.**

Improve Your Poultry. My Young's Strain S. C. White Leghorns are great money makers. 20,000 baby chicks for June at \$9 per 100. Order direct or get our catalogue. Satisfaction guaranteed. **W. VAN APPELDORN, R. 7, Holland, Mich.**

PINE CREST S. C. White Orpingtons, cockerels, pullets, eggs \$5 and \$3 per 15, utility \$8 per 100. Eggs half price after May 15th. MRS. WILLIS HOUGH, Pine Crest Farm, Royal Oak, Michigan.

RHODE ISLAND REDS and PLYMOUTH ROCKS Males 5 to 12 lbs., according to age \$2 to \$5; P. R. hens weight 5 to 10 lbs., eggs 15 for \$1.00; 100, \$5; 120, \$6.00. Mammoth Bronze Tom Turkeys, 8 to 10 lbs., according to age \$6 to \$25, 10 eggs \$3. **A. E. Cramton, Vassar, Mich.**

R. I. Red Chicks and Eggs. Both Combs. Dark Red. Winter Layers. Bred by more Michigan farmers than any other strain in Catalogue. Free. **Interlakes Farm, Box 39, Lawrence, Mich.**

RINGLETS' Barred Rocks. The famous show and laying strain Eggs \$2.00 for 15. Delivered by Parcel Post from selected matings. **Plain View Stock Farm, J. W. Sallard, Prop. Res. W. St. Clair St., Romeo, Mich.**

Barred Rock Eggs Four pullets laid 950 eggs in one year. **W. C. COFFMAN, R. 3, Benton Harbor, Mich.**

Homestead Farms

On account of abundant orders, we cannot promise Day-Old Chicks until into June. We can still supply

Eggs for Hatching
Rocks, Reds, Wyandottes, Black Minorcas and Leghorns; Geese, Ducks and White Holland Turkeys. Cockerels and pullets of our several breeds can be supplied from July on thru the autumn months and we invite inquiry from any who want any of these fowls. **HOMESTEAD FARMS, Bloomingdale, Mich.**

Bred-to-Lay Eggs, S. C. W. Leghorns and Barred Rocks. **Alpine Poultry Farm, R. 2, Grand Rapids, Mich.**

R. and S. C. Reds. Good breeding hens at \$1.50 each for short time. Also Belgian Hares. **O. E. Hawley, Ludington, Mich.**

S. C. W. Leghorns at a sacrifice, buy them now. Two-year-old hens \$1 each; Roosters \$1 and \$1.25. **HILL-CREST POULTRY FARM, Ypsilanti, Mich.**

Silver Spangled Hamburg Eggs \$6 and \$7 per 100. Turkey eggs \$5 per setting. Circulars sent for stamp. **RIVERVIEW FARM, Vassar, Michigan.**

Single Comb Black Minorcas Great big cockerels sized by a 10 lb. cock bird. **R. W. Mills, Saline, Mich.**

S. C. White Leghorns 200 egg strain. Tom Barron hens. Baby chicks 15c each. Hatching eggs 5c each. **C. W. Gordon, Fowlerville, Michigan.**

S. O. White Leghorns. Size, shape, vigor, egg production. Hatching eggs \$5. Baby chicks \$1 per 100. 15 years in the hen business. **A. O. Howard, Tecumseh, Mich.**

Plymouth Rock Hatching Eggs. Buff, Barred, Columbian and White. **Sheridan Poultry Yards, Sheridan, Mich.**

SILVER. Golden and White Wyandottes. Eggs from Some grand matings. \$1.50 per 15, \$2.50 per 30, large vigorous birds. **C. W. Browning, R. 2 Portland, Mich.**

WHITE Wyandottes. A. 1 layers. Eggs for hatching, \$1. \$2, \$3 for 15, \$7 for 100. Special matings \$5 for 15. **DAVID RAY, 709 Norris St., Ypsilanti, Michigan.**

White Wyandottes, winter & summer layers. Eggs \$5.50 per 100 Baby Chix \$12 per 100. Satisfaction guaranteed. **Hemlock Poultry & Stock Farm, Prescott, Mich.**

GET THIS CATALOG

Everything we sell is guaranteed. You can return any goods you buy from us and get your money back. We ship C. O. D. if desired, quote very lowest prices and carry the most complete line in the country. Here is a partial list:

Egg Cases	Shipping Coops	Trap Nests
Fillers and Flats	Chick Boxes	Wire Nests
Egg Scales	Feed Troughs	Nest Eggs
Leg Bands	Clover Cutters	Egg Testers
Incubators	Root Cutters	Egg Records
Brooders	Bone Cutters	Chick Markers
Portable Houses	Grinding Mills	Caponizing Sets
Roofing	Oat Sprouters	Poultry Books
Poultry Fence	Water Fountains	Lice Powder
Grit	Automatic Feeders	Lice Paint
Oyster Shell	Beef Scrap	Disinfectants
Charcoal	Chick Feed	Poultry Remedies
Alfalfa	Scratch Feed	Spray Pumps
Egg Preservative	Exhibition Coops	Fattening Crates
Egg Dating Stamps	Egg Trays	Fowl Catchers
Folding Egg Crates	Egg Cabinets	Moisture Gages

If you don't find what you want in the above list write us anyway. We have everything a poultryman needs. A post card will bring the 40 page catalog by return mail. We will gladly send it free, whether you buy or not.

GEORGE B. FERRIS, 634 SHIRLEY ST. GRAND RAPIDS, MICH.

Insure Against Tuberculosis. 65% of tuberculosis is contracted through drinking water. One diseased cow may cause you to lose your entire herd. Write for booklet. **Livestock Drinking Fountain Co., Box K, Lynchburg, Virginia**

Hatching Eggs From prize winning S. C. W. Leghorns \$1.50 per 15. **White Line Poultry Farm, Hillsdale, Mich.**

BREEDERS' DIRECTORY.

Change of Copy or Cancellations must reach us Ten Days before date of publication.

We Offer a Few Special Bargains
In S. C. White Leghorn cockerels, Ram-bouillet rams, Hampshire pigs (either sex) and Holstein bulls. A good chance for a small investment to reap the benefit of a large expenditure of capital and years of expert breeding. **Flanders Farm, Orchard Lake, Mich.**

CATTLE.

ABERDEEN-ANGUS

Bulls by **BLACK QUALITY ITO**, sire, First prize, Breeders and Calf Herds Mich. State Fair 1916. We also won first on Exhibitors Herd, Jr. Champion Bull, Jr. Champion Female and Grand Champion Cow. Also breeders of Percheron, Hackney and Saddle Horses. **WOODCOTE STOCK FARM, IONIA, MICH.**

FOR SALE Good Angus bulls, bred cows, and heifers. Prices reasonable. **Geo. Hathaway & Son, Ovid, Mich.**

Two Choice Registered Guernseys Two year old Heifers will freshen in the next 60 days, fine individuals, and well bred, \$300 each, don't wait a month if you want these, they will go, to the first man sees them. **J. M. WILLIAMS, North Adams, Mich.**

Guernsey Bulls of service age and calves from choice. Adv. reg. breeding. **T. V. HICKS, Route 1, Battle Creek, Mich.**

GUERNSEYS—REGISTERED BULL CALVES Containing blood of world champions. **HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.**

GUERNSEYS Bull calves for sale, from A. R. dams and cows on test. **GEO. N. CRAWFORD, Holton, Mich.**

"TOP NOTCH" HOLSTEINS

Many years of careful management and systematic handling of our three large herds find us the breeders and owners of a cow that heads one of the only eight combinations of three direct generations of thirty-pound cows in the United States. We have young bulls for sale sired by a son of this great cow. The blood of this cow in them, combined with that of other great animals of the breed in our herds, would insure most pleasing results in almost any herd. **MCPHERSON FARMS CO., Howell, Michigan.**

Bigelow's Holstein Farms, BREEDSVILLE, MICH.
Have Some Fine Registered Stock For Sale

Registered Holsteins. Very fine Young bull five months of age A. R. O. breeding Satisfaction guaranteed. **W. B. Jones & J. F. Lutz, Cohoctah, Mich.**

Holstein Calves, 10 heifers, and 2 bulls 15-16ths pure. 15 weeks old, beautifully marked, \$20.00 each, crated for shipment anywhere. **Edgewood Farm, Whitewater, Wis.**

REG. HOLSTEINS: Herd headed by Albina Bonte Butter Boy No. 9312. Dam's record at 6 yrs. butter 25.53 lbs. milk 619.4. Yearly record at 24 yrs. butter 802 lbs. milk 18622 lbs. **W. B. READER, Howell, Mich.**

OAK LEAF FARM Herd Sire **Ypsilanti Sir Pletertje De Kol**

Service bulls all sold. Buy a calf and raise it. Fine individuals 4 and 5 months old. **E. H. Gearhart & Son, Marcellus, Mich., R. No. 4.**

REG. Holsteins. Place your order now for a bull calf. I have cows due to freshen soon, bred to the best bull in Mich. **Elmer E. Smith, Redford, Michigan**

842 Lbs. BUTTER Is the average of the semi-official records of our herd bull sired (at 2 yrs.), his grand-dam (at 3 yrs.), and his great grand-dam. Three choice young bulls from A. R. O. dams. Herd tuberculosis tested annually. Holsteins of course. **Peageland Stock Farm, Three Rivers, Mich.** **Chas. Peters, Herdsman, C. L. Brody, Owner, Port Huron, Mich.**

For Sale at a Bargain Cows and bull calf 4 mos. old. **PAUL RUEHS, Caledonia, Michigan.**

Buy Your Bulls From Parham's Pedigree Stock Farm Choice Registered Holstein calves from A. R. O. cows. **RAY B. PARHAM, Bronson, Michigan.**

Need Reg. Holsteins?? You can't find better bred bulls than we are offering. ready for service. You don't need cash. We trust you. Get our description booklet. **LONG BEACH FARMS, Augusta, (Kalamazoo Co.), Michigan**

Poultry Query Department

Ptomaine Poisoning.

My laying hens are dying with a disease I do not understand. They are sick but a short time, their crops fill with water, which will run out of their mouth and has a dark color with a sour smell. After they die they are heavy, their combs turn a dark red, eyes partly close and have white circles under them. They also have bowel trouble. Found one that had a bloody discharge from bowels. Would you kindly suggest a remedy and what this trouble is? They have been fed all winter on corn and oats and had plenty of fresh meat this spring.

Branch Co.

W. H.

Your fowls undoubtedly have digestive disturbances resulting from ptomaine poisoning, which results from eating foul or putrid food. Very likely some of the fresh meat you have been feeding the chickens this spring has started to decay before it was entirely consumed. Fowls are usually quite susceptible to ptomaine poisoning, and a slight amount of decay in this meat would cause trouble.

If treatment is started soon enough, a teaspoonful of castor oil will prove beneficial. After the castor oil has produced results, several doses of sulphate of strychnine in one-fifth grain quantities at intervals of five hours will help to get the digestive organs back to normal condition.

However, if the disease is advanced, it will not pay to treat the chickens, as a sick chicken rarely recovers enough to be of commercial value. The best way to eliminate this trouble from your flock is to use special care in the quality of the food. Be sure that all food is sweet and clean, and that none is left over from one feed to another. All feeding utensils should also be kept clean by frequent and thorough boiling.

Feeding Goslings.

I would like to know all about the feed and care for young goslings up to four weeks after hatching. Is sour milk or sweet milk good for them, and if so which is best? Also, will you tell me if creamery buttermilk is good to feed to small chicks, or does it contain some chemical, that the home-made buttermilk does not, that would be injurious to them? I have been reading an article on hens needing grit other than what they can pick up on free range. It says the oyster shells are needed for the lime, and talks as if it was not sufficient for grinding purposes. What would you suggest as the best grit? Someone told me glass and broken earthen dishes pounded fine were good. Will you also give me a formula for a good mash to be fed this time of year? I have been feeding corn and water, separator milk, and they have free range, but I only get about one-third or one-fourth as many eggs as I have hens. Is creamery buttermilk good to make them lay? We buy our feed, so could buy one as well as another if it isn't too expensive.

Barry Co.

Mrs. E. E. S.

The following is a very good method of caring for goslings up to four weeks of age:

After hatching place them in a warm dry place, and do not feed them for twenty-four hours, then given them some tender grass or a mixture of one-third corn meal and two-thirds shorts mixed quite dry, with some grass as a relish. If corn meal and shorts are not obtainable, cracked corn, slightly cooked, does very well. The feeding should be very light at first, gradually increasing it as the goslings grow older.

Until they are ten days old they should be kept in a small enclosure, which should be moved to fresh ground every day, on which there is a supply of tender grass. After this give them a larger place to run in, and feed them a little at a time and often until they are a month old. It is a peculiar fact that goslings cannot endure bad treatment when they are first hatched, but after they are a month old, they are the most hardy among our domesticated fowls.

I would not advise the use of milk for goslings. The creamery buttermilk to which you refer is very good for

chicks, and should be fed them right from the start.

If the chickens have free range, it is very seldom necessary to furnish them with extra grit, but for little chicks it is always advisable to have available fine grit which can be purchased at almost any poultry supply house. For winter hens should also be fed the grit but in larger sizes.

For laying hens, the oyster shell will not serve in the place of grit, as it is almost entirely composed of lime which is soon made available for the formation of egg shell.

I would not advise the use of glass for grit, as the sharp edges may cause laceration, but broken china dishes will serve well for this purpose.

A very simple mash for laying hens is composed of equal parts of bran and ground oats, with the addition of fifteen per cent of beef scraps. This should be fed dry in the hopper.

The chief reason why you are not getting more eggs is because you are not feeding the hens enough protein matter to produce very many eggs. It is very essential to feed a concentrated protein food, such as beef scraps, to get good egg production. At present prices beef scraps are just as cheap as the grains. However, not more than fifteen per cent can be fed without deleterious effects.

Loss of Feathers.

We have a flock of twenty-three chickens that were well fed and housed—if anything, too warm—during the winter. Before spring the chickens' feathers commenced to fall out from all parts of their bodies until they became almost nude. No particular attention was paid to them, thinking they would soon grow new feathers but do not. During the winter they were fed entirely on corn. At times we placed horse flesh within their reach—there being a few horses killed on account of old age. We were told the flesh was good for chickens to pick, and the chickens picked it with apparent relish. The chickens are very fat, eat good and act good and are all right apparently in every particular except for being featherless. No other chickens around here are similarly affected. What in your opinion, is the cause of the falling off of the feathers and why they do not grow again? Is it a disease and what is the remedy?

Osceola Co.

E. E. A.

The loss of feathers from chickens is usually caused by the depluming mites. These mites feed on the base of the feathers and the epidermis surrounding them. The mites also cause an irritation and frequently cause the chickens to pull their feathers in their endeavor to allay this irritation.

These mites cannot be controlled by dusting, but are usually kept in check by the use of the following ointment: One dram of flowers of sulphur; twenty grains of carbonate of potash, and one-half ounce of lard or vaseline. This ointment should be applied to the affected parts.

The ration you have been feeding your chickens has lacked considerably in nitrogenous material and also lacks in variety. Occasionally when the chickens are not kept active and are fed an unbalanced ration, they will start the feather-eating habit. As the feathers are rich in nitrogenous material they help to allay the craving for it on account of its lack in the ration.

The feed you are giving is not one that would encourage the production of feathers, and for that reason you cannot hope to have them grow again very quickly.

FOR HATCHING TROUBLE.

To W. H., who has trouble in hatching, try treating eggs with one-third alcohol and two-thirds water three times during incubation, at each testing, and on the eighteenth day. Run the incubator the same as usual. I have tried this treatment twice this spring and have done fine.—**M. A. P. S.**

Guernsey Bull Calves From Imported and American bred dams of high producing ancestry. Cash or bankable note. Or would exchange for bred gilt or yearling boar large type Duroc swine. G. A. Wigent, Waterbury, Mich.

Wanted About six high grade young Guernsey cows, give full description and price. FRANK DEAN, Byron Center, Michigan.

CLUNY STOCK FARM

100 REGISTERED HOLSTEINS 100

Offers For Sale the 3-year-old Sire:

SEGIS COLANTHA MOONLIGHT KING, No. 149,542, about three-fifths white and an excellent individual.

HIS SIRE: a grandson of King Segis Pontiac out of Princess of Oakdale (30 lbs.); head of one of the nine only families of three generations of 30-lb. cows.

HIS DAM: a granddaughter of Colantha Johanna Lad, has a record of 535.9 lbs. milk and 27.02 butter as a 3-yr.-old giving promise of a much better record with age. Her dam a 16-lb. 2-yr.-old daughter of a 33.6-lb. cow who made a semi-official record of 833.4 lbs. butter and 18,675.6 lbs. of milk.

Pedigrees and Prices Sent on Application.

R. BRUCE McPHERSON, HOWELL, MICH.

1200-lb. Bred Young Bull

Ready for service. The sire Maplecrest De Kol Hengerveld own brother to a world's champion junior year old, 1203 pounds of butter in a year. Brother, in blood, to the ex-champion cow, record 1322.93 lbs. butter in a year. Write for pedigree and price.

HILLCREST FARM, F. B. Lay, Mgr. Kalamazoo, Mich.

WINNWOOD HERD

John H. Winn, Inc., Holton, Mich.

Reference: Old State Bank, Fremont, Mich. Have for sale 6 Maplecrest Korndyke Hengerveld Holstein bulls. One 12 months, one 6 months, one 2 months, all out of A. B. O. dams. One made 19 lbs. butter in 7 days as a Jr. 2 year old. Another 21 lbs. in 7 days as a Jr. 3 year old. Also have five others, same breed from 2 to 6 months. Must sell at once, need the room. Our prices will surprise you. John H. Winn, Holton, Michigan.

Ten Good Young Holstein Cows For Sale

I want to sell as soon as possible, TEN GOOD YOUNG cows. Most of them are bred to "The Milk & Butter Champion" a son of a world's record milk cow and his sire is a son of a world's record butter cow. We will have more cows than we can milk this Spring. So this is your chance to get a few good ones. Also have bull calves and a few bulls ready for service.

L. E. CONNELL, Fayette, Ohio.

Butter Fat Counts

Holstein Bull Calves from a 30 lb. 6.53 Sire. Dam are grand daughters of the King of the Pontiacs. Their dams grand daughters of Sadie Vale Concordia the first 30 lb. cow. Edwin S. Lewis, Marshall, Mich.

Registered Holstein Bull

14 months old for sale Grandson of Rag Apple Kondyke 8th. Six nearest dams average 26 lbs. butter in seven days. Price \$100. Jay B. Tooley, Howell, Michigan.

For Sale A Yearling Heifer, pure bred Holstein, Sire, Colantha Johanna Oreamello Lad, Dam, Elizabeth Segis Lyons. If you want something good, write, Geo. D. Clarke, Vassar, Mich.

FOR SALE Reg. Holstein heifers, 8 months old. Large, finely marked and thrifty. Price \$100, orated at depot. O. L. HULETT & SON, Okemos, Mich.

High Grade Holstein Heifers

Fresh or soon to freshen. Also grade Holstein Bull Prices reasonable. THE JENNINGS FARMS, V.M. SHOESMITH, General Manager, Bailey, Mich.

2 Holstein Heifers by a 24 lb. bull in calf to 30 lb. bull. Bull calf 22.92 lb. dam, 30.21 lb. sire. Terms if wanted. M. L. McLAULIN, Redford, Michigan.

Registered Holstein Friesian Heifers, 3 to 6 mos. old. Some from 30 lb. sires. Priced to sell. Fred J. Lange, Sebawaing, Mich.

Reg. Holstein Friesian Cows and Heifers, some A. R. O. \$125. Heifers nine months old, \$100; Bulls \$40 up, with papers. FRANK STAFFEN, R. 3, Howard City, Mich.

BULL CALF for sale, Pontiac Korndyke Breeding. Dam gives 60 lbs. milk per day at 2 years. Farmers Prices. JOHN A. RINK, Warren, Mich.

Registered Holstein Bulls, ready for service, closely related to the 50 lb. cow. Priced to sell. B. B. REAVY, Akron, Mich.

On Our Easy Payment Plan we will ship you any registered Holstein Bull calf in our stables. Prices from \$50 up. Ypsilanti Farms, Ypsilanti, Michigan.

Ixi-on Farms are offering pure-bred Holstein cows and heifers, also young herd sires at attractive prices. For information write S. O. Rathfon & Son, R. 4, Ypsilanti, Mich.

HEREFORDS

10 Bull Calves from 4 to 12 months old.

ALLEN BROS., PAW PAW, MICH.

Jersey Bulls for Sale from high-producing dams, with testing Asso. records, also on semi-official test. O. B. Wehner, R. 6, Allegan, Mich.

Get Rid of the "Boarders"

Do you keep cows or do they keep you? Do you know which are earning a profit and which are merely paying their board? One community increased the average net profit per cow 129% in a few years by testing. Cows from regularly tested herds sell for more money and so do their offspring. Knowing beats guessing in dairy work. Get our free booklet, "What is Accomplished by Testing Cows" and learn how to build up your herd from animals of known production. Every farmer should read this booklet. It's free. Send a postal today.

The American Jersey Cattle Club
346 West 23d St. New York City

DISPERSAL SALE

55 HEAD REGISTERED HOLSTEINS 55
FRIDAY, JUNE 29th, AT 10:30 A.M.

Half Mile West of Wayne, Mich., 19 Miles West of Detroit on M. C. R. R. and D. J. & C. Electric

Sophia Jewel
Gerber Starlight
256201 with a 3-year-old record of 24.68 lbs. butter, 501 lbs. milk.

Two granddaughters of King of the Pontiacs.

Herd Sire

Long Beach
Korndyke 108525
4 years old from Janice Belle Pontiac a 28 lb. 4-year-old. Sale includes 19 daughters of this valuable sire.



Concordia Houwtje Sunlight De Kol 203427, butter 31.69 lbs; milk 654.1 lbs., also two daughters and one son in sale.

Do Not Fail to Attend This Sale. For Any Further Information Address

Col. D. L. Perry, Auct. WM. A. AUSTIN } Owners
S. T. Wood, Sales Mgr. WM. HAYWOOD } Wayne, Mich.
Clyde Furlong, Clerk

Jerseys and Duroc Jerseys

The most important thing in buying a Jersey bull is to get one backed up by generations of high producers.

Brookwater offers to sell a few choice bull calves of this kind.

They are selling—get yours soon. Also Duroc Jersey Fall Boars ready for spring service. Full particulars and price on application. Better yet, visit the farm.

H. W. MUMFORD, O. F. FOSTER, OWNERS, MANAGER

BROOKWATER FARM

Ann Arbor, Mich., R. 7.

For Sale Jersey Bull Calf

Dropped Nov. 3rd 1916. The sire and dam are both from R. M. cows. This calf is an extra good individual, and will be sold cheap. Address: Newman's Stock Farm, R. 1, Marlette, Mich.

Jersey Bulls for sale, ready for service. Out of good producing dams. Prices right. Hartford, Mich.

Hillside Farm Jerseys. For sale ten months old bull backed on both sides by R. of M. dams with high official records. O. & O. DEAKE, Ypsilanti, Michigan

Maple Hill Farm Registered Jersey Cattle
Stock under 2 1/2 years all sold.
J. R. Worthington, R. No. 7, Lansing, Michigan

Lillie Farmstead Jersey Cattle. Bull calves from R. of M. Cows, also heifer calves and several bred heifers for sale. Colon C. Lillie, Coopersville, Mich.

Notten Farm Jerseys—One bull ready for service; heifer calves by Foxhall Croton. NOTTEN FARM, Grass Lake, Mich.

The Wildwood Farm

Breeder of Line bred, Majesty strain of Jersey Cattle. Hard on R. of M. test. Tuberculin tested. Bull calves for sale. Type & Production is our motto. Alvin Balden, Capac, Mich.

Maple Lane R. of M. Jersey herd offers for sale tuberculin tested cows, bulls, bull calves and heifer calves, carrying the best R. of M. blood of the breed. IRVIN FOX, Allegan, Mich.

S. T. Clair County Jersey Cattle Club. We have for sale S. Bulls old enough for service and Bull calves, from best strains of Jersey Cattle. Majesty's, Noble of Oaklands, Combination's Premier, etc. Write for Pedigrees, prices and particulars. Fred A. Brennan, Sec. Capac, Mich.

Shorthorn Cattle of both Sex for Sale
W. W. KNAPP, Howell, Michigan.

RICHLAND SHORTHORNS

Sires in service, Village Archer and Albion Crest. 1st prize 2 year old and Junior Champion at the Mich. Stat Fair in 1916. We offer a number of young bulls and females for sale. Also some Aberdeen-Angus bulls of serviceable age reasonable prices. Write your wants. Tawas City, Mich. C. H. Prescott & Sons, Prescott, Mich.

Bidwell Shorthorns

"For Beef and Milk"

This heifer at 6 months has bone, size and quality—our own breeding. The blood of Scotch bulls, Imp. Shennstone Albino and Imp. Villager Registered stock always for sale.

BIDWELL STOCK FARM,
Box B, Tecumseh, Michigan.

Francisco Farm Shorthorns
Big Type Poland Chinas
"They're rugged—They pay the rent."
Nothing for sale at present.
P. P. POPE, R. 3, Mt. Pleasant, Mich.

FOR Sale—Reg. Short Horn Bulls by Maxwellton Monarch 2nd, a son of Avondale, from 1 to 9 mos. old. John Schmidt, Reed City, R. No. 5, Michigan.

Shorthorns For Sale Young bulls ready for service, also cows and heifers. W. B. McQuillan, Howell, Michigan.

Shorthorns For Sale. Young bulls \$100. Bred cows. Write W. J. BELL, ROSE CITY, MICHIGAN.

Shorthorns—Dairy or beef bred. Breeding stock all ages for sale at farmers prices. O. W. Crum, Secy. Cent. Mich. Shorthorn Breeders' Assn., McBride, Mich.

Shorthorns 3 Red Bull Calves, 6 months old. 1 Roan Bull, 2 years old, for sale. Hillsdale, Mich.

For Sale One Roan Shorthorn Bull Calf
5 mos. old, a well built calf of milking strain. The first \$100 takes him, also a few heifers and a black, blocky Percheron Stallion, 2 yrs. old in Aug., weight 1500 lbs. M. A. Bray Estate, Okemos, (Ingham Co.) Mich.

Shorthorn Bull Duke of Oak Crest 16 mos. old, heavy milk ancestry \$200.
DAVIDSON & HALL, Tecumseh, Michigan

SHORTHORNS

Maple Ridge Herd, Established 1867. No stock for sale. J. E. Tanswell, Mason, Michigan.

For Sale Two Reg. Shorthorn Bulls. One Scotch Bull, Son of Imp. Shennstone Albino. One Red Yearling. RALPH BUTLER, Calhoun Co., Eckford, Michigan.

Shorthorns for sale, 5 bulls Scotch top 10 to 14 mos. 3 roan, 1 white, 1 red, price \$150. to \$250. Son of Max' walton Sultan, 19 mos. \$350. O. Carlson, Leroy, Mich.

HODS.

Durocs and Victorias

Heavy bone, lengthy Spring Boars and Gilts from prize winners sired by one of the best Sons of the Great Defender & other noted strains. M. T. STORY, Lowell, Mich.

BERKSHIRES

We have 10 selected gilts bred to farrow in August and September. All long bodied, growthy type. Are bred to our Junior Champion boar, Detroit 1916. They will go fast at \$55 each. All stock guaranteed as represented.

SWIGARTDALE FARM

PETERSBURG, MICH.

Berkshires, Boars, serviceable age, best blood lines. Registered. ELMHURST STOCK FARM, Almont, Mich.

Berkshires. Bred gilts and sows for fall farrowing. B Also Spring pigs, either sex. A few boars serviceable age, reg. Chase Stock Farm, R. 1, Marlette, Mich.

CHESTER WHITES:—Gilts bred for July and Aug. farrow. March pigs ready to ship. Large type. F. W. ALEXANDER, Vassar, Michigan.

Duroc Jerseys bred gilts for sale priced to sell. Hastings, Mich.

DUROCS A few fall boars at \$30 to \$40 each. One 2 yr. sow, sired by Oak. Ohio Chief 28753 bred to Brook. Am. Col. \$1333 due to farrow June 20th. A very dependable sow, raised 9 pigs last litter. Price \$75. NEWTON BARNHART, St. Johns, Michigan.

Duroc Jerseys. Breeding Boars and Sept. Gilts J. H. Banghart, East Lansing, Mich.

Duroc Sows and gilts bred to Eureka Cherry King and Crimson Critic son of Critic Model 1916 champion Iowa Fair. W. C. Taylor, Milan, Mich.

DUROC Jersey fall Boars, ready for spring service. B Also Gilts bred for Aug. and Sept. farrow. Spring pigs, pairs not akin. All stock shipped on approval. F. J. DRODT, R. 1, Monroe, Michigan

Dobson's Durocs; Pigs at weaning time; breeding. Collie Pups, Orlo L. Dobson, Quincy, Mich.

DUROC Sows bred for Aug. and Sept. farrow also spring pigs either sex. Write for description and prices. E. D. Heydenberk, Wayland, Mich.

Duroc Spring Pigs sired by Fancy Orton King. \$1255 boar, for sale at \$50 at weaning age. Reg. and Del. J. R. HICKS, St. Johns, Michigan.

O. I. C. An extra fine lot of last spring pigs, either sex and not akin, from good, growthy stock. Farm 1/2 mile west of depot. Otto B. Schulze, Nashville, Mich.

1/2 Ton O. I. C's & Chester Whites 1/2 Ton 10 Oct. and Nov. boars sired by our undefeated Grand Champion School Master. The boar that has size and quality combined. All sold any age. Write and get our Catalogue its free and describes our champions. We do not say our hogs are the best but we win the championships to prove it. We have 100 sows bred to our champion boars for Mar. and Apr. farrow. HARRY T. ORANDELL & SON, Cass City, Mich.

Raise Chester Whites
Like This
the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

CHOICE SPRING PIGS

Ready to ship. The big smooth, growthy type, sired by noted boars. Registered and shipped C. O. D. J. CARL JEWETT, Mason, Mich.

O. I. C. Boars and Gilts all sold. I am booking orders for March and April pigs either sex, single, or in pairs not akin. A. J. BARKER, Belmont, Mich. R. R.

O. I. C. Thorough bred O. I. C. Swine all sold out except fall pigs. O. D. Somerville, Grass Lake, Mich. R. D. 4.

O. I. C's. All sold. Booking orders for the best of our winter and spring pigs. C. J. THOMPSON, Rockford, Michigan

O. I. C's. Spring pigs and Reg. Holstein heifers from 5 to 15 months old. O. L. OVER LEAF STOCK FARM, R. 1, Monroe, Mich.

O. I. C. bred sows and gilts all sold. A few long bodied heavy boned fall boars to offer. G. P. ANDREWS, Dansville, Michigan

O. I. C. SWINE. Nothing to offer at present. H. W. MANN, Dansville, Michigan.

"War is"
So is starvation, every one should do their bit. You can raise more pork on less feed if you breed Butlers big type Poland Chinas. Sows bred for fall farrow. Boars ready for service. J. C. BUTLER, Portland, Michigan, Bel' Phone

Large Type P. C.

Fall pigs and bred gilts all sold. Nothing for sale at present. W. E. LIVINGSTON, PARMA, MICH.

S. P. C. yearly Gilts for August farrow. A few long bodied heavy boned boars ready for service. 2 nice fall boars by Smooth Jumbo H. O. Swartz, Schoolcraft, Mich.

LARGE type P. C. Some very choice summer gilts bred to farrow in August. Will sell 1 of my yearling herd boars. W. J. Hagelshaw, Augusta, Mich.

Large Stiled Poland China, fall and spring pigs. at farmers prices. B. P. Rock eggs \$1.50 per 15. Robert Neve, Pierson, Mich.

POLAND Chinas bred gilts all sold, still have some choice fall pigs of large and medium type, at farmers prices. P. D. LONG, R. 8, Grand Rapids, Mich.

Big Type Poland Chinas Sept. farrow, either sex, sired by Jumbo Wood, 800 lb. hog. A. A. WOOD & SON, Saline, Michigan.

Hampshire Swine. Nothing for sale but fall boars and gilts. Write for prices. FLOYD MYERS, R. No. 9, Decatur, Ind.

Big Type Poland China fall boars. Am booking orders for spring pigs, satisfaction guaranteed. G. W. Holton, R. 11, Kalamazoo, Mich.

Spotted Poland Chinas Big boned spring pigs not related. Bred sows and gilts for Aug. farrow. L. O. OLAPP, R. R. 1 Adrian, Mich.

HAMPSHIRE SWINE My herd contains the blood lines of many of the most noted champions of the breed. My herd boar, Claytons Lad, 18 3/4 is a brother of Look Out Lad, who was grand Champion at the National Swine Show. I am booking orders for spring pigs, to be shipped about May 1st. Write me for prices. George E. Starr, Grass Lake, Mich.

FOR SALE YORKSHIRE BOAR PIGS

Waterman & Waterman, Packard Road, Ann Arbor, Mich.

SHEEP

Joint Sheep Sale

Of registered Shropshire, Hampshire, Rambouillet and Lincoln sheep, also a few high class unregistered ewes at

Public Auction

at State Fair Grounds, Columbus, Ohio

AUGUST 7-8 1917

This sale is held under the auspices of the registry associations of the breeds named. A bona-fide sale to the highest bidder of the best the world has to offer. For information or entry blanks, write Joint Sheep Sale. 36 Woodland Ave., Detroit, Mich.

Shropshire Ewes

Mostly yearlings with lambs by side, extra good ones, come at once if you want them.

Kope Kon Farm, Kinderhook, Mich.

OXFORD DOWN SHEEP We have a few rams for sale. M. F. Gansley, Lennon, Mich.

HORSES

REGISTERED PERCHERON Mares and Stallions priced to sell. Inspection invited. L. C. HUNT, EATON RAPIDS, MICH.

SHETLAND PONIES Herd established 1891. 200 Head to select from. Write Dept. E for catalog. The Shadyside Farms, North Benton, O.

Percherons, Holsteins, Angus, Shropshires, Durocs DORR D. BUELL, Elmira, Michigan.

PERCHERON Stallions, one coming five, one coming two, one coming one. Duroc sows. E. J. Aldrich, R. 1, Tekonsha, Mich., Bell Phone



Let Your Child Win - A - Pony



Five More Playful Shetland Ponies Given to Boys and Girls

This is the best chance you ever had to get a real live playful Shetland Pony without paying any money for it.

I am called the Pony King of America, because I have given away so many Shetland Ponies to Boys and Girls—more than any other man in the United States.

450 Ponies Given To Boys and Girls

I have given away 450 Ponies to 450 Boys and Girls—scattered from Massachusetts to California and from Minnesota to Texas.

Now I am going to give away Five More Ponies—beautiful, silky-haired Shetland Ponies—five of the finest Shetland Ponies I could find. I picked them out myself.

Of course, I am going to ask you to do a little something for me, if you want one of these Ponies I am giving away; but it is something that is not hard for a child to do. 450 other children, of all ages, have done it and received a Pony, without paying any money.

I Pay All Expenses

I pay all shipping expenses, right to your own town, not only on the Pony, but also on the Buggy, Harness, Saddle, and Bridle that I send with him. No matter where you live, or if you are a small child, you can do this for me just as well as any other child, and get one of these Ponies.

Parents!

Remember, we make it easy for your child to get a pony. We use ponies to advertise our big magazine for farm folks—The Farmer's Wife.

The banker in your town will tell you that The Webb Publishing Co. which owns The Farmer's Wife is one of the largest farm paper publishers in America and that it can well afford to give these ponies to boys and girls who help advertise it. I am employed by this company to give ponies to children as prizes.

Just Think Children!

how wonderful it will be to own one of these beautiful little pets. When you want a ride to town or go after the cows or run an errand for father or mother, just throw on the saddle and bridle, jump on and go scampering down the road. When you want to take your friends for a ride, hitch the Pony to the beautiful little buggy we send you.

There is nothing that will give a child as much pleasure, or that will develop kindness, appreciation and self-reliance in a child so much as to own a Shetland Pony. They are such wonderful playmates—gentle, well-mannered, lovable and quick to learn. The first Shetland Ponies, you know, came from the Shetland Islands, north of Scotland, where they have been pets of the inhabitants for hundreds of years. They are natural-born pets.

Pony Pictures Sent Free

I want to send a colored Pony Picture Circular free to every Boy and Girl that sends in his or her name. It gives the names and shows the pictures of these five ponies with children riding them out on the farm where they live. It shows one of the ponies hitched to the beautiful Buggy I am going to give away, with six children taking a ride. It shows a picture of The Pony King out on the Pony Farm, talking to 15 children who live near the farm and who come over to ride the Ponies. It also tells all about the five beautiful Shetland Ponies I am now going to give away and how to win one. Every boy and girl should get this Pony Picture Circular. I will send it free to every child who sends me his or her name.

Children!

Be sure to take this opportunity to get a Pony. Don't wait. Write your name and address in the coupon below, cut it out and send it to me. I will then send you the Colored Pony Picture Circular free and you will learn how to get one of the Real Live Ponies I am going to give away soon. You have just the same chance as any other child and it doesn't cost you a cent. Get your pencil and write your name in the coupon and mail it to me.



I refer you by permission to the National Bank of Commerce, St. Paul, Minn.

THE PONY KING,

323 WEBB BUILDING

ST. PAUL, MINN.

Write Your Name Here

and Send this Coupon to Me

THE PONY KING,
323 Webb Bldg., St. Paul, Minn.

Please send me the Free Pony Pictures and enter my name in your Pony Club so I will learn how to get one of the ponies you are giving away.

My name is _____

P. O. _____ Age _____

State _____ R. F. D. _____

Here is one of the Ponies,

with Buggy and Harness, that I give away. Wouldn't you like to own an outfit like this? Couldn't you have a lot of fun driving around the country? If you want a Pony for your very own, the first thing to do is to send me your name.

