

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. 25
Whole Number 3946

DETROIT, MICH., SATURDAY, JUNE 23, 1917

\$1.00 A YEAR
\$3.00 FOR 5 YEARS

EVERYONE who enlists in raising farm crops enters a struggle which means a war against weeds. One who plans wisely and acts promptly according to the plans which are well calculated to overcome the foes of the crops over which the farmer is the guardian, emerges from the struggle victorious and is winner in the undertaking. In order to conquer weeds one must know what weeds are, and be familiar with the habits or characteristics of the various kinds of weeds with which we have to contend. The question, then, naturally arises as to what weeds are.

What is a Weed?

For many years we have heard the popular definition of a weed repeated, which says that "a weed is a plant out of place." The definition is not entirely satisfactory for several reasons. First, a plant may be out of place where we might want it to be, and yet not be a weed in the popular sense of the term, like rye in winter wheat and oats in spring wheat; neither are where we want them and neither is a weed in the strict sense of the term. June grass may be desirable as a pasture grass but is an intruder where it is not wanted when it invades the June clover field or the ground where alfalfa is growing. We sometimes find two plants that thrive well when both occupy the same ground, like timothy and the clovers, and several other kinds of grasses, but alfalfa does not thrive where June grass has a foothold but it will thrive and crowd out Canada thistles. In the second place, a plant may not be out of place when it is in waste places and yet be a weed.

I think that a better definition of a weed would be a wild plant that has a habit of intruding where it is not wanted. According to the laws of nature in the process of the dissemination of seeds, the seeds of wild and undesirable plants become distributed in our cultivated fields, and it becomes a matter of necessity that we destroy or control those plants to prevent those intruders from getting much of a start when growing from the same ground which we desire to occupy with our farm crops.

Exterminating Weeds

By N. A. CLAPP

It can not be expected that in a short article we can discuss all of the evils which are liable to follow the train of weed invasion, but we may offer hints which, if followed, may aid in successfully dealing with this common enemy. Two plans may be followed with benefit; one for the destruction of the weeds, the seeds of which are already in the ground, and the other to prevent

crops. As soon as the ground is plowed and rolled to smooth the surface and press the furrows down to the bed where they should be, the harrow can be used. The use of the harrow can be repeated frequently until the time arrives when that crop must be planted. If a few days can elapse between times of harrowing, all the better. Every time the ground is stirred weeds

young roots of the plants to permeate the soil and secure the food needed to promote a rapid growth while young, which means much as an insurance toward a successful and heavy producing crop. And farther, every time the ground is stirred with the harrow particles of the soil are moved and plant food is released and made available for the crop after it begins to grow.

After the corn, potatoes or beans are planted the ground will be benefited by harrowing and large numbers of weeds killed. It is practicable to harrow the corn and beans once before the sprouts come out of the ground, and potatoes can, and should be, harrowed two or three times before the tops appear. Potatoes may be harrowed with benefit while small.

After the crops appear and the rows can be followed, the primary object of the first cultivations is to kill weeds, and the cultivator should be so constructed and used that a thorough job of weed killing can be done. After the ground has been well stirred with the cultivator two or three times, shallow cultivation can be profitably followed to kill small weeds and preserve a dust mulch to conserve moisture where the roots of the plants can get it so it comes up by capillary attraction.

Preventing Weeds Going to Seed.

To successfully combat and prevent weeds going to seed one must know the nature and habits of the weeds with which they have to contend. The small docks can be pulled while the ground is moist early in the season. The burdock is one of the worst pests with which we have to deal, usually getting a foothold in the odd corners and waste places and when matured the burrs cling to people's clothing, the wool of sheep, the cows' tails and the horses' manes and tails, and are considered a great nuisance. The burrs contain the seeds and they are distributed in this manner.

The burr business can be prevented by taking a spud or a sharp spade and cutting off the crown below the surface of the ground. By going over the ground two or three times, looking carefully and cutting all that can be

(Continued on page 715).



Two Crops which Cannot be Profitably Grown in One Field.

the weeds going to seed and making trouble in the future.

Destroying Weeds by Cultivation.

Every experienced farmer understands that weed seeds of various kinds are in the ground and that the characteristics of those weeds vary, some start early in the season while others come on as the season progresses.

Those weeds that start early in the season may be destroyed soon after the ground is plowed for the summer

that have sprouted are killed and other weed seeds are exposed to a condition which enables them to sprout. It is often said that before the crop is planted, by persistent effort, more weeds can be killed than at any other time during the summer. So we will say that it pays, in several ways, to work the ground well before the crops are planted. The thorough working not only kills the young weeds that have started to grow, but the ground is put in fine tilth which enables the



Cut-over Brush Land Before and After Pasturing with Sheep. See "More Sheep for Michigan," on Page 718.

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—1011-1015 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
BURT 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 23, 1917



CURRENT COMMENT.

The Liberty Loan. The fact that the people of the United States responded so patriotically in subscriptions to the \$2,000,000,000 worth of Liberty bonds offered by the government is a matter for sincere congratulation to the country and its people. But notwithstanding the fact that this Liberty Loan was over-subscribed by nearly fifty per cent, this patriotic action on the part of the American people was accomplished without great personal sacrifice on the part of any. This subscription of an almost incomprehensible sum to the first government war loan was largely from accumulated savings which awaited a sound investment. Obviously, no safer investment could be found than the bonds of the government bearing a remunerative rate of interest, when their non-taxable features are considered.

A fortunate factor in this operation of financing the war is that the vast sums of money raised by the sale of bonds and by taxation will be very largely expended in this country for war materials. This fact is true of the loans made to our allies in the war as well as to the expenditures made directly on our own account for war materials. This fact will place the people of the United States in a much better position to continue a patriotic purchase of bonds, as they must necessarily from time to time be offered by the government, to raise the vast sums which will be required for the successful prosecution of the war in which we are engaged. In the meantime, the expenditure of a very large percentage of the monies so raised in the regular industries and channels of trade will result in additional profits and increased savings to the industries and people of this country, thus placing them in a position to absorb more and more of these bonds as they may be offered, without curtailing to any extent the regular business and expenditures incident to our national life.

Almost incomprehensible as is the sum of \$5,000,000,000 which will be the minimum requirements of the government from the sale of bonds during the present year, the people of the Uni-

ted States can still absorb these bonds without hardship from their current savings, and the country will still have a lower actual national debt than any other major country engaged in the great war save one, and a lower per capita national debt than any of these countries, and a per capita debt of only about fifteen per cent, for example, of that of the United Kingdom.

The extent to which the people of the country will be called upon to invest in government bonds will of course depend altogether upon the duration of the war, but when a country engages in a great war like that in which we have embarked, there can be no half-way measures. Preparation must be made for the worst, even though we hope for the best. While it is reasonably certain that the people of the United States will not be called upon to make the sacrifices in this direction which have been made by the people of the European countries at war, yet they should be prepared to meet every requirement in this direction.

Something of the sacrifices which have been made by the people of the European countries engaged in this conflict may be gleaned from the following figures recently contributed by C. E. Mitchell, president of the National City Co., in the New York Annalist. The figures indicate that the people of England, with a normal annual family income of \$1,368 have made an average annual family investment in war loans of \$699; the people of France with an annual family income of \$1,000 per annum have made an average annual family investment in war loans of \$358; even the people of Russia, with an average normal family income of only \$373 have made an average annual family investment in the country's war loans of \$139.

On the other hand, the normal current savings of the people of the United States is estimated at about \$250 per family, a sum sufficient to purchase \$5,000,000,000 worth of war bonds and leave a balance of \$500,000,000. The American people are the most prosperous and forehanded of any people in the world; they will yield to the people of no other country in the matter of patriotic public spirit, once they fully appreciate the government's need of their personal financial support. That they generally appreciate this need is attested by the success of the recent Liberty Loan. If this appreciation becomes universal, future loans will be as promptly and liberally subscribed, but to this end every person, no matter what his business or station in life, should well consider his patriotic duty in this direction, and be prepared to do his bit in helping to finance the war, as well as in helping to feed our people, our soldiers and our allies or provide them with the necessary equipment with which to bring the war to an early and successful termination.

Perseverance Wins.

This trite old maxim is well worth our consideration under present conditions. For farmers living on the heavier and less naturally well drained lands of the state, the weather conditions have been indeed most discouraging. Very many farmers will be obliged to plant their corn exceedingly late or abandon the crop entirely. Others will be unable to get in their full acreage of sugar beets, and even the later planted crops, such as beans and potatoes, are likely to be delayed beyond the usual limits of what is considered safe practice. Every farmer should, however, realize that in the present emergency he should make the best of a bad situation and substitute an emergency crop if it is impossible to carry out his original program. But in many cases where corn planting was delayed until very late in the season, the silo will come to the farmer's rescue in securing a maximum of

feed from his corn crop. Indeed, if the unfavorable conditions for getting in the corn crop induce a farmer to erect a silo this year, it may be a blessing in disguise.

The Food Preparedness Committee has urged Michigan farmers to plant their full acreage of beans if possible, even if they are unable to get them in the ground before the very last of June. It will be remembered that last year the later planted potatoes yielded the best crops in most localities. Nature's law of compensation may operate to prolong the growing season at the latter end to as great a degree as it has been shortened at its beginning.

While it is undeniably discouraging to meet with such unfavorable conditions in a season when maximum production is most desirable and when both seeds and labor are exceedingly high, yet there is no room for discouragement if we are discharging our full duty to the country and to the world in the present emergency. It is manifestly our duty to make the very best of conditions with which we are confronted, to substitute emergency crops where necessary, and to employ every acre possible in the production of food stuffs in this period of world shortage.

Conserve the Flocks and Herds.

The plea for increased production of food stuffs, particularly cereals, coupled with the alluring prices which are now current for live stock of all kinds, may have a disastrous effect in the further depletion of the flocks and herds of the state. In this issue will be found a special plea from an official source for the increase of the number and size of the flocks of sheep maintained in our state. Michigan was once famous for her sheep and wool industry. Economic conditions brought about the rapid reduction of this industry, a loss which has been partially made good through the development of a large sheep feeding industry on the farms of the state.

But the call for the development of cut-over lands of the northern part of the state, the increasing scarcity of labor in the better developed sections, and the difficulty experienced in getting feeding sheep and lambs from the western ranges in recent years makes it imperative that our own sheep breeding industry be increased if Michigan agriculture is to profit to the maximum possible extent from the benefits to be derived from the "golden hoof."

The owners of sheep in this state should aid in the upbuilding of this industry by retaining their ewe lambs for breeding purposes. If they already have all the sheep they desire to carry, their neighbors should be interested in the business, and more flocks established. There is need for an increase in all kinds of live stock maintained upon the farms of this state, but the need of more sheep is greater than the need of more cattle or more hogs. The sheep industry was never so profitable as at the present time, and all indications point to an increase rather than a decrease in the demand for both wool and mutton. Michigan farmers who heed this call will be doing their state and country a patriotic service and a good stroke of business for themselves.

Reduce the Fire Waste.

The general call for a reduction of waste all along the line has a practical application to the preventable fire waste which is of no small proportions in the country as well as the city districts of this state. The average farm is woefully deficient in any adequate means of fire protection. Even the "bucket brigade" finds little to work with when unusual conditions favor the getting of help in time to effectually fight farm fires.

Prevention is the best means of eliminating this waste. Storing of improperly cured hay and grain in barns is a

danger to be avoided. Care at threshing time to prevent fires is essential. The keeping of dried grass, weeds and rubbish from accumulating about the buildings is still more important, while care in the use of lanterns about the barns, and the prohibiting of promiscuous smoking about the buildings is always a wise precaution. Fires are most likely to happen when the barns are filled with grain and forage. Extra precaution against fires in the present emergency is a duty which every farmer owes to the public as well as to his family and himself.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The Russian Duma has passed a resolution calling for an immediate offensive by the Russian troops. The resolution declares a separate peace with Germany or prolonged military inactivity to be ignoble treason toward Russia's allies.—This week opened with heavy artillery in action along practically the entire western front from the North Sea to Switzerland. It is believed that both forces are preparing the way for one of the greatest battles of the war. The Germans were successful in an attack upon a salient north of Monmouth on the French front, and German aeroplanes have been active between Armentieres and Ypres, where seven German and two British planes were brought down in the air fighting.—On the Italian front artillery fire and air craft operations have increased, but no infantry movements are reported. Italian troops have been sent to re-inforce the allied armies now operating in Palestine.

The Swedish government has again voted to continue to observe her loyal neutrality in the present military struggle in Europe.

National.

Under power granted in a provision of the war budget bill, the government is now taking over all ships under course of construction in the shipyards of the United States. It is estimated that this act will place under the control of the authorities fully 2,000,000 tons of shipping. As soon as the ships now on the ways are finished work on the new fleet of standardized steel vessels will be started. It is planned to have 3,000,000 tons of the steel vessels completed within the next 18 months.

An agreement has been reached between the council of national defense and the officials of the United Mine Workers of the United States whereby these labor organizations will co-operate with the government in mining a maximum tonnage of coal for both domestic and foreign needs. It is calculated that fully a billion tons of fuel will be mined this coming year.

Fire damaged the warehouses of the General Grocer Co., of Detroit, to the extent of \$300,000 on Monday morning of this week. This is the second fire to visit this concern within the past four months.

The Billy Sunday campaign in New York City closed Sunday night. Records show that 98,264 persons "hit the sawdust trail" during the ten weeks' campaign in that city. The expenses of the campaign amounting to \$200,000 have been entirely met, and the free will offering to Mr. Sunday amounted to more than \$114,000. This entire offering has been donated to the American Red Cross and to the Army and Navy work of the Y. M. C. A. by Mr. Sunday.

The government aviation school near Mt. Clemens, Mich., will open on July 5. It is now estimated that 900 students will be in the first class to be trained for military service at this school.

The titles to many farms in the state will be cleared up as a result of a recent ruling by the Supreme Court in the case of McVicar vs. Kneeland. It was held that where tax titles have been allowed to run for over fifteen years without being enforced, they become void.

Forest fires after burning sugar mills wiped out practically the entire town of Ojai in southern California. The flames are now threatening other towns in that district of the state.

Figures issued by the federal government show the number of persons now enlisted in the National Guard to be approximately 225,000 men, or within about 100,000 of maximum strength. The National Guard is not in the federal service. Michigan is fifth in the number of men enlisted in this organization since the first of June.

In his Flag Day address at Washington, President Wilson warned the nation against Germany's peace intrigues and outlined the war aims of the United States.

Emergency Crops

By PROF. J. F. COX

BECAUSE of the short planting season and difficulty in securing seed and labor in certain sections, there are many fields in Michigan as yet unplanted. In many instances where fields have been planted to spring seeded crops the seed has failed to germinate sufficiently to give a profitable stand; or frosts, floods or insects have injured the crops.

Under such conditions the land should be thoroughly disced or re-plowed and planted to crops which will give profitable return in grain or forage.

Buckwheat Best.

As a late seeded grain crop, buckwheat fits in best. It should be planted in late June, though it can be seeded as late as mid-July with assurance of a crop, since it matures in from sixty to seventy days. It has the additional virtue of thriving in a wide variety of soils and will germinate in seed beds too dry for other grains. The rate of seeding ranges from three to five pecks, either drilled or seeded broadcast, and harrowed in.

Soy Beans.

Soy beans can safely be put in as late as July 1. They may be planted in rows twenty-eight inches apart, at the rate of one-half bushel per acre for grain, or drilled and broadcasted at the rate of one bushel per acre for hay purposes. The crop furnishes a valuable leguminous hay which serves excellently as a substitute for clover.

Millet.

Millet is a dependable crop to plant as late as July 15. It furnishes a large yield of useful hay. Common, German and Hungarian millet give the largest yields of best quality. One-half bushel per acre may be drilled or broadcasted.

Sorghum.

Sorghum, particularly the Early Amber variety, is a reliable crop to seed where there is a shortage of hay or corn for silage. For use in the silo it should be drilled in rows twenty-eight inches apart by using the ordinary grain drill with every fourth drill running, and seeding at the rate of fifteen pounds per acre, or planted with a corn planter in rows thirty-six or forty-two inches apart, using six pounds of seed per acre. Sorghum closely resembles corn in appearance and should be cultivated and put in the silo in the same manner. This crop may be safely seeded as late as mid-July. For hay purposes it should be drilled with every other drill open at the rate of one bushel per acre.

Sudan Grass.

Sudan grass is a promising seed and forage crop for Michigan. For seed purposes it should be drilled in late June in rows just as sorghum is planted, at the rate of six pounds per acre, and cultivated. For hay it may be drilled or seeded broadcast at the rate of twenty to thirty pounds per acre as late as July 15.

Rape.

Rape is another crop which can be seeded in mid-summer and which will furnish a large amount of late summer or early fall forage for hogs, sheep and cattle. The Dwarf Essex variety should be demanded, and for best results should be drilled in rows twenty-two to twenty-eight inches apart, at the rate of two pounds per acre, and cultivated. Good results can, however, be secured by drilling or broadcasting at the rate of four pounds per acre.

Flat Turnips.

Flat turnips may be seeded broadcast in mid-summer. Planted at this time they are usually broadcasted, using four pounds per acre, though larger yields can be secured by planting two or three pounds in rows twenty to thirty inches apart, afterwards thinning and cultivating.

With such a wide variety of valuable late seeded crops to choose from,

not an acre of Michigan land available for planting should remain uncropped because of the failure of spring seeded crops.

EXTERMINATING WEEDS.

(Continued from first page).

seen, in two or three years the burdocks can be exterminated and the nuisance abated.

While the different kinds of weeds with which the farmers have to contend are too numerous to mention separately, we will say that one of the best weapons the farmers can use to exterminate many of them, is the grass scythe. Most of the weeds, if cut while in full bloom, will die and the possibility of leaving seeds for future seasons will be greatly lessened. So we will suggest the frequent use of the scythe in cutting the weeds by the roadside, in the fence rows and waste places. Clip the ragweed by the paths and roadside, the May weed in the pig yard, the pigweed, round-top, pigeon grass and other seed-bearing summer grasses wherever you can find them and the general weed nuisance can be abated.

It may be said that vigilance is the price of weed extermination, but the results which can be obtained by persistent effort will more than repay the trouble. The loss sustained by the reduction of the yield of the farm crops, is much greater than should be tolerated. The small weeds which are so numerous in the soil that they are not only robbers of the moisture that the crops need, but they utilize the plant food and make it impossible to produce maximum crops; they are the submarines that sink possible production beyond recovery and invite famine and distress. It will be wisdom if we wage a constant warfare on weeds, increase the productiveness of our crops and improve the general appearances about the home.

FERTILIZER VALUE OF ASHES.

During the past two years the price of all fertilizer materials, and particularly those containing potash, has advanced greatly and farmers should take every precaution to conserve the supplies produced on the farm.

Wood ashes have a high value on account of the potash they contain. Ashes from hardwood contain, when dry, from five to seven per cent of potash and are worth from \$25 to \$35 per ton, or in other words, it would require \$25 to \$35 to purchase as much potash in the form of commercial fertilizers as is contained in one ton of average hardwood ashes.

Soft wood ashes usually contain less than five per cent of potash, but enough to make it profitable to carefully preserve them.

As the potash in ashes is readily soluble in water the ashes should be stored under cover until used. Besides potash, ashes contain one and one-half to two per cent of phosphoric acid and fifty to sixty per cent of lime.

Leached ashes seldom contain more than one per cent of potash and if used at all they should be considered as a source of lime rather than potash, and be purchased on that basis.

Ashes from corn cobs contain more than thirty per cent of potash and where any quantity of cobs can be obtained they should be burned and the ashes utilized as a source of potash.

Coal ashes contain only traces of potash and they possess very little if any value from the fertilizer standpoint.

M. A. C. PROF. A. J. PATTEN.

A Book of Which he is Proud.

This spring I had 75 sheets of the Magazine Section bound together in book form, and it certainly makes a book of which I am proud. Thank you for your efforts in securing so fine and interesting pictures and scenery.—Jno. Johnson, Montcalm County.

The Bottom Is the Heart of the Plow

The right kind of plow bottom lays the foundation for the right kind of seed bed. Crop yield is increased. The plow lasts longer and pulls lighter—a saving in actual cost, power, trouble.

John Deere Tractor Plows

Have the Famous John Deere Plow Bottoms

The bottom on every John Deere plow is correctly designed—John Deere plow success is largely due to bottom construction. It is the result of eighty years' experience.

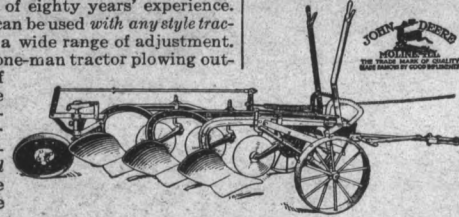
These plows can be used with any style tractor. Hitch has a wide range of adjustment. They make one-man tractor plowing out-fits. A pull of the rope by the man on the tractor lowers or raises the bottoms high and level, and the tractor does the

work. The bottoms do not gather trash in turning or when plow is being transported.

John Deere Light Tractor Plows can be backed up—they have a stiff hitch.

Equipped with John Deere Quick Detachable Shares—save eight to thirty minutes changing each share.

Write for free booklet.



Thoroughly Disc Before and After Plowing

After the grain has been cut from your fields and before the hot August and September sun has cracked the ground, allowing the subsoil moisture to escape, use the

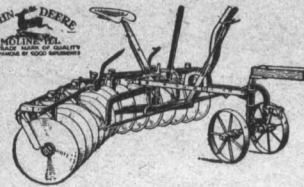
John Deere Model B Disc Harrow

Noted for Thorough Disking

It produces a fine dirt surface mulch pulverized through and through—no trash that stops evaporation of moisture and bunches—no clods—no air spaces—seed bed fits the subsoil perfectly.

The Model B is exceptionally flexible—that is why it disks so thoroughly. The spring pressure third lever assures uniform penetration regardless of dead furrows or ridges.

Using the Model B after plowing completes a seed bed that is thoroughly



Write now for free booklet on this profitable disc harrow.

A Bigger Yield From the Same Field

Manure well shredded and spread evenly gets the best results. It goes farther. Plant roots get all of its plant food.

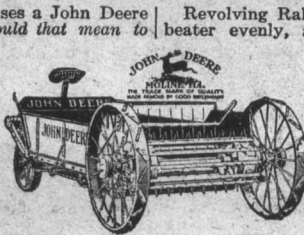
On any field that you have been manuring by hand you get approximately a 25 per cent increase in crops by using

The John Deere Spreader

The Spreader With the Beater On the Axle

Ask any farmer who uses a John Deere Spreader. How much would that mean to you in these years of high crop prices? And you'll find there is a saving of 50 per cent in time and labor.

Beater on the Axle is found only on John Deere Spreaders. Does away with chains, clutches and half the castings otherwise necessary. Means better spreading, fewer repairs.



Revolving Rake which feeds manure to beater evenly, and Ball Bearing Apron Drive, securing frictionless apron travel with no racing, are other exclusive features.

Spreader only hip-high—easy to load. Big drive wheels—light draft. Easy to operate—only two levers—a boy can run it. Write for free booklet on the John Deere Spreader.

Big Book Free



Better Farm Implements and How to Use Them

America must produce more food. Labor-saving implements will play an important part in increased crop production.

This book tells all about a full line of labor-saving farming implements. Tells how to

adjust and operate many of them. A practical farm implement encyclopedia. Worth dollars. Illustrates and describes the following machines: Walking and Riding Plows, Tractor Plows, Disc Plows, Disc Harrows, Spring Tooth and Spike Tooth Harrows, Corn and Cotton Planters and Drills, Listers, Alfalfa and Beet Tools, Grain Drills and Seeders, Riding and Walking Cultivators, Lister Cultivators, Mowers, Side Rakes, Loaders, Sweep Rakes and Stackers, Hay Presses, Grain and Corn Binders, Corn Cutters, Stalk Cutters, Kaffir Headers, Manure Spreaders, Portable and Inside Cup Elevators, Corn Shellers, Wagons, Farm Trucks and Buggies. This big book will be sent FREE if you state the implements in which you are interested and ask for Package X-50.

You Are Interested

in farm implements that save you money. The dominant idea back of the manufacture of John Deere implements is to produce tools that are economical. This means durability, easy operation and GOOD WORK.

The name "John Deere" on an implement means that these qualities are embodied in that tool.



John Deere Implements are sold by John Deere dealers everywhere

JOHN DEERE, MOLINE, ILLINOIS

WOOL

Write us about consigning your wool to us. W. L. IRELAND & CO., Grand Ledge, Mich.

When writing to advertisers please mention the Michigan Farmer.

Good Power

GOOD strong power is just as essential as any other feature of a threshing outfit. It is impossible to do a good job of threshing without steady and even motion, and a strong, well-built engine is necessary. The *Nichols-Shepard Steam Traction Engine* has the strongest and best built boiler ever used in traction engine building.

The double-cylinder engine boilers do not have a bolt, stud-bolt or cap screw that goes through the shell into steam or water space. It steams easily—is powerful in the belt, runs steadily during the entire season. All Nichols & Shepard Engines are members of the

Red River Special Line

With the Red River Special threshers, they make a combination that is sure to save the farmer's thresh-bill.

Write for big, free catalogue and read why the Nichols-Shepard Engine excels all others. The most profitable for both threshermen and farmers. Write for description of anything in Threshing Machine Line desired.

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

APPLETON Silo Filler

In quantity and quality of silage made per hour

the Appleton has any silo filler beat, by actual records. Great capacity, with tremendous strength to stand the hardest, continuous service, made Appleton the choice of those thousands who have investigated it before they bought any silo filler. Have you investigated it?

Guaranteed to do more and better work with less power

than any other silo filler. Costs no more to buy and much less to operate. Its all-round economy guarantees you silage at the lowest cost per ton and makes you most profit on work for others. Don't buy until you know what Appleton offers. Send for

Two Free Books

about silo building and silage; and about Appleton Silo Fillers, showing 4 sizes for 4 h. p. gasoline engines and up.

Appleton Mfg. Co., 420 Fargo St. Batavia, Ill.

MINERAL HEAVE COMPOUND

CURES HEAVES
Booklet Free
NEGLECT Will Ruin Your Horse
Sold on Its Merits
SEND TODAY
AGENTS WANTED
\$3 Package guaranteed to give satisfaction or money refunded
\$1 Package sufficient for ordinary cases.
Postpaid on receipt of price
Write for descriptive booklet
MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburg, Pa.

HARRIS STANCHIONS

insure increased profits from your herd. They make cows comfortable, are easily and economically installed. Made of steel, wood-lined, they will give life-long satisfaction and service.
FREE Illustrated Catalog describes the Harris Line of labor-saving barn equipment. Please write for it today.
The Harris Mfg. Co. 30 Main St. Salem, Ohio

Mention the Michigan Farmer when writing Advertisers

LILLIE FARMSTEAD NOTES.

Today is the fifteenth of June and we still have thirty acres of corn and twenty acres of lima beans and corn to plant. We were all ready a week ago but another heavy rain put the land in condition so that it could not be planted. Three days ago we were in condition again but another rain put us off and today is the first day that we could work the land and we are starting the planter. Of course, we are harrowing the land ahead of the planter because the rain has packed it down so that the planter wouldn't cover successfully unless we had some freshly cultivated soil.

We didn't use to think that there was much use in planting corn the fifteenth day of June; this is a month late, and yet vegetation is so backward this year that it would seem that one could afford to take the risk. Lilac bushes are only nicely in blossom and even in years when vegetation is more forward one figures that if he gets the corn planted when lilacs are in bloom that he has a chance for maturing the crop. At any rate, it would have done very little good to have had corn-planted in May this year. My patch of seed corn was planted in May and it is all up but it doesn't grow very fast. I am inclined to think that if we had delayed this and planted it now, if the weather should prove favorable that it would have matured almost as early, perhaps.

We Can Only Do Our Best.

I made a business trip in Allegan county early in this week and down there on the sandy portion of the county the corn is all up and much of it has been cultivated but in the northern part of the county where the land is heavier like ours, they are in practically the same condition. Of course, I am not so anxious to get my sweet corn in as I would be if I was growing dent corn and wanted it to mature. I feel that there is time yet for this sweet corn to get large enough for canning purposes and with me, one of the serious objections to this late planting is the fact that we won't get a chance to cultivate it when it ought

to be. If planted now it will come up and ought to be cultivated just when we are working night and day harvesting peas, cutting the alfalfa, and should be cutting red clover, and before we can get all of this work done the corn will suffer for tillage. If we could have planted the corn by the twentieth of May, be cultivating it now, we would stand a much better chance to get a good crop. This, however, was impossible and we will simply have to do the best we can this year as we had to do last year and the year before.

Clipping Red Clover.

As I have stated before, I intended to clip at least part of the sixty acres of clover and put this growth back and see if I cannot hold it until after this hard work is over. From my experience in clipping clover for seed, I believe this can be done and be just as good a crop of hay as though we didn't clip it but cut it now in a week or two.

We plowed up a portion of our alfalfa so this will relieve us from quite so much labor at the time of harvesting peas because alfalfa haying and pea harvesting has always come at the same time with us.

Curing Alfalfa Hay.

I read the other day in an agricultural paper that it was a good plan in cutting the first crop of alfalfa to let it lay in the swath a day or two before being raked up and then allow it to be in the windrow for another day before putting it in cocks. My judgment would say that this is wrong. I think alfalfa ought to be raked up in windrows at least just as soon as it is fairly wilted because if you leave it in the swath in the hot sun the evaporation of the moisture in the leaves will be so rapid that they become brittle and break off and a large portion of the leaves, which are the most palatable part of the plant, are lost. On the other hand, if the alfalfa is raked into windrows, a greater part of it doesn't receive the direct blistering rays of the sun, and yet the heat gives evaporation of moisture just the same; but the evaporation takes place from the stalk as well as from the leaf and therefore the leaf remains tough and doesn't break off. I don't object to the alfalfa laying in the windrow for a day before it is cocked, but I do object to having it lay in the swath. My idea is that if possible, neither alfalfa nor clover hay ought to lay in the swath over night. If it is cut early in the morning, unless, of course, it is a bad day and it doesn't make or dry out any, but if it is cut in the morning and we have good bright sunshine, it ought not to lay in the swath over night because not being dry it will become wet with the dew, and then when dry again it will be very much colored and will be brittle and many of the leaves lost. Of course, if the alfalfa or clover is cut late in the afternoon, that is a different thing, because it doesn't make any that day. In that case it should be raked up in windrows the afternoon of the next day and not allowed to lay in the sun the following day. Otherwise, you will have badly colored, brittle alfalfa, with much loss both in substance and palatability.

Hope for the Best.

This year of all years, the farmer is interested in producing maximum crops. Farmers almost invariably are patriotic. They would give almost anything to assist our government in prosecuting this world-wide war which is of so much interest to Americans because we are fighting for principles for which the American Republic has always stood. We feel that it is a sacred duty to do everything possible to help win this war and now when reserve staple food products of the world are low and all the cereals and corn that we can possibly grow this year will not be sufficient to supply ourselves and our allies with the full amount which they need, it seems too bad that we should have this backward season. Of course, everything may turn out all right. The

sun may shine later on so well that all these late planted crops will mature and yield abundantly, but certain it is that the farmer has the right to feel anxious over the outcome when this cold, backward weather continues to prevail on this late date, June 15.

COLON C. LILLIE.

SEED BEANS.

The early frosts last year caught a great many beans before they were thoroughly ripened, and this has rendered them unsuitable for seed purposes. The high price of seed beans will tempt many to use the seed they may have on hand, thinking it will be all right if the discolored beans are removed. They may be right, and again they may not. A bean may look all right, and be as good as could be desired for food purposes, and yet be worthless for seed, hence a word of warning. I know of one farmer here who hand-picked ten bushels of beans for seed purposes, taking out the discolored ones and thinking he had a good lot of seed, but he tested them, only to discover that only about half of them would grow. The ten bushels of beans are for sale, but for eating purposes only. Planting seed of which only fifty per cent would germinate would be a disaster, not only because of the high price of seed, and the necessity of planting again, but the delay would tend to make the second planting late, and, unless there is a change in the weather soon, we will need the whole season to properly ripen the crop.

Beans that are planted a week or ten days late may need just that amount of time in the fall to properly ripen, if there should be an early frost. Where a large per cent of seed fails to germinate, or is slow in starting, the remainder of the seed may well be regarded with suspicion as it would be apt to produce plants lacking in vigor. Everyone who plants beans this year should thoroughly test the seed before planting time. Good seed is scarce and hard to get, and the price is high, but it will be best in the long run to pay the extra amount and be sure.

Eaton Co.

APOLLOS LONG.

PREVENT STOCK FROM EATING DEAD BODIES OF CLOVER-LEAF BEETLE.

From time to time there appears a small, grub-like creature that feeds on clover, a greenish, soft-bodied grub, the immature form of the clover-leaf beetle. It feeds usually at night on red clover, alsike, alfalfa, and sometimes on white clover and mammoth clover. Fortunately, nature has provided an agent which is likely to appear during excessive outbreaks of the pest, in the form of a fungus disease which destroys the grub, first impelling the dying insect to crawl up to the top of a grass spear and curl its body around the point. Here the grub dies and its body remains clinging there afterward until washed off by the rains. The appearance of the fungus disease has usually been almost simultaneous with the coming of the grub so that the loss from the clover-leaf beetle has been almost negligible thus far.

Now, if this were the whole story we would be content to let well enough alone, but unfortunately the dead bodies of the grubs when killed by the fungus disease are poisonous to stock, usually not sufficiently poisonous to produce death, but often toxic enough to produce serious illness. It is, therefore suggested that during the present outbreak of the grubs, stock be restrained from feeding on grass bearing such dead grubs (which will be found curled around the tips of grass spears), until after the weather has washed off their bodies and again made the forage safe.

R. H. PETTIT,

Entomologist of Ex. Sta.

PARENTS

who love to gratify children's desire for the same articles of food and drink that grown-ups use, find

INSTANT POSTUM

just the thing.

"There's a Reason"

Trouble Department

Summer Pruning.

We would like your opinion on June pruning. Trees are apple, ten to fifteen years old, and well filled with fruit. Will checking the terminal growth by a light heading back, and lightly thinning out the wood in the tree, have a tendency to not only cause larger fruit this year, but also cause the tree to form fruit buds for the following year? The trees promise a good crop, and the weather thus far has been very favorable.

Van Buren Co.

A. R.

If the trees are very dense a light thinning out of the wood will do no harm; in fact, it might even assist in putting better color on the fruit. But if the trees are normal as to foliage I doubt the advisability of summer pruning. If the trees set heavily to fruit the growth will not be large and the foliage will be needed to mature the crop.

Summer pruning will not increase the size of the fruit. Thinning the fruit and conservation of moisture are chief factors which cause larger fruit. The pruning also will not do much toward checking growth and producing fruit buds. If it is in the soil the trees will send out other shoots and as a result the season's growth will not be checked much.

Fruit buds are formed from leaf buds which were formed early in the season. After the terminal growth has stopped the trees spend the rest of the season, from mid-summer on, in hardening the wood and in the transformation of buds into fruit buds.

Several experiment stations have recently carried on tests in pruning which showed that summer pruning was generally detrimental to the vigor of the tree. Of course, if trees are making abnormal growth and do not set to fruit, summer pruning will not encourage growth the way dormant season pruning does and may get the trees to set fruit. But when a tree has a crop of fruit to mature it is best to let well enough alone as far as summer pruning is concerned.

Hay From Sprayed Orchard.

Can I feed my horses clover hay which has been cut in an apple orchard after the trees had been sprayed with a liquid containing arsenate of lead? Probably two to three weeks would elapse between time of spraying and of cutting hay, and then I might spray again shortly before time to cut the hay.

Berrien Co.

C. C. V.

The hay which you will cut from your orchard will be entirely safe for feeding to horses.

The amount of poison which gets on the grass is very small, and what would be left after three weeks of grass growth would have no effect on the horses. If you spray shortly before cutting hay, I would not use the hay unless there have been several good rains between spraying and hay cutting time. It may be safe but it is a matter of doubt. Some have fed such hay without bad results, but it is better to be on the safe side.

Cheaper Insecticides.

Can you suggest any poisons for general spraying that are cheaper than Paris green and arsenate of lead. Paris green is hard to get at any price and arsenate of lead is high.

Berrien Co.

F. A. W.

There are two formulas for using white arsenic that are more economical than either of the above poisons. One is the Kedzie formula of arsenite of soda. It is made as follows: Boil two pounds of white arsenic with eight pounds of sal soda (common washing soda) in two gallons of water. The mixture should be boiled for fifteen minutes, or until the arsenic is entirely dissolved. Except for a little sediment the mixture should be colorless. This mixture should be put in a jug and labeled "Poison." Be sure to label it.

The poison can be prepared for spraying by adding two pounds of lime slaked to forty gallons, and then adding a pint of this solution. The lime

and arsenic unite in the mixture and make arsenate of lime.

Arsenite of lime, the Taft formula, is similar to the above only the lime and arsenic are united by boiling and the soda is dispensed with. Boil two pounds of freshly slaked lime with one pound of white arsenic for one-half to three-quarters of an hour in two gallons of water. This amount will be enough for four hundred gallons of spray. When adding to spray mixture also add slaked lime at the rate of one pound to each twenty gallons.

Both of these formulas mix well with Bordeaux but cannot be used with lime-sulphur. If used alone, with the proper amount of lime, or with Bordeaux they will do for spraying all fruits except the tender kinds, like the peach and Japanese plum, and also for potato spraying.

The government recommends the use of arsenate of lime, which is made as follows: Dissolve ten pounds of sodium arsenate (powdered, sixty-five per cent arsenic oxide) in a little boiling water. Pour this solution over five and a half pounds of fresh lime to start it slaking. When slaking is well under way add more water as required until a total of two and a half gallons have been added. This will make about thirty-five pounds of arsenate of lime paste containing from eighteen to twenty per cent of arsenic oxide, about the same amount as in arsenate of lead. With normal prices for material this will cost from three to four cents per pound.

This formula can be used on everything arsenate of lead is use in spraying except stone fruits, and should be used at the rate of two pounds of the paste to fifty gallons. It can be used with either Bordeaux or dilute lime-sulphur as is arsenate of lead.

CONTROLLING CABBAGE WORMS.

The simplest and most effective way to rid cabbage heads of worms is to sprinkle them as soon as worms appear, with cayenne pepper (capsicum).

The cabbage thrives as well and remains healthful and edible. I have never known worms to remain after one sprinkling. Should they conclude to tarry, try it again, full strength cayenne. It will do no harm.

Muskegon Co. Mrs. M. NELSON.

FOR CUTWORMS AND GRUBS.

In a recent issue there was a question regarding the control of cutworms and onion grubs. I have had very good success with mixing my seed with sulphur before planting. It seems to repel both cutworms and grubs. I have also used it with success on seed corn for the control of cutworms. I have never been bothered since I used it.

Wexford Co. E. V.

BUCKWHEAT STRAWBERRY MULCH.

As a mulch for strawberries perhaps nothing equals buckwheat straw because it becomes so brittle that the feet of the pickers trample it down and work it into the soil by the end of the picking season. During the winter it serves every purpose that marsh hay and straw serve. When it can not be produced in the neighborhood it may be produced between the rows of berries by seeding during late July or early August rather thickly. The plants will prevent the growth of weeds because of their shade and will be killed by frost before they have time to ripen their seed. They will serve to catch and hold snow upon the strawberry plants and thus aid in preventing damage from freezing and thawing. Buckwheat, however, grown in this way is not sufficient mulch protection for wide matted rows so will need a thin supplement of marsh hay or straw upon the berry plants to be applied after the ground freezes.



FROM the Kentucky burley grower to the Florida man with his orange grove, Firestone Tires hold sway over a commonwealth whose prosperity is increasing at a rate almost unbelievable.

Firestone Tires have stood the tests of temperature and bad roads. Their "gameness" under the pummeling of difficult going has appealed to the Southern temperament. And Most Miles per Dollar has won the masters of the plantations and farms who were never more practical minded than today. Let Firestone Tires prove themselves to you. Send for free book, "Mileage Talks," No. 125.

FIRESTONE TIRE & RUBBER COMPANY
Akron, Ohio—Branches and Dealers Everywhere

Firestone



Some Popular Uses

Formaldehyde kills flies, purifies stables, stalls and milk cans, kills disease germs in kennels and chicken houses and clothing. It is a deodorant for refrigerators, sinks, drains, cesspools.

FORMALDEHYDE
"The Farmer's Friend"

officially endorsed by the U. S. Dept. of Agriculture as the greatest and most scientific seed grain cleanser the world has yet known. Destroys smut and fungus growth in seed grain, prevents diseases of potatoes and other vegetables. Write for big instructive Hand Book to-day—it is FREE.

PERTH AMBOY CHEMICAL WORKS
100 WILLIAM STREET NEW YORK

BERRY BASKETS AND SIXTEEN QUART CRATES

For Immediate Shipment

Send for Price Card.

M. H. HUNT & SON,
Lansing, Michigan



Free Catalog in colors explains how you can save money on Farm Truck or Road Wagons, also steel or wood wheels to fit any running gear. Send for it today.

Electric Wheel Co.
35 Elm St., Quincy, Ill.

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.**

Seed Buckwheat

\$5.00 Per 100 Lbs.

Bags Extra At 25 Cents Each

YOUNG-RANDOLPH SEED CO., Owosso, Mich.

BEES PAY WELL

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

DOGS

For Sale—Scotch Collies Parents registered and from some of best collies in the country. Puppies six, seven and eight dollars each. **Caleb Eldred, Climax, Michigan.**

Fox Hounds of all ages,

Skunk and Rabbit dogs. Send 2c stamp.

W. E. LECKY,
Holmesville, Ohio

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

FREE Before buying any engine at any price be sure to write for my new free book, "How to Judge Engines." Tells the difference between good engines and unreliable engines. Write **Kerosene Engines** 2 to 22 H.P. Sold direct. No dealers. 90 days' trial; cash or easy terms; 5-year guarantee—Ed. H. Witte

Witte Engine Works
2190 Oakland Avenue,
Kansas City, Mo.
2191 Empire Building,
Pittsburgh, Pa.

This Book FREE
HOW TO JUDGE ENGINES
Witte

OUR SOLDIERS AND OUR CROPS MUST BE FED

SAVING LABOR MEANS SAVING LIVES, IT MAY MEAN SAVING THE NATION

American Farmers can save 25,000,000 ten-hour days by the use of fertilizer.

To produce the 1,000,000,000 bushels of wheat that must be had if our own people and our Allies are fed will require 75,000,000 days' labor of ten hours each.

The records of the Ohio Exp. Station show that fertilizer increased the wheat yield 13 bushels per acre; that two days' labor on a fertilized field produces more wheat than three days on unfertilized land.

The use of fertilizer has heretofore been simply a question of profit. Today both Profit and Patriotism demand that our crops **must** be fed, so that the world **may** be fed.

Nothing But the Best is Good Enough Now.

America demands of every citizen the best that is in him. You can do no less in your purchase of fertilizer. Go to your dealer and say: "Nothing But the Best—The All Plant Food Fertilizer—Is Good Enough Now."

If he won't supply you, we will.

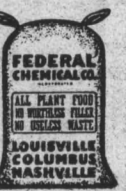
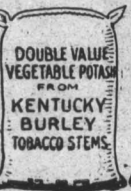
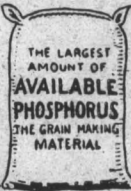
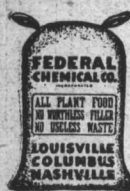
FEDERAL CHEMICAL CO.

Incorporated

LOUISVILLE, KY.

COLUMBUS, O. NASHVILLE, TENN.

Manufacturers of the only fertilizer that is good enough to bear "The Guarantee of Quality" printed on the bag.



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

When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.

More Sheep for Michigan

By W. F. RAVEN

AS a business proposition, war or no war, Michigan needs and should have a million more breeding ewes. How can we get them? There is just one way. Do not sell a ewe lamb to be fattened and killed, or sell a ewe that can raise a lamb and a fleece of wool. In that way we can get a million or more sheep which the state of Michigan needs, and needs very much.

Why does Michigan need a million more breeding ewes than does Ohio? Because Michigan has millions of acres of cut-over lands that are not being cleared for improved farms on account of the cost of clearing and the indifference of the owners of these lands in getting them cleared for settlement by actual farmers. Sheep will help clear these lands of briars and brush. I have known 225 sheep on 100 acres of brush land in one year to lessen the cost of clearing the one hundred acres by four dollars an acre.

Pasture Sheep on Cut-over Lands.

For the most part, the cut-over hard wood lands are ideal sheep ranges. The land owners in the upper peninsula have offered free pasturage of 25,000 acres, for unbelievers, to pasture sheep, knowing that once you take your sheep there you will keep them there, on account of the magnificent pastures the northern part of the low-

both. Will you help? If so get in communication with the Animal Husbandry Office, Michigan Agricultural College, East Lansing, Mich.

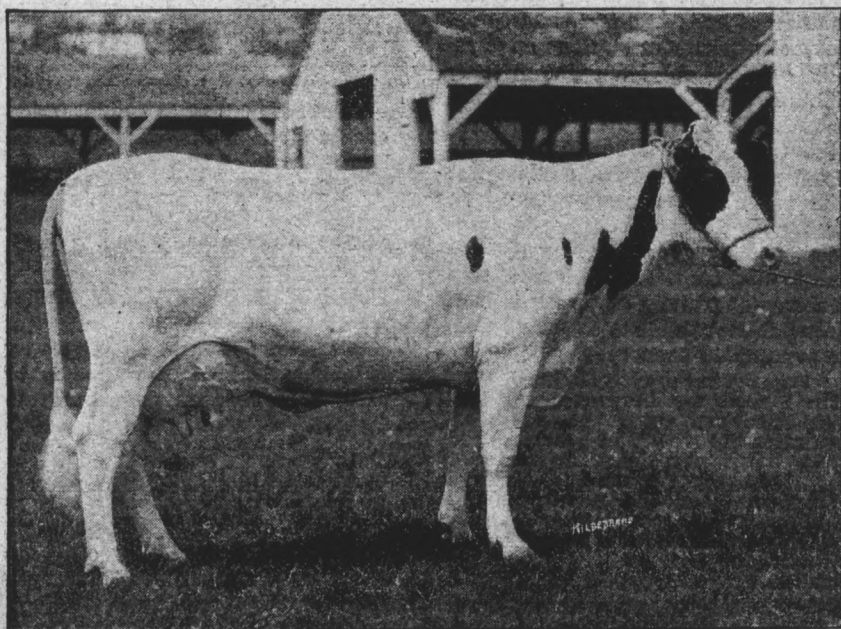
Sheep Can Be Wintered Cheaply.

Aside from the urgent need for increased production of mutton and wool a large number of sheep will be required to consume and convert into profitable use the immense amount of roughage, such as bean and oat straw, etc., that will be available this winter as a result of the increased area of cereal crops. Lambs will not only make good use of this material but the fleece will more than pay the cost of wintering them, leaving any increase in value, over winter, as clear profit.

Another reason why every sheep should be maintained on the farm as long as possible is the fact that sheep manure is the richest and best obtainable. We know that prices for lambs this fall will be most alluring and many will be disposed to sell them. Think this over and see if you cannot agree with the writer that it will be more profitable to keep them.

A TRUE SHEEP STORY.

In this little article, we want to tell a true story about a flock of sheep. The owner of these sheep was ready to take the market price for his lambs



The World's Champion Junior Four-year-old, Wandermeere Belle Huegerveld.

Sold for \$18,300, the highest price ever paid for a dairy cow, at the recent Holstein sale at Worcester, Mass. She was consigned by E. LeRoy Pelletier, of Pontiac, Mich., and bought by J. C. Shanahan, Buffalo, N. Y.

er peninsula and all of the upper peninsula contains.

Save the Ewe Lambs.

Mr. Sheep Grower, save your ewe lambs. Winter them well and shear them, and the office of the Animal Husbandry, Michigan Agricultural College, will endeavor to find you a more profitable market for them than you could get for them as lambs. Will you do it? If so let us know now or at any time this year, 1917, where you are located, how many and what breed you have. We believe we can sell, in this state, all the yearling ewes, for breeding purposes, that the sheep growers will save. A million breeding ewes would add from seven to ten millions of dollars, annually, to the wealth of the state. This wealth would be produced, to a great extent, from land that is now unproductive.

The cry has been, that sheep could not be grown profitably in this state on account of the ravages of dogs. The last legislature enacted a stringent dog law that ought to help protect the flocks of the state, and every sheep grower in the state ought to see that it is rigidly enforced in his community.

The country needs more wool, more mutton and needs your aid in getting

and wool, and we tell the story partly because it reveals some startling facts, and partly because it demonstrates over again the truth that farmers are facing a golden opportunity.

The flock of sheep in question is owned by I. W. Cory, of Hillsdale county. The writer is indebted for the complete data, to A. H. Dudley, of Jonesville, who purchased Mr. Cory's wool both this year and last. The facts are as follows:

At the opening of 1916, Mr. Cory had a flock of twenty-nine Shropshire breeding ewes. The flock produced in that year 263 pounds of wool which brought \$92.05; nine lambs, \$124.87, and eleven veal lambs, \$60. In addition to this, enough ewe lambs were kept to increase the flock to thirty-nine.

During the first half of 1917, the flock produced the following figures: Four hundred and thirty pounds of wool, from the thirty-nine ewes and from ten fattened lambs, \$258; ten veal lambs, \$70; twenty-one spring lambs, valued at \$5 per head, \$105. Allowing \$12 per head for the ten yearling ewes kept to increase the flock, we have a grand total of \$829.92.

(Continued on page 729).

Things You Should Know About Cows

THE business of dairying has rapidly become commercialized during the last few years owing to the competition. While the prices for dairy products have increased in value during the last few years they have not increased in value in the same proportion that labor and feed have increased. For these reasons it requires a skillful business man at this time to milk cows at a fair profit.

Time Consumed in Milking.

The average farmer milks his cows over seven hundred times each year and consumes on an average better than twenty-seven days in doing so. Is it any wonder then that the average farmer does not like to keep cows when he feels that they are not making him a good profit when it takes so much time and labor to care for them?

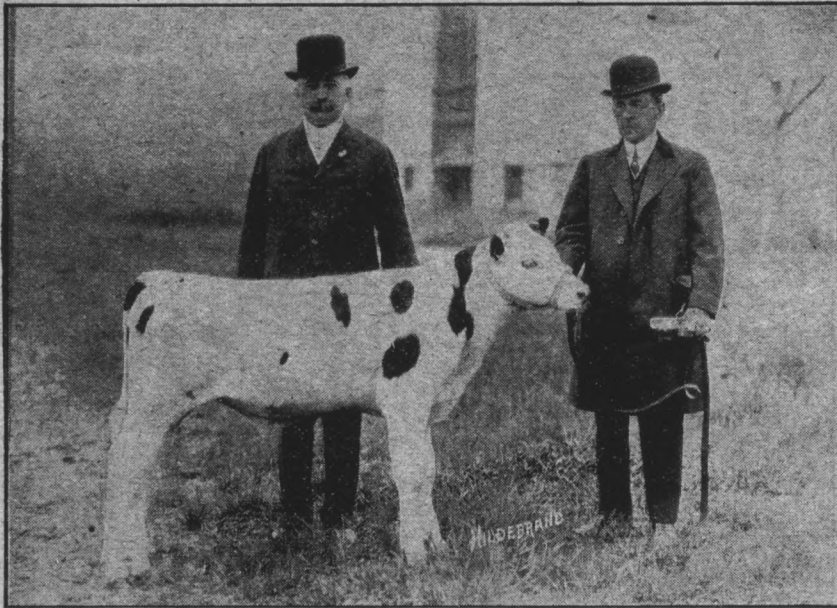
As each cow in the herd is different from every other one she must be fed and cared for in a different manner perhaps than the others to produce at

look the same from both sides, and then walk to the front where a good view of the head, horns, eyes and chest and barrel may be seen and then step to the rear of the cow where the udder and tail and width of hips may be seen. Then walk by the cow with one hand traveling along the neck and back where the condition as to fat may be observed while with the other hand the texture of the skin may be determined by grasping it and pulling it outward from the body. Next milk the cow or have someone else do so, and examine the udder carefully.

Some Good Indications.

A soft pliable elastic skin indicates a good digestive apparatus, while a dry, harsh clinging hide indicates poor digestion.

A cow, to be a good producer, must be a worker. She can not be a loafer. We have termed this nervous temperament and we mean by that a highly developed nervous system that pro-



King Ormsby Jane Rag Apple, age five months, sold at National Holstein sale at Worcester, Mass., for \$53,200, the highest price ever paid for an animal. Seller, Oliver Cabana, Jr., in back of calf and purchaser, D. W. Field holding him. This sale was the greatest ever held, 143 head sold for an average of \$2,073.21.

her best. It requires judgment and skill to be able to feed and care for a cow so that she will produce the limit of her capacity and this capacity can only be acquired by careful, conscientious study and a close application of this knowledge in practice. Each cow should be cared for just as though she were a highly developed piece of machinery and then she will produce economically and profitably. In selecting cows for their productive ability, there are several essential features that usually show on the exterior of the cow and the man that buys a cow should be able to distinguish the most of these if he would secure a good one.

Characteristics of a Good Cow.

There are a few characteristics that are found in every cow that is a good producer, being more or less pronounced according to the cow's productive ability. A cow to be a producer must have a good constitution, capacity to eat and digest large quantities of food, nervous temperament, which means that she must be an active worker and not a loafer, circulation means that she must have a large and well developed supply of blood flowing through the udder, from which the milk is secreted, and by ability we mean the power the cow has of secreting milk.

In selecting a cow it is always best to view the cow from the side and from some little distance, while she is standing with her side towards you or while someone is leading her by you, as you are able in this way to get a very good impression as to her constitution and capacity, and do not forget that your first impression is usually the best. It is then well to walk around the cow to the other side as cows do not always

duces constant activity of the animal. A cow that is chewing her cud when she is not eating and one that is always ready for her meals, and that always takes note of her surroundings. This is indicated by a large wide forehead that slopes to the poll, and width between the eyes, also by prominent hips and ribs and a lean open-jointed backbone that is free from fat.

The udder of the high-producing cow is usually a network of veins and blood vessels and the milk veins passing along the abdomen are large and tortuous. The milk wells are larger and more numerous than in the light producer. The blood that flows through the udder determines the milk flow and the udder that is attached high on the back and far forward along the abdomen has greater surface that is supplied with these vessels and the flow of milk is correspondingly heavy. The thighs should be free from fat and form an arch, the widest part of which should be on the level with the attachment of the udder, which gives it plenty of space.

While it is always desirable to combine with the facts already given, symmetry of form and beauty, this is not always possible, and besides it is no indication of greatness of production as many of the best cows we have ever seen are more or less deficient in these two characteristics.

Size is not always an indication of the probable value of the cow as a producer, but it is many times taken as such, an indication by the inexperienced. Color is only a breed index and is of consideration only in that light.

Ohio.

G. H. CONN.



You need a new DE LAVAL SEPARATOR NOW

1st If you are still using some gravity or setting process of creaming—

BECAUSE YOUR WASTE IS greatest and quality of product poorest in mid-summer when the milk supply is heaviest. BECAUSE TIME IS OF GREAT value on the farm at this season and the time and labor saving of the good separator counts for most.

BECAUSE THE SKIM-MILK IS poorest without a separator in hot weather and often more harmful than helpful to calves. BECAUSE THE WORK OF A New De Laval Cream Separator is as perfect and its product as superior with one kind of weather as with another.

2nd If you have a very old De Laval or an inferior separator of any kind—

BECAUSE THE LOSSES OF the poor separator from incomplete skimming and the tainted product of the hard-to-clean and insanitary separator are the greatest at this season. BECAUSE OF THE GREAT economy of time at this season in having a separator of ample capacity to do the work so much more quickly. BECAUSE THE NEW DE LAVAL is so much simpler and more easily handled and cared

for than any other, and you can not afford to waste time these busy days "fussing" with a machine that ought to have been thrown on the junk-pile long ago.

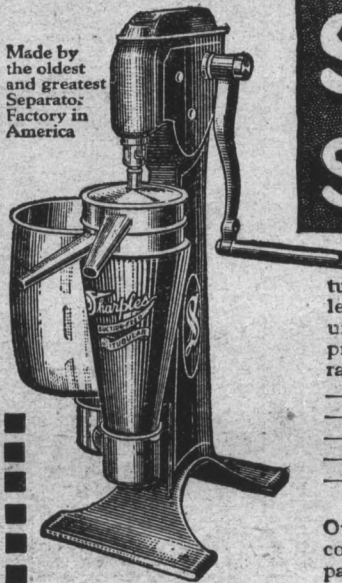
BECAUSE THE DE LAVAL Separator of today is just as superior to other separators as the best of other separators to gravity setting, and every feature of De Laval superiority counts for most during the hot summer months.

These are all facts every De Laval local agent is glad of the opportunity to prove to any prospective buyer. If you don't know the nearest De Laval agency simply write the nearest main office, as below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Made by
the oldest
and greatest
Separator
Factory in
America



SHARPLES Famous Suction-Feed "Skims clean at any Speed" SEPARATOR

Experiment stations and separator manufacturers all admit that all separators (except Sharples) lose considerable cream when turned slow or unevenly. Thousands of investigations have proved that 19 people out of 20 turn their separators too slow. Sharples is the *only* separator that:

- skims clean at widely varying speeds
- gives cream of unchanging thickness—all speeds
- skims your milk quicker when you turn faster
- has just *one* piece in the bowl—no discs
- has knee-low supply tank and once-a-month oiling

Over a million Sharples users in every dairying country of the world. Write for catalog to Department 18.

The Sharples Separator Co. - - - West Chester, Pa.

Branches: Sharples Milkers—used on over 300,000 cows daily
Chicago San Francisco Toronto \$101

Kalamazoo ALFALFA & ENSILAGE CUTTERS

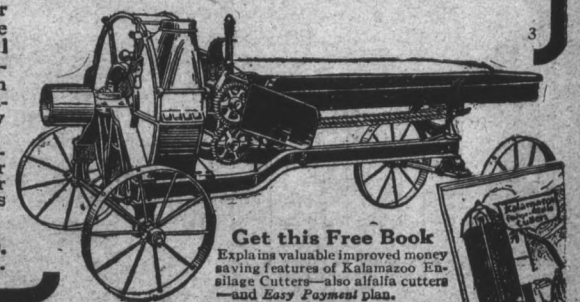
Before you buy an ensilage cutter, find out all about the Kalamazoo—the *only* cutter on the market having a center shear. The Kalamazoo has an unbreakable malleable knife wheel—not a knife cylinder. Two knives are constantly cutting toward center—absolutely no side-thrust. No wasted power. This center-cutting knife wheel delivers a steady, even flow of ensilage to the blower—clogging is absolutely impossible. Another big feature—

The Knife Wheel is the Blower Fan

You can't realize what a power saving this means until you see a Kalamazoo in operation. All wearing parts are easily adjustable. Cutting adjustment is on shear bar only. This makes adjustment of knives simple and easy compared with other cutters.

Get a Kalamazoo—save power—save cutting cost—feed your herd on less acreage. "Do your bit" by helping produce America's biggest saleable crop.

KALAMAZOO TANK & SILO CO.
Dept. 118 Kalamazoo, Mich.



Get this Free Book
Explains valuable improved money saving features of Kalamazoo Ensilage Cutters—also alfalfa cutters—and Easy Payment plan.

Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor

Experience With the Milking Machine

Bulletin No. 6, Research Dept. Michigan Farmer

The scarcity of help in rural communities is leading many farmers to investigate the practicability of the milking machine. In the table below are given the experiences of twenty nine owners of these outfits. We have used every precaution to properly interpret the answers made by these men and commend the table to the earnest consideration of those owning or expecting to own, dairy cows. These were the first twenty nine reports received at our office.

No. of Owner.	County in Which He Lives.	Size of Your Farm.	No. of Cows Kept.	In What Form Do You Market Your Dairy Product?	When Did You Purchase Milking Machine?	Of How Many Units Does it Consist?	What Motive Power Do You Use?	Is Machine Used Throughout the Year?	Do You Look After It Yourself?	Has Any Weakness Developed in Machine?	How Much Time is Saved by the Use of Machine?	Do Milkers Prefer Machine to Hand Milking?	Have You Been Obligated to Milk by Hand Because of Machine's Failure to Work?	Give Total Annual Running Expenses.	Give Total Annual Repair Bills.	What is Average Time Required to Milk One Cow?	In Your Opinion Does Machine Influence Quantity of Milk Received?	Do You Think It Lengthens Lactation Period?	Does Its Use Disturb Cow's Nervous System?	Do You Strip After Using Machine?	Can You Secure Cleaner Milk with the Machine?	Give Least Number of Cows on Which a Machine Could Be Afforded.	Do You Consider the Modern Milking Machine Practical?	Would You Recommend Them to Farmers Having Sufficient Cows?	Various remarks by owners on the utility of the milking machine.
1	Washtenaw	180	20	Milk	May 1916	2	Gas Engine	Yes	Yes	No	75%	Yes	No	\$28.80	\$ 2.00	Min. 2 1/4	Favorably	Not apparent	No (?)	Yes	Yes	15	Yes	Yes	By installing milking machine we save much time, get cleaner milk and require less hired help around.
2	Lapeer	178	25	Cream	1913	3	Gas Engine	Yes	Part of time	No	50%	Yes	No	20.00	5.00	2 1/2	No	No	Quieting	No	Yes	8	Yes	Yes	It is easier to get hired men where you use milking machine, and one man can milk 25 cows in one hour.
3	Eaton	125	12	Milk	1908	.....	Gas Engine	No	No	No	.....	Yes	No	.....	20.00	.....	No	No	Favorably	Yes	Yes	20	Yes	Yes	With one of these machines one man could practically take care of and milk 40 cows.
4	Sanilac	200	18	Cream	1916	3	Gas Engine	Yes	Yes	No	One Man's	Yes	No	15.00	1.00	4	Not apparent	No	None	Yes	Yes	10	Yes	Yes	My cows have less udder trouble than when hand milked. Relieves the monotony of milking and we get a cleaner product.
5	Oakland	80	.....	Milk	1915	2	Gas Engine	Yes	Yes	No	50%	Yes	No	.....	2.00	.....	Think not	No	No	Yes	Yes	6 to 8	Yes	Yes	Especially advantageous where you have hard-milking cows or cows with tender udders.
6	Gratiot	240	23	Milk	1915	2	Gas Engine	Yes	Yes	No	35%	Yes	No	40.00 to 50.00	5.00 to 10.00	5 to 6	.....	Occasionally	Good	Some	Yes	15	Yes	Yes	Gas engine expenses also includes cost of pumping water. I can save a full hour every day besides get cleaner milk.
7	Livingston	353	21	Milk	Dec. 1915	2	Gas Engine	10 Months	Yes	No	50%	Yes	No	25.00	1.50	2	No	Thinks so	Quieting	Yes	Yes	6 to 8	Yes	Yes	From our experience would say that cows are more quiet when milked by machine than when milked by hand.
8	Hillsdale	300	33	Butter	June 1914	.....	Gas Engine	Cows dry in winter	No	No	65%	Yes	No	1.00 per cow	10.00	5	No	No	Good	Usually	Yes	8	Yes	Yes	Milking machine is more dependable than men. I should be obliged to dispose of my herd if it were not for the machine.
9	Branch	250	25	Milk	Aug. 1914	3	Gas Engine	Yes	Yes	No	50%	Yes	No	Don't know	1.60	3 to 5	Not apparent	Don't think so	No	Yes	Yes	10	Yes	Yes	One can do his milking alone if necessary. Saves time and labor. Only disadvantage is the cleaning.
10	Emmet	60	18	Milk	Feb. 1916	1	Gas Engine	Yes	Part of time	No	50%	Yes	No	18.00	5.00	5 to 6	No	Not materially	Improves it	Yes	Yes	6	Yes	Yes	Machine makes it pleasanter for help, better for cows and saves money.
11	Cass	180	20	Cream	Aug. 1916	1	Gas Engine	Yes	Yes	No	50%	Yes	No	70.00	1.25	2 1/4	More with machine	No	None	No	Yes	10	Yes	Yes	Have cut down amount of help, get cleaner milk and the cows like machine milking better than hand milking.
12	Livingston	200	17	Milk	Apr. 1914	1	Gas Engine	Yes	Yes	No	One man's	Yes	No	40.00	10.00	6	Depends on Man	No	More gentle	Not much	Yes	12	Yes	Yes	Machine is fine for starting heifers, for kickers and for cows with sore teats; easier on help and gets cleaner milk.
13	Hillsdale	215	30	Milk	1914	4	Electric	Yes	No	No	One man's	Yes	No	.....	.....	3	No	.....	.....	Some	Yes	10	Yes	Yes	The milking machine is a great saver of time. I could not get help without it.
14	Ingham	140	7	Milk	1914	3	Gas Engine	Yes	Yes	No	50%	Yes	No	(?)	.....	5	No	No	Good	Not much	Yes	6 to 8	.....	Yes	When teat cups are good we do not strip cows. Machine saves labor. Can milk kickers better than by hand.
15	Branch	180	19	Milk	May 1915	2	Gas Engine	Yes	Yes	No	2 hrs. per day	Yes	No	11.50	7.00	5 to 10	No	Yes	Good	Yes	Yes	10	Yes	Yes	Can milk a larger number of cows, get cleaner milk and I can depend upon machine more than I can on men.
16	Ingham	140	60	Milk	1914	.....	Gas Engine	Yes	Yes	No	50%	Yes	No	.....	.....	2	No	No	No	No	Yes	20	Yes	Yes	I consider the modern milking machine thoroughly practical.
17	Emmet	140	20	Milk and Cream	Oct. 1916	2	Electric	Yes	Part of time	No	35 to 50%	Yes	No	.....	None	3	Not noticeable	Don't think so	Like it better	Yes	Yes	12	Yes	Yes	One person can do the milking with the machine and get cleaner milk. Much time is saved.
18	Branch	206	60	Ice Cream	June 1912	2	Electric	Yes	Yes	No	8 hrs. per day	Yes	No	.....	15.00	6	More with machine	No	Quieting	Some	Yes	10	Yes	Yes	Does not take men from field as is necessary when milking is done by hand. Cows like it better than having someone scolding.
19	Livingston	250	26	Milk	May 1914	2	Gas Engine	Yes	No	No	2 hrs. per day	Yes	No	75.00	25.00	6 to 7	No	No	Good	Seldom	Yes	8 to 10	Yes	Yes	The machine saves time and money and keeps the hired help on the farm.
20	Ingham	160	35	Milk	Feb. 1916	2	Gas Engine	Yes	No	No	75%	Yes	No	(?)	4.45	5 to 8	No	Not much	Not apparent	No	Yes	(?)	Yes	Yes	Makes the dairyman more independent of the help question and it is easier to keep necessary help. Saves time.
21	Shiawassee	75	16	Milk	July 1915	2	Gas Engine	Yes	Yes	No	50%	Yes	No	.....	0.50	4	More with machine	No	None	Some	Yes	5	Yes	Yes	One man with the machine can do the work of three by hand, do it easier and get cleaner milk.
22	Lapeer	75	12	Cream	1913	2	Gas Engine	Yes	Yes	No	.....	Yes	No	17.00	4.00	6	No	No	More quiet	Yes	Yes	6	Yes	Yes	Does not injure cow when left on after milk is all drawn. Can be handled by any ordinary man.
23	Lapeer	123	24	Milk	Jan. 1914	2	Electric	Yes	Yes	No	2 hrs. per day	Yes	No	24.00	5.00	3	No	Yes	Good	Yes	Yes	10	Yes	Yes	Saves labor which is scarce. These machines are practical.
24	Washtenaw	82 1/2	12	Milk	May 1916	2	Gas Engine	Yes	Yes	No	2 hrs. per day	Yes	No	30.00	None	5	No	No	None	No	Yes	10	Yes	Yes	We can secure a cleaner milk with the machine and at the same time save labor.
25	Gratiot	60	10	Milk	Mch. 1916	2	Gas Engine	(?)	Yes	No	.....	Yes	Very little	25.00	.....	3 to 5	No	Don't know	None	Yes	Yes	8	Yes	Yes	When our cows are drying up we do not use machine. For over eight cows one can use it to advantage.
26	Livingston	170	17	Milk	Sept. 1915	2	Gas Engine	Yes	Part time	No	One man's	Yes	No	20.00	6.40	5	No	No	Good	Yes	Yes	6 to 8	Yes	Yes	Saves time and is more dependable than the help one can hire. Not advantageous for strippers.
27	Lapeer	154	20	Cream	Feb. 1916	2	Electric	Yes	Yes	No	3 hrs. per day	Yes	No	36.00	None	10	No	Same	More quiet	No	Yes	10	Yes	Yes	Machine is easier on nervous cows and nervous men. Saves time, gets cleaner milk and eliminates one man.
28	Emmet	70	20	Cream	Jan. 1917	2	Electric	Yes	Yes	No	.....	Yes	No	.....	.....	3 to 5	No	Don't know	.....	Yes	Yes	16	Yes	Yes	These machines do good work and save much labor.
29	Shiawassee	170	12	Cream	June 1913	2	Gas Engine	Yes	Yes	No	.....	.....	No	.....	5.00	2 to 10	More with machine	.....	None	Yes	No	.....	Yes	Yes	On some cows much time is saved, but on strippers does not work so well.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

WHEN Recruiting Officer Clem Shay went down into the main part of Blue Rock on Monday morning he noticed a large crowd standing about his office, which was on the street floor.

"Good!" he said to himself. "Patriotism is stirring their hearts."

But when he got closer he observed the people were attracted by a different impulse. The large banner which had hung over the main entrance was lying on the walk, torn and spattered with mud. The staff was broken. The door of the office looked like it had been forced by a battering ram. The various pictures and notices had been snatched from the walls and thrown in fragments on the floor. Wherever there had hung small flags they were jerked down, and torn. That the purpose of all this might be clear the van-

The Pacification of Mr. Tate

By EDGAR WHITE

dal left on the large table a note reading this way:

"To h— with the agents of the powder-makers! We don't need any toy soldiers to tell us our duty. If you don't like the way things are here apply to Bill Tate."

The crowd looked curiously at the little representative of Uncle Sam's might, and wondered what he was going to do about it.

"Who is this man Tate?" asked Shay quietly.

And with one accord they told him that Mr. Bill Tate was the notorious bad man of the camp; that he was over six-feet-two, and built like a giant; that he lived back in the hills, and his

most pronounced avocations were gambling and drinking.

"He's been reading where someone says the war was started for the benefit of ammunition-makers," suggested Pap Johnson, the old hotel man. "Guess it made him mad."

"I expect so," admitted Shay; "he's certainly stirred up quite a fuss here."

He spoke gently as if it were some little damage occasioned by a runaway team or a leak in the roof. He being a soldier, wearing the national uniform and seeking recruits, they rather looked for him to grit his teeth and talk about blood.

"Bill's sure a bad egg," sympathized

Pap Johnson. "Something really ought to be done to him."

To this Shay made no reply, but went about straightening things up and the crowd left.

As the morning wore on and nothing happened, Jap Hinton, the groceryman, said to his partner, Jos Smith:

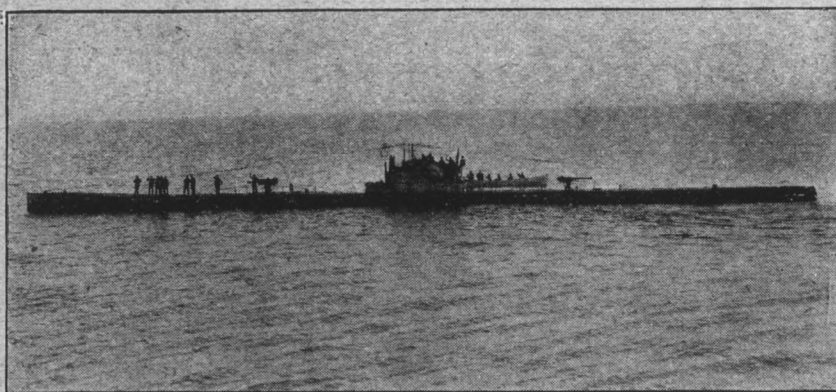
"Used to think it was a pretty serious thing to pull down the flag, but I guess that little officer don't want to raise a row. Bill Tate had his nerve to do a thing like that."

"Lucky for him it wasn't in the old country," returned Smith; "he'd be dead by now."

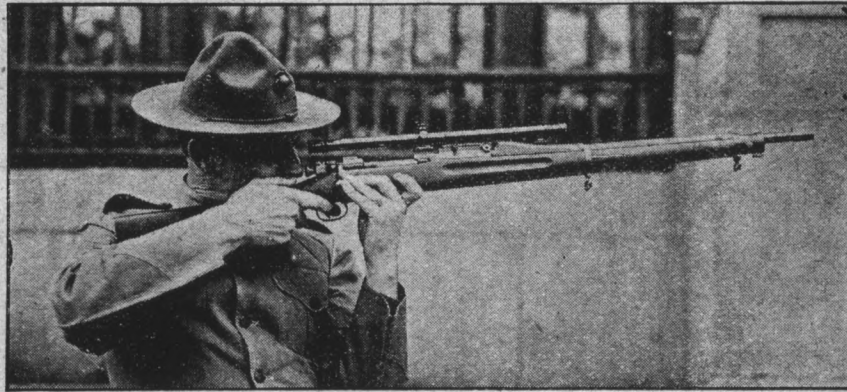
"Kinder feel like we ought to do something ourselves," mused Hinton, "but Uncle Sam's man is here, and it would sorter look like we were butting in."

In the afternoon about ten of the

WORLD EVENTS IN PICTURES



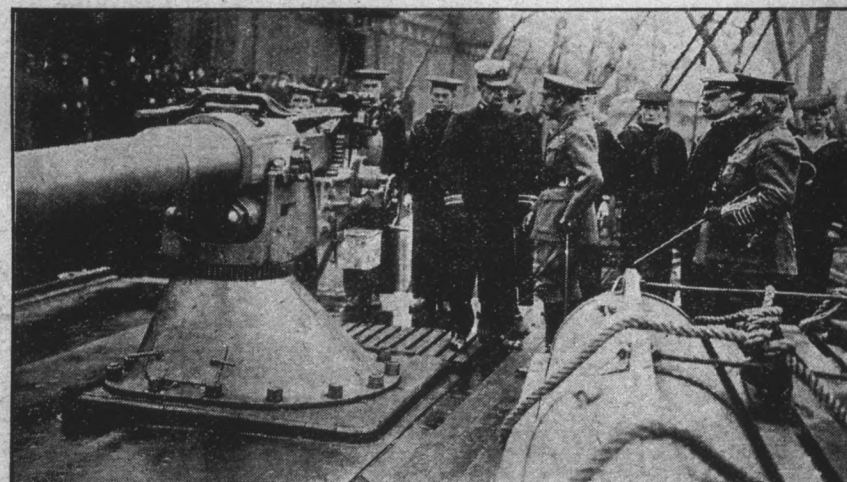
German Submarine U-65 in Act of Holding up a Spanish Liner.



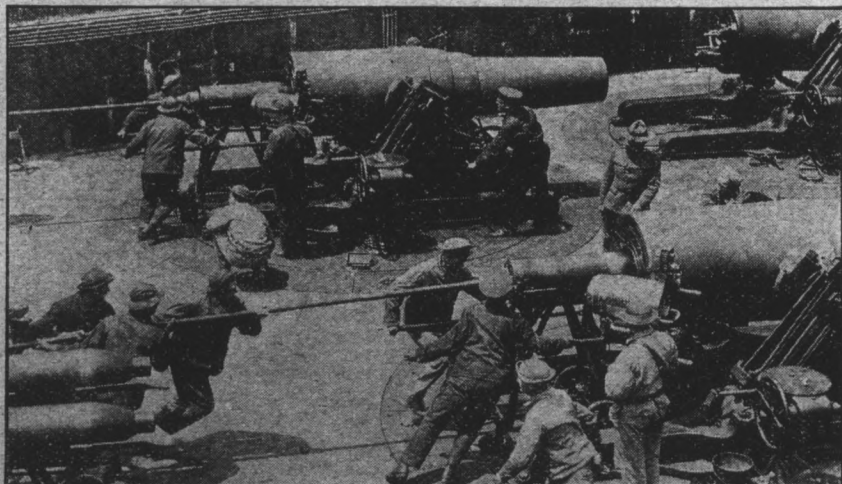
Telescopic Sight Increases Efficiency in Long Distance Rifle Firing.



German Invention Demolishes Buildings without Wasting Powder.



King of England Conversing with U. S. Bluejackets on an American Deck.



Testing the Huge Coast Defense Mortars in an American Fort.



British Troops in Belgium with Field Pieces in Center, and Tank at Left.

Copyright by Underwood & Underwood, New York

Is Your Tractor Paying Dividends?

Is it doing its work all the time, or is it laid up frequently for costly repairs?

You can increase the efficiency of your tractor greatly by using the right lubricating oil.

When kerosene is used as fuel it is needful that an oil capable of withstanding high temperatures be used, if the bearings are to be kept cool and friction eliminated.

To meet conditions obtaining where kerosene is used as fuel we have designed a special lubricating oil.

Use Stanolind Gas Engine Tractor Oil

It is made by the Standard Oil Company of Indiana. It is the result of an extensive research for a lubricant that not only had the right viscosity but would hold it under the extreme heat produced when kerosene is used as fuel.

It is made especially for gas engine tractors where kerosene is used as fuel.

It is an oil of great durability and adds power and life to your engine.

It is equally efficient for stationary gas engines as well as for lubricating the bearings of all types of harvester machinery and heavy gearings of tractors.

Use Standard Gas Engine Oil

in tractors where gasoline is used as fuel. This oil also is an ideal lubricant for external bearings and may be used as a complete lubricant in the operation of your engine.

Made, guaranteed and recommended by
Standard Oil Company
(Indiana)
72 W. Adams St. Chicago, U. S. A.

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 \$1.40 per gal. F. o. b. Saginaw, according to quantity. Quick shipments. Write us now. Saginaw Graphite Co., Saginaw, Mich.

When writing to advertisers please mention
The Michigan Farmer.

recruits showed up at the office. They were puzzled over the incident about which the town was talking.

"Fellows," said Shay, "I haven't spoken to anybody about what I was going to do, because the army method is to act first. Now, I've located our man by telephone and we're going out to get him. Each man will take his gun, and ammunition belt."

Along about four in the afternoon, as the Gun Creek district school was being dismissed, a big man came out of the woods and slipped around to the front, where Sallie SinClaire, a large, healthy young woman, was just locking the door.

"That you, Bill?" she smilingly greeted; "what you running for?"

Miss Sallie was a native, and though a school teacher, she followed the mannerism of the locality in her speech.

"That recruiter over in town has got his tin soldiers after me," panted Tate; "the woods is full of 'em."

"What they after you for, Bill?"

"Nothing," snarled the fugitive. "I'd like to lay my hands on that recruiter—I'd twist his neck! But I can't lick the whole army—they got guns. Let me hide in the cellar, Sallie, till they go by, will you?"

The young woman led the way to the basement, and threw open the door.

"Get over there behind the furnace, Bill," she directed, "and if you crouch down maybe they won't find you even if they come in."

"I hate to run from a lot of brass buttons," apologized the bad man, "but if they crowd me too hard I'll tackle the whole gang and knock 'em into mincemeat with their own guns."

Sallie smiled admiringly at the formidable man and went up into the school room, where she busied herself about the blackboard. Presently the company of "tin soldiers" emerged from the woods, and Officer Shay stationed them so as to guard every means of exit from schoolroom and basement. Then he entered the schoolroom, taking off his hat.

"Your pardon, Miss, for interrupting you," began the officer, "but we're looking for Mr. William Tate. Have you seen him pass this way?" and he looked at her intently out of his blue eyes, a look which said as clear as day that he knew she had the answer to the question.

"No!" she blazed as she defiantly faced him. She was a girl of considerable spirit and she didn't like the mocking look in the "little tin soldier's" blue eyes.

"No?"

"I said, No!" she emphasized. "That ends it."

"Maybe so, maybe so, but would you mind if I sat down to rest a while?" and Shay took a chair in front, near the register.

There was a few minutes' silence, which the young woman finally broke:

"I'm getting ready to go home now, and will have to lock up."

"All right," said Shay pleasantly; "leave the key with me and I'll lock up for you."

She stared at him a moment and then her anger got the better of her concern for the fugitive.

"The idea of bringing twenty men to catch one—"

"I only got ten," corrected Shay, smiling. "You can step out and count them. They're all boys."

"Well, ten men to one!" she flamed.

"It doesn't look very brave to me."

"No? Do you suppose that if by any possible means the odds were reduced Mr. Tate might show up?"

"What do you mean?" she asked with eyes suddenly lighting up. The young woman had long entertained a rather tender affection for the "bad man," whose very exploits of outlawry had appealed to the heroic in her nature. It would have been in entire harmony with her wishes for Bill to emerge from his hiding place and se-

verely spank this "insulting" visitor parading in the government uniform like a movie actor.

"I mean," smiled Shay, "that if I were to make my little toy soldiers trot back home, do you reckon Mr. Tate might 'drop in' from somewhere?"

"He might," she said eagerly.

Shay got up and went outside.

There he gave the orders which formed the company into a line of march and started them on the road to town.

"There they go," mused Shay returning to the room, "ten little soldiers all in a row—hands up, Tate!"

The bad man, who had been watching from below, had softly appeared at the rear entrance of the schoolroom, only to confront a blue automatic in the resolute hands of the little recruiting officer. Shay was standing beside the door the bad man entered.

"What do you want?" growled Tate, his hard features convulsed with something Shay understood better than did the young woman who looked at him in surprise.

"Oh, Bill, I thought—"

"Madame," interrupted Shay, "you can aid in the performance of a very interesting little ceremony. Please step outside and bring in the small flag one of my tin soldiers brought—you needn't look at Mr. Tate—he doesn't object—bring it in, and,"—he paused until she returned with the flag—"now stand up straight and unfold it and hold it up. That's your part of the ceremony. Now, Mr. Tate."

The bad man looked into the steel

blue eyes of the little recruiting officer, and shook.

"To express my feelings with entire frankness, Mr. Tate," said Shay in hard, metallic tones, "I'd prefer that you do not salute the flag the lady is holding up."

Sallie SinClaire thought that was a strange statement, and she studied the officer's face, trying to fathom the meaning of it. But "all Tate saw clear enough.

"I'll salute it—don't shoot!" he muttered hoarsely. "How must I do it? Must I kneel and take off my hat?"

Visitors to Blue Rock, as well as the citizens, were interested in a novel feature on the court house square. Every day during the week from 8:00 a. m. until the six-o'clock mine whistles blew, a tall dark mustached man carried a large U. S. flag around the block, making a regular beat, never stopping except when the clock in the tower struck, nine, ten, three and six. Then he would rest the butt of the staff on the pavement, take off his hat and salute three times. In order that the ceremony might not be forgotten or passed over by the flag bearer a "tin soldier" in khaki, with loaded rifle, stood sentinel on each of the four corners of the square. Strangers within the gates, unacquainted with recent local history, went away and reported they had seen at Blue Rock what was possibly the most patriotic man in the United States, and they strongly recommended such zeal for the flag by people of their home towns.

"Contraband" RANDALL PARRISH

"I was in the hospital for months, and scarcely hoped to live. That was when my business went to smash."

"Father never told me; and your mother?"

"Is living in Philadelphia, but in rather straitened circumstances, and ill; my younger brother has been compelled to leave school, and seek employment." He smiled weakly. "I had hoped this voyage would set us all on our feet again."

She released her hand from his grasp, and sank down once more into the chair, her glance leaving his face, and seeking mine.

"Mr. Hollis," she said, almost defiantly, "it is my wish that the Indian Chief continue its voyage."

"But I cannot consent—"

"You left this decision to me. You said plainly that only my presence on board deterred you from accepting command. Well, I make that decision. My comfort, even the momentary fear which my family may feel over my strange disappearance, could never justify my refusal. I know this gentleman, and have met his mother; we were good friends. He shall not be ruined through any whim of a girl. Whatever may occur to us during the next few weeks, I shall not fail to do my part."

"You mean this?"

"I not only mean it, I urge you to go ahead not considering me in the least."

"I cannot quite understand so sudden a change."

"Perhaps you do not understand women," she said, and smiled. "It is our privilege to change our minds without apparent reason. But in this case my reason is a worthy one." She paused, her manner changing. "Surely you recall who Mr. Bascom is?"

"Not in the remotest degree."

"But we spoke of him in the boat—Philip Bascom."

My eyes widened and I caught my breath.

"Good Lord! yes; now I recall the affair. He is the man Fergus McCann

shot in the hotel restaurant. That was the accident he speaks of. Why, this is strange enough to be fiction."

Bascom stood, leaning on his cane, looking at us, as though failing to comprehend what it was we were talking about. Possibly he did not catch our words clearly, for his white face appeared puzzled.

"You speak of me?" he asked, "of my difficulty with McCann?"

She looked up at him earnestly.

"Yes; it is very strange. You should know the truth. There were three of us who escaped together when the yacht sank; Mr. Hollis, myself, and—Fergus McCann."

Bascom straightened, his lips pressed tight.

"He is here now; a guest on board my ship?"

"Yes; I do not know where—sleeping in one of the staterooms, probably. Mr. Hollis was compelled to strike him while we were in the boat, and his face was badly bruised. I have not seen him since I came over the side."

Bascom's expression was one of struggle, as he stared into our faces. It was difficult for him to find words; to even control his mind.

"This—this is a misfortune," he said finally. "I do not know how it will end. I have sought to avoid the man. Miss Vera, do you know the truth of that affair? Not the newspaper story, but the facts?"

She shook her head.

"I only heard that the trouble occurred over Myra Bradley. McCann found you together, and shot you in a fit of jealous rage."

"So far the story was true; but I was not at the restaurant with Miss Bradley. I had never, but once before, even spoken to her. She called me to her table that evening, where she was dining alone, to question me regarding some mutual friends in Philadelphia. Our brief conversation was most commonplace. McCann shot me without warning; I did not even know he was near, until the woman screamed."

"But," I said, as he paused, "was there no trial? That was not the newspaper story."

"I know it," bitterly, "and I have only my word to give you. I could not defend myself, and no one else made any effort to do so. McCann had money, and influence; I was lying unconscious in a hospital. The girl was shipped on to Europe; a waiter swore that I drew a revolver, which he afterwards picked up on the floor; the police exonerated McCann on the ground of self defense, and the case never came to trial."

I held out my hand.

"Having had some experience lately with McCann," I said heartily, "I am perfectly ready to accept your version. His being on board is awkward and unpleasant, but we must put up with it as best we can. Is this your thought?"

He did not answer at once; not until she looked up questioningly.

"There is nothing else possible," he said at last, but as though the admission hurt. "My nature is not revengeful, although I certainly have no feeling of kindness toward this man. However, this is my ship, and he is my guest; as long as he remains on board, I shall treat him as I would any other under like circumstances."

"I knew you would say that," the girl exclaimed. "Now everything is all right, Mr. Hollis?"

"As nearly so as we can make it," I answered, assuming an ease I was far from feeling. "Your decision is that we continue the voyage—to Germany?"

"To wherever Mr. Bascom desires to go."

"Very well," I turned to the other. "And you appoint me captain, delegating to me full authority?"

"I do, with pleasure."

I held out my hand, surprised to note the strong grip of the slender, white fingers responding to my clasp.

"The matter is settled then, let the result prove what it may. It is already growing dusk; I will go on deck, and assume command."

CHAPTER XIII.

I Select My Officers.

THE die was cast. However the strange adventure might eventually end, whatever peril lurked ahead of us, it was now too late for regret. The full responsibility I had assumed almost overwhelmed me as I first emerged upon deck, but there came to me also a spirit of recklessness, which brought a laugh to my lips and a shrug to my shoulders. Why should I care? It was her choice, not mine; and, if she thought enough of that wreck of a man in the cabin below to make such sacrifice, the affair was of small moment to me, yet it was an odd chain of circumstances which had flung these people together here in mid-ocean. A moment I lingered at the port rail, staring out into the smother of the coming dusk, wondering how it would all end, before I climbed the ladder to the poop deck.

The negro was at the wheel, while Masters stood aft gazing astern. He was not aware of my presence until I spoke sharply.

"Mr. Masters."

"Aye, aye, sir."

"I have agreed to take command of the vessel for the remainder of the voyage," I said quietly, "and would have a word with the crew."

"The remainder of the voyage, sir?"

"Yes; the vessel has suffered no serious damage, and there are surely seamen on board able to serve as watch officers."

"The bosun is a good man, sir."

"What is his name?"

"Leayord."

"Very well; have all the men piped aft. I do not like the looks of the sky, or the sea, and we must get those decks cleared."

"All hands, sir?"

"Certainly, Mr. Masters. They have

had rest enough, I imagine, the past few days. Now they are in for a spell of work."

I was not altogether pleased with the engineer's manner, a vague suspicion coming to my mind that he also rather preferred a return to Baltimore, and that the crew might desire the same decision. However, the man was not a deck officer, and confessed to having had trouble in getting the ship's work done. No doubt this was the main difficulty, but those fellows would find me a different proposition. As I went forward to the rail I noticed that both Vera and Bascom had come up as far as the head of the companion, and now stood there in the shadow where they could both see and hear. McCann, however, did not appear, and was probably asleep below, or still doctoring his discolored optic. I had just a moment to observe these things before the men began to appear aft the mainmast, and form in a straggly line across the deck. They were, indeed, a rough-looking lot, even for a freighter's crew, plainly showing the effects of prolonged debauches ashore, with several among them still manifestly under the influence of liquor. The attitude of most of them was plainly that of sullen indifference, although some of the younger ones indulged in rough horse-play, laughing insolently as they glanced aft. The re-establishment of sea discipline on board was evidently to be my first task, and my teeth clinched tightly as my eyes swept their faces.

"Come further aft, men," I ordered sternly. "Bosun, bring them closer in where they can hear what I say—ay! that's more like it."

I stared down into the upturned faces, noting, it seemed to me, characteristics of every race on earth, and realizing that here before me was grouped the scum of the seven seas.

"Men," I began, gripping the rail, and speaking swiftly, "there is no need of my telling you what has happened to the Indian Chief. You have lost shipmates, and all your deck officers, and have been drifting helpless for two days. It is the future, not the past, we need to consider. My name is Hollis, and I held command in the old Atlas Line. The owner of this vessel and cargo—Mr. Philip Bascom—has just done me the honor of appointing me as captain for the remainder of this voyage."

The fellows remained silent, except for the restless shuffling of their feet on the deck.

"And what is the vige to be, Mister?" suddenly asked a hoarse voice back in the group.

"The same one you signed on for, of course."

"Ter Hamburg?"

"That's where we lay her head."

"But we've a wrecked ship; an' they tell us there's a war on."

"Who tells you that?"

"The guy that come aboard along with yer; he told the cook."

"Well, war or no war, this ship cleared before there was any declaration, and you fellows shipped with her for the voyage."

"That's a lie," sang out another voice shrilly. "The most of us wus signed on by crimps."

I straightened up, determined to end the matter then and there.

"We have had enough of this, lads," I said sternly, staring straight down into their faces. "I don't know who among you are doing all of this talking, but I'll answer you this. I am captain of the Indian Chief, and if any of you want to try out whether I can handle my crew or not, go to it. Bosun, come here."

The man named separated himself from the others, and slowly climbed the ladder. He was a big muscular fellow, with red hair, clipped close to his head, and intelligent blue eyes.

(Continued next week.)



Cultivate Your Orchard With Hercules Dynamite

THERE comes a time in the life of an orchard when great benefit results from the breaking up and redistribution of the soil around the roots.

The best way to achieve this result is by the use of dynamite.

HERCULES DYNAMITE

will do wonders for your orchard. After the soil has been properly broken up by blasting at intervals between the rows, the trees will produce more fruit and better fruit. They will grow larger and live longer. The cost of the work will quickly disappear in the increased returns.

Our book, "Progressive Cultivation," tells how soil blasting in orchards should be done. It contains other information—on tree planting, drainage work, irrigation, rock and tree blasting—that you will find interesting. A copy will be sent you free on request if you will simply fill out and mail the coupon below.



HERCULES POWDER CO.

26 W. 11th Street
Wilmington, Delaware

Hercules Powder Company,
26 W. 11th Street, Wilmington, Delaware
Gentlemen:—Please send me a copy of "Progressive Cultivation."

I am interested in dynamite for.....

Name.....

Address.....

THIS METHOD
HAS MADE
MONEY FOR
OTHERS—



160 ACRE
FARMS IN
WESTERN
CANADA
FREE



Canadian Farmers Profit From Wheat

The war's devastation of European crops has caused an unusual demand for grain from the American Continent. The People of the world must be fed and wheat at over \$2 per bu. offers great profits to the farmer. Canada's invitation is therefore especially attractive. She wants settlers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops

You can get a Homestead of 160 acres FREE and other lands at remarkably low prices. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to acre. Wonderful crops also of Oats, Barley and Flax. Mixed farming as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required for beef or dairy purposes. Good schools, churches, markets convenient, climate excellent.

There is now an extra demand for farm laborers to replace the many young men who have volunteered for service in war. The government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Sup. of Immigration, Ottawa, Canada, or

M. V. McINNES, 178 Jefferson Ave., Detroit, Michigan
Canadian Gov't Agt.

SAVE
MONEY--TIME--HARD WORK and TROUBLE

With a 1, 1½ or 2-Ton

HUDFORD TRUCK

Two Trips to the Horse's One

Simple, strong, durable—a child can drive it. Stake or box bodies 8 to 12 feet long—cabs all enclosed in bad weather. Internal gear—shaft drive—no chains or sprockets—high road clearance—speed 15 to 18 miles per hour. Parts available constantly.

Dealers Wanted in Michigan

Low Cost--Economy. Write Today for Catalog

PARKVIEW SALES CO., 1685 Gratiot Avenue,
Detroit, Mich.

When Writing to advertisers please mention The Michigan Farmer.



Hard Wear Never Bothers This Hosiery and it lasts longer without holes than any you ever wore because it's

DURABLE DURHAM HOSIERY

FOR MEN, WOMEN AND CHILDREN

Made Strongest Where the Wear is Hardest

The heels, soles and toes are strongly reinforced. The wide elastic, garter-tear-proof tops with the anti-run stitch are knit on to stay. The quality is uniform throughout, sizes correctly marked, and the legs are full length. The feet and toes are smooth, seamless and even. The famous Durham dyes prevent color from fading or turning green after wearing or washing. Sells for 15, 19, 25 and 35 cents the pair.

Buy Durable-DURHAM Hosiery for the entire family.

Ask your dealer to show you our ladies' 35-cent and men's 25-cent silk mercerized hosiery with the patented anti-run stitch.



DURHAM HOSIERY MILLS, Durham, N. C.

Lift Corns Out with Fingers



A few drops of Freezone applied directly upon a tender, aching corn stops the soreness at once and soon the entire corn or callus loosens and can be lifted off with the fingers without even a twinge of pain.

Freezone

Removes hard corns, soft corns, also corns between the toes and hardened calluses. Does not irritate or inflame the surrounding skin or tissue. You feel no pain when applying it or afterward.

Women! Keep a small bottle of Freezone on your dresser and never let a corn ache twice.

Small bottles can be had at any drug store in the U. S. or Canada

THE EDWARD WESLEY CO., Cincinnati, O.

AGENTS \$30 to \$50 Weekly MEN AND WOMEN



Sell the New Improved Monitor Self-Heating Iron—the "World's Best"—Nickel plated throughout—Over 850,000 in use. Positively the easiest, fastest selling, Lowest Priced, best known iron made. Binding Guarantee. No experience needed. Big profits for all or part time. Evans, N. Car., sold two dozen on Sat., Mrs. Nixon, Vr., sold eight first half day. Liberal Terms. Exclusive territory. Sample outfit free to workers. Write today

The Monitor Self Iron Co., 819 Wayne St., Big Prairie, O.

Buy Your **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. 1881) Coffee Specialists Dept. 7, 2855-57 W. Madison St., CHICAGO.

WANTED—AN IDEA. Who can think of simple things 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. C.

When writing to advertisers please mention The Michigan Farmer.

Woman and Her Needs

At Home and Elsewhere

A Deleted Word

IT always takes someone outside the family to point out the family defects. So it was an English-American who pointed out to me the weak spot in our American constitution.

"Did you ever stop to think," he asked, "That the American constitution, which is a wonderful document, is given up entirely to the rights of the individual, and there is not a word in its entire length about his duties?" Our American constitution defines all our rights, tells the state what it must grant us, but says never a word about any duty we owe the state. We take it as a matter of course that the state must protect us, guarantee us certain liberties, but we never think of what we must do in return for the state's protection. Do we not owe the state a duty?

So, as usual, the outsider comes in any without a moment's hesitation puts his finger on the raw spot. We Americans do not bother our heads much about any duty we owe the state, nor for the matter of that, about any duty we owe anyone much but ourselves. In fact, "duty" has been deleted in America for some time. It's a tiresome word anyway, always making you think of disagreeable things, probably because when you were a child you were always told to do disagreeable things because it was your duty. Whatever the reason, we don't like the word, and we like the fact still less. It is so apt to interfere too often with pleasure.

Children know little about it, and as it's fashionable to blame everything to the "women of our nation," I'll put the blame of that up to the mothers and the schools, as the schools are taught largely by women. For the past few years the tendency in schools has been to make things as easy as possible for the children. The old drill, drill, drill which our teachers thought necessary to "pound" things into our heads has been stricken out, and easier methods of teaching substituted. Some of them have worked and more of them have failed, because some things can only be learned by constant repetition, drilling if you will. Some things can not be simply absorbed, but for awhile some teachers seemed to think the multiplication table could be learned subconsciously, with the result that children graduated without knowing the "sevens." Everything that was drudgery for the children was eliminated, thus depriving them of one of their most precious heritages. For a certain amount of drudgery is absolutely essential to harden character fibres.

Then mothers, filled with a worthy desire to use the best methods in child training, swung too far from the old policy of demanding obedience and insisting on submission when necessary. Too many of them entirely mistook the new idea of "growing naturally." They forgot that while the gardener lets the trees and shrubs grow naturally so far as possible, he still has to resort to continual pruning and pinching of buds to get a perfect finished product. Mothers got the idea that the "child's will must not be broken," and lost the better idea that obedience is required of everyone in the world. Children were left to be a law unto themselves, humored and spoiled and indulged out of reason. They must have what others had, and do what others did, because if they didn't they would be "queer." Instead of being taught that it is a fine

thing to stand for a principle because it is right, even if you stand alone, they were excused for doing wrong, with the plea that everyone else did it.

The result is that we have a generation which has little or no sense of duty. There is no idea of obligation to family, church or state with a percentage of our citizens. The question with them is not, "What can I do for the people about me?" but "What can I get out of the other fellow for myself?"

If we are to get very far we will have to adopt another line of teaching. Duty will have to become once more a welcome word and children and parents together must learn that giving is as necessary as receiving. DEBORAH.

CANNING BERRIES.

BY M. A. L.

Perhaps the most unsatisfactory berry to can is the strawberry. Canned by the old open kettle method it seemed bound to lose its shape and color, and to rise in protest to the top of the can. The cold pack method shows better results.

Select only firm, not too ripe berries, hull and wash thoroughly. Have your cans and tops sterilized, and water enough in the boiler to cover the top of the cans, already boiling. Make a thin syrup, allowing one cup of sugar to one cup of water, boiled just long enough to dissolve the sugar but not to get sticky. Pack the berries in your sterilized jars, fill with the hot syrup, adjust the rubbers which have been dropped for a minute in boiling water, put on tops and turn until they just touch the rubber. Then plunge the cans immediately into the boiler and boil for sixteen minutes after the water begins to boil. Remove the cans, tighten the tops, wrap in paper and set in a dark cool place, after first making sure no juice will leak out. If the berries are kept in a dark place they will retain their color better. Raspberries, blackberries and huckleberries may be canned the same way.

The United States Department of Agriculture gives the following method of canning to prevent the berries from rising to the top of the can. Allow eight ounces, or one cup, of sugar and two tablespoons of water to every quart of berries. Boil slowly for fifteen minutes in an enamel kettle, covering tightly while boiling. Allow to cool over night, then pack cold berries in glass jars, and cook in your boiler ten minutes after water begins to boil. Wrap the jars in paper and store in the dark.

When making strawberry jam, utilize the fireless cooker, or make only a little at a time. Allow three-quarters of a pound of sugar to every pound of berries. Put on only a little sugar at a time, and stir carefully, adding sugar until all is dissolved. If you make only a small quantity it should be cooked enough in twenty or thirty minutes. Jam, of course, must be watched and stirred carefully to prevent burning.

Berries preserved in the sun are delicious. Served a few in a sherbet cup with sweetened whipped cream piled on top they make a rich dessert. For every pound of berries allow one pound of sugar and two-thirds of a cup of water. Boil sugar and water until a light thread forms, then add berries and cook fifteen minutes after

boiling begins. Pour out on platters and stand out in the sun until the syrup is thick. Store in glasses and cover with paraffin as jelly, or put in cans. The berries should be covered with a glass or thin cloth to keep out dust and insects.

The high price of sugar will keep many housekeepers from canning as much as usual, unless they know that fruit can be put up successfully without sugar. The fruit will keep as well, but of course does not taste so well as if sugar is used. Neither does it keep its shape, color and texture so well as when sweetened. To can, simply cover with boiling water instead of syrup, and cook in your boiler thirty minutes. The United States canning specialists are authority for this method.

Syrup Density.

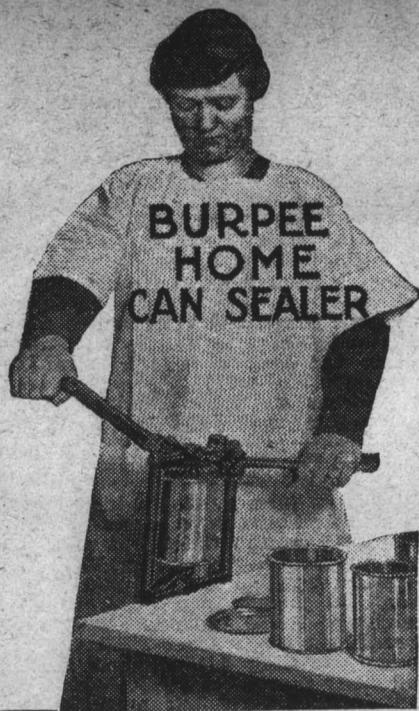
Much of the success in canning depends upon attention to details. Cans must be sterilized, rubbers must be whole and new, covers must fit down evenly all the way around, and absolute cleanliness must be the slogan. Can tops with rough edges may be smoothed down by pressing the edge with the blade of a knife.

When the cans are placed in the boiler, lard can, or whatever you have for a container, there must be enough water to cover the can at least one inch. Have the water boiling when the cans are lowered, and in counting the time of sterilizing, begin to count after the water boils up again, following the putting in of the cans. Keep the water boiling all the time.

The syrup used adds a great deal to the "tastiness" of the finished product. In making the syrups, be sure to follow exactly the directions given for each sort of fruit. So few housekeepers have a syrup gauge that the density of the syrup will not be given by degrees in these articles, but the terms "thin, medium thin, medium thick, and thick," as used in the United States government bulletin will be used. Thin syrup is boiled sufficiently to dissolve the sugar, but is not sticky; medium thick rolls up over the edge of the spoon when you try to pour it out, and thick pours out with difficulty but must not "sugar." The proportion of water and sugar will be given with individual fruits.

The method of canning asparagus was given with greens, but as it has been requested and as there are still many cooks who have not canned it, it is herewith repeated. Select stalks of about the same size and age. Wash carefully to remove all sand, and cut, or break, off the woody part of the stalk. It can be canned whole, or cut in pieces to suit the individual taste. If it is young, blanch three minutes; if old, blanch five minutes, then plunge quickly in cold water, and remove and pack in cans. If you are canning it whole, pack it with the tips. Fill the jar with boiling water and add one teaspoonful of salt to each quart can. Adjust rubbers, screw on tops till they just touch the rubber, place quickly in the boiling water in the container and boil for ninety minutes for young asparagus and two hours for old. Then remove from the boiler, tighten the tops and store, after cooling.

M. E. D., Hudson.—Greens will shrink in the jar if they are not properly blanched before packing. The right way to blanch them is in a steamer, not in boiling water, for fifteen or twenty minutes, depending on the age of the plant.



Follow President Wilson's Advice

SAVE ALL
YOUR PRODUCTS—
DON'T WASTE ANYTHING

Help to correct America's great fault of wastefulness. Raise big crops, and put into cans all that you cannot sell now. There'll be a big demand for them next winter.

You can save everything with a

BURPEE HOME CAN SEALER

A simple, low-priced machine that makes any kitchen a canning factory. Clamps on any table. No acid nor solder required. Satisfaction guaranteed or money back. Cans easily secured at our distributing stations.

Free book of recipes, compiled with the assistance of U. S. Dept. of Agriculture, goes with each machine.

Write today for free booklet.

BURPEE & LETSON, LTD.
So. Bellingham, Wash.

MAIL THIS COUPON TODAY

BURPEE & LETSON, LTD.,
So. Bellingham, Wash.

Dear Sirs:—Please send free illustrated folder on BURPEE HOME CAN SEALER.

Name _____
Address _____

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.**

Grange.

MAKE "Y" CONTRIBUTIONS AND
BUY LIBERTY BONDS.

When the dates were selected for the series of rallies in the Six County Association, war was not reckoned upon—much less that the day assigned for the Washtenaw Pomona Rally would fall upon Registration Day, but this proved to be the case. Strangely moved as was everyone by patriotic causes on that Tuesday, June 5, the occasion was one of memorable interests. Ypsilanti had been chosen for this meeting, which was the first of five at which State Master Ketcham introduced State Master John McSparran, of Pennsylvania, to Michigan audiences.

The business session in the morning was full of constructive things. A partial report of the year book committee showed collections were nearly all in with the balance to be well on the right side. The purchase of a \$100 Liberty Bond was authorized, but not until after Pomona had set aside \$50 as contribution to the war work of the Young Men's Christian Association in training camps and at battle fronts.

The afternoon opened with a short patriotic song service; a flag salute by the Misses Laird; a "soldier of the soil" recitation by Earle W. Martin; and two beautifully rendered songs by an Ypsilanti Grange quartette. Following, Master J. C. Ketcham, was introduced, who briefly referred to the tremendously significant circumstances under which we met, before beginning his gripping talk on "How to make county life come into its own." He stated that the past eight weeks have brought us face to face with the fact that we have more mouths to feed than food to fill with. He pointed out agriculture's responsibility and the opportunity of the Grange to enter into this situation and make it count for establishment of the right sort of rural life. He put it up to each one, "In your hands is the destiny of the community in which you live." He dwelt with especial emphasis upon the fact that the economic situation is one of great opportunity if the farmer will grasp it and work out in greater fairness to producer and consumer.

A respite by way of a character song by the North Sharan Quartette was afforded before the address of State Master McSparran, of Pennsylvania. Michigan state master's introduction of Pennsylvania's state master was a happy one. He said he was just as proud to present the people of his state to the eastern guest of honor as he was to bring him to them. In each he took a high degree of justifiable pride.

Mr. McSparran's address was of a high order—dignified, meaty, and thought compelling. While he said many things we have often heard before regarding the Grange and rural life, he added a contribution all his own which gave them a much stronger pull. His theme was "The Mission of a Grange to a Community." He said there were things which the old-time spelling school and debating societies had not done, they could develop people to talk but the Grange had made them think and talk while on their feet. Public sentiment is not made, he said, in congress or in courts of law, but in assemblies close to the homes and hearts of the people. He showed how the great mass of questions have been discussed from a partisan political viewpoint and not on their merits as economic questions and their outcome, consequently, has been bad. "When our folks look a question squarely in the face they settle it right. If you don't believe it, tell me why this country is going dry?"

This noteworthy day closed with what Master Ketcham called the "post-script," and which someone else was heard to pronounce "best of all." It was Master Ketcham's presentation of the matter of protection of training camps for soldiers from drink and women camp followers and his request for contributions toward the "Y" war work fund to be used in keeping home ties strong among the boys during their leisure hours and moments of dire temptations and home-sickness. He set forth his plea upon the base of one-half bushel of beans for the boys whom we are sending to the trenches—"who cannot give that?" Hand after hand went up and, when the cash and pledges were counted a few minutes later, the fund showed \$110 besides the \$50 contributed by the Pomona organization in the morning. Delegates will take the canvass into their home Granges and this amount will surely grow to a larger sum.

JENNIE BUELL.

Farmers' Clubs

CLUB DISCUSSIONS.

A New Club Started by the Church.—Seventy-five of the leading farmers and their families of Berlin and Riley townships, of St. Clair county, were in attendance at the Farmers' Club meeting Tuesday evening at the East Berlin M. E. church. Preliminary arrangements for the organization of this Club were made May 9, and the large turnout at this first regular meeting was very encouraging indeed to the pastor, Rev. Garnett, and other local leaders who have been instrumental in getting the movement started.

The meeting was called to order by temporary chairman William R. Lee, and A. C. Reynolds acted as secretary. A short business meeting was first held for the purpose of adopting a constitution and the election of the following permanent officers for the year: President, William R. Lee; vice-president, Fred Standel; secretary, A. C. Reynolds; treasurer, George W. Lee.

A very interesting and instructive program had been arranged by Miss Vera Reynolds, Mrs. W. J. Dobbyn, and Mrs. Chester Harrison, and the results they obtained amply demonstrated that the community had an abundance of local talent to take part in the meetings of the new Club. The singing of "America" constituted a very appropriate opening number, after which Rev. Garnett led in prayer. A reading by Miss Talmadge and a song by the young people's choir were among the pleasing features of the evening, and thoroughly appreciated by all present. Miss Parks also favored the meeting with a well rendered patriotic vocal solo.

An extended discussion of bean growing, in which nearly every man present took an active part, brought out the important points in connection with the growing of this crop from the preparation of the ground to harvesting and threshing, and proved conclusively that the Farmers' Club was a valuable agency along educational lines. The county agent described some of the methods followed by the other Clubs in the county and in response to a number of questions took up matters regarding boys' and girls' clubs, canning demonstrations, food preparedness, and general problems in agricultural practice.

A humorous reading by Rev. Garnett also made a very agreeable variation from the more substantial numbers. Everyone present was then invited to become a member of the Club, and a perusal of the list at the close of the meeting, showed that nearly everyone present had enrolled. A closing song was then sung, and adjournment followed. The next meeting will be held Tuesday evening, June 26, at the church.

The action taken by the pastor and congregation of the East Berlin church in starting this new Farmers' Club is a first-class illustration of how the country church can enlarge its sphere of usefulness in the community and in so doing strengthen itself beyond measure. It is believed that the opening of the doors of the rural church to Farmers' Clubs, institutes, and agricultural schools will have a most important influence in making christianity a much more vital force in the solution of the problems in the everyday life of the farmer, and will result in benefiting a much greater number spiritually. The church should stand for service in the community, and it is gratifying to know that the tendencies are in this direction.

Discuss Economic Topics.—The Wells-Dayton Farmers' Club, of Tuscola county, met at the home of Mr. and Mrs. Tilden Tait, of Wells, June 6. In spite of the weather a good crowd assembled. Many who could not have spared the time if it had been pleasant came in the rain. The meeting was called to order about three o'clock by President Stokes, and a short program followed. Song by the Club, "Columbia the Gem of the Ocean." Mr. S. Robinson led in prayer. Report of the secretary on pedigreed seed was read. Mr. Nicholson, of the M. A. C., advises the use of Golden Glow seed corn in this locality. Mrs. S. G. Ross read "The Kaiser's Prayer," and "Month by Month on the Farm." Mrs. A. L. Adams recited in her best style, "The Briar Rose." The question box was given to the discussion of tile drainage, canning methods, and the shipping of stock. The program closed with all singing "The Star Spangled Banner." After the program a delicious supper was served. Mrs. C. E. Riley acted as chef. The next meeting will be held July 4 at the home of Mr. and Mrs. A. Forbs.—Mrs. C. Harmon, Cor. Sec.

43½ Bu. Wheat Per Acre

Mr. W. Loat writes: "I had 203 acres of wheat that averaged 43.5 bushels an acre, 17 acres of oats that averaged 65 bushels, 25 acres of barley that averaged 50.5 bushels an acre."

This is only one of thousands of good reports coming from Western Canada. Yet nowhere can you buy good farm land at such low cost as along the Canadian Northern Ry.

BEST FARM LANDS at \$15 to \$20 per acre

Here you can buy specially selected, centrally located lands close to the railway, that will produce crops that can only be equalled on farms costing \$150 to \$200 the acre in a more densely settled community. This includes the best grain land, land also adapted to dairy and mixed farming. Here the man with limited cash can become the owner of one of these fertile farms through the liberal installment payment plan.

Low Fares Low round-trip home-seekers' fares to Western Canada are in effect every Tuesday, to November 27th inclusive.

Free Homesteads

If you have not the capital to buy land you can still get one of the recently surveyed 160 acre fertile Homesteads along the Canadian Northern Railway, the newest transcontinental railroad, "The Road to Opportunity."

Free Book Be sure to write today for a free copy of the "Home-Seekers' and Settlers' Guide," full of complete and authentic information. A fortune is waiting for you.

CANADIAN NORTHERN RY.



F. N. Wood, G. A.
214 Park Bldg.
Pittsburg, Pa.
R. N. Clark, G. A.
64 West Adams St.
Chicago, Ill.

BAD SILAGE in a GOOD SILO

Is caused by the silo filler macerating the corn instead of CUTTING it, thereby creating air pockets and preventing proper settling. To be assured of GOOD SILAGE fill your silo with a

ROSS ENSILAGE CUTTER and SILO FILLER

Furnished for individual or company requirements.

No. 30-4 to 6 H.P. Gasoline
No. 40-6 to 8 H.P. "
No. 50-8 to 10 H.P. "
No. 60-12 to 15 H.P. "

Conservative capacity 1 ton per hour per horsepower at LOW SPEED. No Silo too high for the ROSS as Mr. E. E. Heckman, Salona, Pa. says: "Will your Cylinder type machine fill a 108 ft. Silo as easily as your No. 60? Your No. 60 has the windiest blower I ever saw."

Exclusive features that prove the superiority of the ROSS fully explained in Catalog. The USERS of ROSS Silo Fillers for the past 37 years are our references. Our Catalog is of great assistance in selecting a Silo Filler and Ensilage Cutter. Investigate the ROSS before you buy elsewhere and avoid regrets thereafter. FULLY GUARANTEED. Manufactured by THE E. W. ROSS COMPANY Box 114 Springfield, Ohio



MANAGER WANTED

Man for manager and wife for housekeeper on a dairy farm near Detroit. Man must be a good stockman and general farmer and wife a capable housekeeper with no small children. Salary monthly. All household expenses paid by owner. Position open in September. References required. Applications by mail only. H. S. Kiskadden, 1855 David Whitney Bldg., Detroit, Mich.

FIX YOUR OWN PUNCTURE

WITH P. PUNCTURE PUTTY
You plaster it on like butter, quickly and permanently. A postal card for full information and something valuable free. C. H. STRUBE, 172 Griswold Street, Detroit, Michigan.

Farms and Farm Lands For Sale

160 ACRES slightly rolling, gravel clay loam soil, six miles to Ewart, on good road, good four-room frame house with good stone cellar, good drive well, good barn 30 x 40, good out buildings, 10 acres cleared, 40 acres ready to break up, 40 acres fenced with woven wire. Price \$2500 will sell on contract with \$200 down and any reasonable time on the remainder. Write W. F. UMPHREY, Ewart, Michigan.

A Small Farm in California will make you more money with less work. You will live longer and better. Delightful climate. Rich soil. Low prices. Easy terms. Sure profits. Hospitable neighbors. Good roads, schools and churches. Write for our San Joaquin Valley Illustrated folders free. O. L. Seagraves, Ind. Comm., AT & SF Ry., 1957 Ry. Ex. Chicago

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

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

FOR SALE 77-acre farm, good shape, good buildings, ½ mile from town. 307 Michigan Ave., Ypsilanti, Michigan.

Homesteads—How and where to locate free? File now—your service under flag will count as residence. Complete information 5c Coln. Newcomb—3338—17 Ave. So. Mpls. Minn.

FOR SALE 80 acres good land, \$5,000 in buildings, \$8,500 Terms if desired. L. McAdams, 1250 West Euclid Ave., Detroit, Mich.

Detroit Now Fourth City in U. S. Its real estate a stable investment, our \$10 monthly plan will interest you. WHITLOCK, 325 Penobscot Bldg., Detroit, Michigan

Markets.

GRAINS AND SEEDS.

June 19, 1917.

Wheat.—Values in this market have suffered a decline during the past week. While an improvement in crop conditions has been a strong factor in forcing this change, the let-up in the demand for flour and probably the restrictions placed on future trading in wheat have done their part in bringing about the lower quotations. On the other hand, there is very strong sentiment that values cannot go far below the present basis, because of food conditions throughout the world. Not only is the general outlook unpromising for this year's cereal crops, but the world is entering the season with practically no surplus on hand. Dealers are also concerned about the attitude of congress in making regulations for the distribution of the coming crop. There is a general belief, however, that only such action will be taken as to safeguard the legitimate interests of the different classes concerned in the production and handling of the grains. One year ago No. 2 red wheat was quoted on the local market at \$1.07 1/4 per bushel. Last week's Detroit quotations were:

	No. 2 Red.	No. 1 White.	July
Wednesday	2.95	2.90	2.38
Thursday	2.93	2.88	2.35
Friday	2.90	2.85	2.30
Saturday	2.80	2.75	2.30
Monday	2.70	2.65	2.18
Tuesday	2.50	2.45	2.10

Chicago.—July wheat \$2.05; Sept. \$1.81.

Corn.—Despite the drop in wheat prices, corn values have been maintained with a slight advance over the close a week ago. Continental Europe is bidding for this grain, while domestic consumption is going on at a normal rate. The new crop goes into the ground fully two weeks later than usual, which with the congestion of work upon the farms by reason of the late season, will handicap the grain and probably overcome the advantage of the increased acreage devoted to this cereal. Many fields have been planted the second time. A year ago No. 3 corn was quoted at 77c per bushel. Last week's Detroit quotations were as follows:

	No. 3 Mixed.	No. 3 Yellow.
Wednesday	1.74	1.76
Thursday	1.74	1.76
Friday	1.73	1.75
Saturday	1.73	1.75
Monday	1.73	1.75
Tuesday	1.72	1.74

Chicago.—July corn \$1.54 1/2; Sept. \$1.45 1/2; Dec. \$1.08 1/2.

Oats.—This grain has advanced with corn. There is a good demand at present owing to the relatively lower values for oats. Crop reports are promising. One year ago standard oats were quoted at 43c per bushel. Last week's Detroit quotations were:

	No. 3 Standard.	No. 3 White.
Wednesday	70	69 1/2
Thursday	71	70 1/2
Friday	71	70 1/2
Saturday	71 1/2	71
Monday	72	71 1/2
Tuesday	72	71 1/2

Chicago.—July oats 63c; Sept. 52 1/2c per bu; Dec. 54 1/4c.

Rye.—Millers are looking for this grain and this demand coupled with the short supply, forced values 5c higher this past week, cash No. 2 now being quoted at \$2.30 per bushel.

Beans.—This trade is inactive with nominal quotations steady with last week. A somewhat improved demand is reported from Chicago where prices are holding steady. Michigan pea beans, hand-picked, are quoted there at \$9.50@10; red kidneys \$8@8.50. At Greenville farmers are offered \$8.

Peas.—Market firm, supply limited. Field peas are quoted at \$3.75@4.50, sacks included, at Chicago.

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. Pittsburgh.—No. 1 timothy \$18.25@18.75; No. 2 timothy \$16@17; 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.—Demand is good at slightly reduced prices. Creamery extras offered at 37c, bid 35 1/4c; creamery firsts offered at 36 1/2c, bid 35 1/4c.

Elgin.—The increasing receipts have caused a decline of 3c. Price, based on sales, is 36 1/2c.

Chicago.—The market is steady at a decline of 2 1/2c from last week's prices. Trading is moderate. Extra creameries 36 1/2c; extra firsts 36c; packing stock 60c.

Eggs.—Market is steady with the demand good. Prices are lower. Fresh firsts were offered at 32c, bid 30 1/2@30 3/4c per dozen.

Chicago.—Good receipts and moderate demand have caused a drop of 4c in prices. Fresh firsts 29@30c; ordinary firsts 27@28c; miscellaneous lots, cases included 28@30c.

Poultry.—Market steady, with demand taking care of receipts. No. 1 hens 23c; small and medium do 21@22c; broilers 36@37c; No. 2 broilers 32@33c; ducks 22@23c; geese 15@16c; turkeys 24@25c.

Chicago.—Fowls are lower and broilers are 5c lower. Supply fair and demand light. Fowls 21c; roosters 15c; broilers 1 1/2@2 lbs, 27@28c per lb; ducks 12@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 market is firm and higher; 50@60 lbs. weight 17@17 1/2c; 60@80-lb. weight 18@19c; 90@110 lbs. 19@19 1/2c.

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. At Greenville potatoes are selling at \$2.60@2.75 per bushel.

WOOL.

Boston.—There is no let-up in the upward tendency of wool prices in this country. Notwithstanding the release by the British government of several million pounds of Australian wool for the United States, the trade has maintained its recent strength and competition for offerings has resulted in still higher prices. It is difficult to find fleeces in the eastern market where a few scattering lots of quarter-blood and three-eighths blood have recently sold at 60@65c per pound. Growers are holding onto their supplies expecting to benefit by selling at later dates, as they believe the shortage will force quotations to higher levels.

GRAND RAPIDS.

White beans are now worth \$8@8.50, with red kidneys a dollar less. Old potatoes are practically out. The egg market is reported easier, with quotations at 27@28c; creamery butter went off 3c early this week. In poultry live fowls are quoted at 18c. Grain quotations at the mills are as follows: Wheat \$2.60; corn \$1.75; rye and barley \$1.50; oats 72c.

DETROIT EASTERN MARKET.

The market was well patronized by buyers on Tuesday morning, which enabled the farmers to secure good prices for their offering. Leaf lettuce went at 50@60c; head lettuce \$1.25@1.50; eggs 42@43c; butter 45c; broilers \$1.50 per pair. No loose hay in sight.

LIVE STOCK MARKETS.

June 18, 1917.

Buffalo.

Receipts here today as follows: Cattle 210 cars; hogs 50 d. d.; sheep 4 d. d.; calves 1600 head.

With 210 cars of cattle here today the trade was in a demoralized condi-

tion, the bulk of the prime heavy shipping cattle selling 25c lower, with the medium shipping grades 50c lower and all kinds of grassers, including steers, cows, heifers and bulls, were full \$1 a hundred lower. There was a good run of yearlings on the market today and the bulk of them sold 50c lower, in some cases more. We would advise being very careful in buying these grassy cattle, as they are selling very mean. We look for a fair run of cattle here next week and a good trade on the good dry lot cattle and slow trade on all grassy grades.

Receipts of hogs today were about 50 double decks, demand good and the prices full steady with Saturday's best time. A few selected sold at \$16.40@16.50, with the bulk from \$16.25@16.35; pigs and lights \$15@15.25; roughs generally \$14.25; stags \$12@13.

With a light 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@18.50; yearlings \$15@15.50; cull to common \$10@13; 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 18, 1917.

Cattle were marketed again last week with too much liberality, and despite the large requirements of buyers, prices weakened as much as 25c or more for the less desirable offerings, the packers and smaller city butchers discriminating in favor of the better grades. Choice steers that were not too heavy in weight were especially wanted and sold at firm prices, with sales at \$13@13.75 for choice to fancy lots. The bulk of the steers sold at \$11.25@13.25, with sales of cattle classed as good at \$12.40@12.95, while a medium grade of steers sold at \$11.50@12.35. Ordinary to fair light weight killers sold for \$10.25@11.45, and transactions took place in very moderate numbers all the way down to \$8.25@9.25 for inferior little steers. There was a relatively better market for yearlings than for the older and heavier cattle, as is usual at this time of the year, desirable lots going at \$11.75@12.50 and sales of the cheaper class of yearlings at \$9.75 and upward. Cutters were disposed of at \$7.10@7.55, canners at \$6@7 and bulls at \$7@11.50. Calves were in inadequate supply and in large demand, prices undergoing a stiff further advance which landed the light weight vealers of ordinary to prime quality at \$13.25@15.50, while the heavier calves went at \$6.50@13, according to quality. There was a moderate traffic in stockers and feeders, prices being too high for the better class of these cattle to suit the views of most buyers, stockers selling at \$7.50@10.25, the high-priced lots consisting of choice little yearlings, while feeders went usually at a range of \$9.60@11. Most farmers are disposed to retain their desirable thin cattle for summer grazing, and later offerings promise to become still smaller. A limited trade is going on in milkers and springers on the basis of \$65@115 per head, the demand being mostly for good cows and most of the poorer ones selling for beef. Butcher cattle were traded in at \$7.60@11.75 for cows and \$7.50@12.25 for heifers. Even good fat cattle sold off sharply late in the week.

Hogs were marketed last week alternately with liberality and then with much less generosity, with a Monday run of 42,798 head, and an average decline on that day of 15c per 100 lbs. A later collapse in prices that landed the best offerings at \$15.65 and the commonest light bacon hogs at \$14.25 caused stockmen to stop marketing their holdings at all freely, and substantial advances in values took place all along the line, with buyers much less disposed to pay higher prices for the light and mixed droves than for the better lots of heavies. The spread in prices has kept on increasing owing to the increasing proportion of the less attractive hogs offered on the market, and late transactions were at the widest range seen at any time this year. At the week's close sales were made of light bacon hogs at \$14.50@15.40; heavy packers at \$15@15.70; light shippers at \$15.45@15.85; heavy shippers at \$15.75@16.05; and pigs at \$10@14.50, pigs weighing up to 135 lbs. going the highest.

Clipped lambs and spring lambs have been marketed during recent weeks in meager numbers, but last week's supplies were the smallest yet seen, and the packers were forced to pay several sharp advances in prices, with sellers placed in a very independent position for once. Advances in shorn lambs were as much as 25@50c in a single day, with nowhere near enough offered to satisfy the demand, and it was

impossible to fill most buying orders for feeding and breeding stock. For handy, smooth shorn feeding lambs prices ruled at \$12@12.50 per 100 lbs. The week's advance in shorn and spring lambs was fully \$1.50 per 100 lbs., with some Arizona 53-lb. springs selling for feeders at \$15. Prices closed as follows: Spring lambs \$11@18; clipped lambs \$8.50@16; yearlings \$10@13.50; wethers \$8.50@11.75; ewes \$3.75@10.25; bucks \$7@8. Everything came clipped except spring lambs.

Horses were in much smaller supply last week than in corresponding weeks in recent years, and prices ruled firm, with sales of army horses at \$170@175 to the British buyers. Drafters were quotable at \$175@285, expressers at \$75@210 and farm chunks of ordinary to fair grading at \$60@140.

LIVE STOCK NEWS.

An Iowa farmer has in his possession a sale ticket for a carload of fifty hogs sold on the Chicago market on the twenty-ninth day of July, 1896. The hogs averaged about one pound less than 300 pounds per head, the lot weighing 14,940 pounds, and they brought on the market \$2.80 per 100 pounds, totaling \$418.32, less freight and other charges of \$45.60, which left the owner \$372.72. If marketed recently, they would have brought the owner about \$2,400.

REDUCE THE COST OF GASOLINE ONE THIRD TO ONE HALF

FORDS AND ALL OTHER CARS

One-third to one-half MORE MILEAGE and POWER can be secured from cheapest grade of gasoline or even half gasoline and half kerosene by using the

Newly Perfected 1917 Model

AIR-FRICTION CARBURETORS

Start your motor instantly and move off at once, even in zero weather, with no "popping", "spitting", or "missing". END your carburetor troubles.

We fit any car without changing present manifold or throttle connections. ASK your dealer. If he can't supply you, write us direct, sending his name and the name and model of your car. 30% off list price where no representative is already appointed. Ask us about our 30 day trial offer.

Dealers, garages and repair shops make greater profits and give more satisfaction supplying AIR-FRICTION CARBURETORS, and spark plugs, than on any other accessories they can handle.



THE AIR FRICTION CARBURETOR CO.
108 Madison St., Dayton, Ohio
Manufacturers of carburetors for pleasure cars, trucks, tractors and motor boats.

Show this adv. to your dealer or repair shop

Fruit Packages



Our 1917 Catalogue sent free for the asking. Manufacturers of Berry Baskets, Boxes and Crates, Bushel, Peace, Grape Baskets and Vegetable Crates.

NOTICE—200 Quart Berry Baskets sent anywhere within first zone by Parcel Post for \$1.25 postpaid.

Augusta Basket Co., Box 52, Augusta, Mich.

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

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.

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

HORSES

REGISTERED PERCHERON Mares and Stallions priced to sell. Inspection invited. L. C. HUNT, LATON 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 STALLION coming five in Aug. For sale or exchange for Reg. Shorthorn Cattle. E. J. Aldrich, R. 1, Tekonsha, Mich., Bell Phone

THIS IS THE LAST 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 21, 1917.

Cattle.

Receipts 2268. Dry-fed 25c lower; bulls and all grades of grassers 75c@ \$1 lower and very dull, a large number going over unsold.

Best heavy steers, dry-fed \$11@ 12.50; best handy weight butcher steers, dry-fed, \$10.25@11.75; mixed steers and heifers, grass \$10@10.75; handy light butchers \$8.50@9.75; light butchers \$8@9.25; best cows \$7.50@9; butcher cows \$7@8; common cows \$6.50@7; canners \$5@6; best heavy bulls \$8.50@9; bologna bulls \$7@8; stock bulls \$6.50@7; feeders \$8@9; stockers \$7@8.50; milkers and springers \$5@8.50.

Erwin, S. & J. sold Nagle P. Co. 2 cows av 765 at \$6, 2 do av 900 at \$6.75, 2 do av 1110 at \$8, 2 do av 1060 at \$8.25, 5 steers av 976 at \$11, 1 do wgh 1330 at \$10.75, 1 do wgh 1280 at \$12, 5 do av 914 at \$9.75, 3 do av 713 at \$8, 12 do av 712 at \$8.75, 5 do av 1144 at \$10.50, 13 do av 904 at \$9.75, 2 do av 1085 at \$10.50, 16 do av 909 at \$9.50, 2 bulls av 1210 at \$8.50, 1 do wgh 1500 at \$9, 5 do av 890 at \$8, 4 butchers av 680 at \$8.25; to White 10 stockers av 611 at \$6.50; to Nagle P. Co. 15 steers av 1045 at \$10.50, 1 do wgh 1450 at \$12.50, 1 do wgh 980 at \$11, 5 do av 868 at \$9.75, 8 heifers av 732 at \$9, 4 cows av 905 at \$6.90, 6 do av 1165 at \$8, 2 do av 1040 at \$8.10; to Applebaum 7 butchers av 700 at \$7.65; to Thompson 9 do av 946 at \$9; to Hammond, S. & Co. 22 steers av 972 at \$9.25, 24 do av 820 at \$10.50; to Mason B. Co. 9 do av 1013 at \$10.50; to Kamman B. Co. 27 do av 1000 at \$10.40; to Nagle P. Co. 3 cows av 1400 at \$10; to Hammond, S. & Co. 2 do av 845 at \$7.50, 1 bull wgh 1300 at \$8.25, 4 cows av 1067 at \$8.40; to Mason B. Co. 3 steers av 977 at \$10.50, 2 bulls av 1320 at \$8.25.

Sandel, S. B. & G. sold Breitenbeck 5 butchers av 784 at \$9.35, 1 cow wgh 990 at \$8.50; to Fineman 4 butchers av 500 at \$7, 1 bull wgh 1100 at \$8, 5 butchers av 798 at \$8.50, 1 cow wgh 650 at \$7; to Breitenbeck 12 steers av 900 at \$10.75; to Garber 11 butchers av 700 at \$8.25; to Walk 11 do av 673 at \$7.25; to Applebaum 5 do av 748 at \$6.75; to Garber 9 steers av 722 at \$8.60; to Hammond, S. & Co. 9 cows av 900 at \$6.60, 1 do wgh 980 at \$6.60; to Bryan 1 stocker wgh 690 at \$7.85, 7 do av 711 at \$7.85; to Mason B. Co. 1 cow wgh 960 at \$8, 3 butchers av 550 at \$7.75; to Sullivan P. Co. 5 cows av 882 at \$6.25; to Nagle P. Co. 3 steers av 977 at \$10.50; to Lee 8 cows av 731 at \$6.25; to Bray 5 do av 858 at \$6; to Hammond, S. & Co. 5 cows av 998 at \$6.50, 1 bull wgh 970 at \$7.50; to Reed 3 feeders av 970 at \$7.50; to Mason B. Co. 3 cows av 1023 at \$9, 7 steers av 999 at \$10.75; to Thompson 19 do av 1075 at \$10.75, 5 do av 1046 at \$10.

McMullen, K. & J. sold Goose 4 steers av 520 at \$7.75, 3 cows av 866 at \$6.75; to Goodgold 9 do av 714 at \$8.60; to Thompson 10 butchers av 937 at \$10; to Heminger 7 stockers av 530 at \$8, 2 do av 625 at \$8; to Mich. B. Co. 6 steers av 928 at \$10, 8 cows av 981 at \$6.25, 3 do av 930 at \$7.50, 1 bull wgh 1020 at \$8.

Veal Calves.

Receipts 729. Market strong. Best \$15@15.50; others \$8@12.50.

Sandel, S. B. & G. sold Mich. B. Co. 31 av 160 at \$15.50; to Thompson 7 av 155 at \$15.25; to Nagle P. Co. 7 av 170 at \$15.50, 19 av 142 at \$15, 11 av 185 at \$15.50, 17 av 160 at \$15; to Shipiro 10 av 161 at \$15.50; to Sullivan P. Co. 15 av 150 at \$15.50, 8 av 155 at \$15.25.

Sheep and Lambs.

Receipts 972. Market steady for lambs; sheep dull. Best lambs, dry-fed \$17@17.50; fair lambs \$15@15.50; light to common lambs \$13@14; yearlings \$13@14; fair to good sheep \$8.75@9; culls and common \$7@8.

Bishop, B. & H. sold Thompson 120 lambs av 92 at \$15.60; to Mich. B. Co. 125 do av 80 at \$15.50; to Parker, W. & Co. 254 do av 77 at \$15.60; to Thompson 5 do av 55 at \$17; to Hammond, S. & Co. 9 do av 65 at \$17, 1 yearling wgh 110 at \$14, 12 lambs av 65 at \$17; to Sullivan P. Co. 8 do av 68 at \$17, 17 do av 55 at \$11, 8 do av 75 at \$13; to Dunn 22 sheep av 115 at \$9, 3 do av 130 at \$7, 5 do av 90 at \$7, 5 do av 125 at \$9.

Hogs.

Receipts 2863. Market 10@15c higher. Pigs \$14.25@14.50; mixed \$15.50@16.

Veterinary.

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

Cow Leaks Milk.—Will you tell me what can be done for a cow that loses her milk? She is a large Durham and as I bought her on time, giving my notes, I am not allowed to sell her for nine months. What can be done with a cow of this kind? I milk her at five o'clock in the morning and at six o'clock in the evening. J. V. R., Belleville, Mich.—Milking her three times a day is perhaps the most sensible thing to do, for by using teat plugs carelessly the udder is pretty sure to become infected and destroyed. Furthermore, by dipping the teats in strong alum water or other astringents they usually fail to contract the external opening to teat canal enough to prevent this milk flow when the udder fills.

Indigestion.—Our pet cat has been ailing for the past two months; these sick spells last from one to four hours and he has coughing spells. I had an idea it might be worms and treated him for them, but I am sure I was mistaken as he passed none. He is dull and dumpish. I had a pet cat die last winter, cut him open and found trouble in stomach. L. N., Gaylord, Mich.—A complete change of diet would do him good. The best cat food is fresh lean meat and fish. Give him an occasional dose of castor oil, also give him some catnip in feed twice daily.

Farmers' Emergency Medicine Chest.

—I wish you would publish a short list of things that long experience has taught that a farmer really needs in emergencies. R. D. B., Gaylord, Mich.—Every farmer should own a milk fever outfit if he keeps deep-milking cows.

—Directions go with the outfit—and farmers can use them. He should also own a cattle trocar and canulae; this he can use and often save the life of a valuable animal, before the Vet. would have time to get there. Keep a small quantity of rectified oil of turpentine to give in case of bloat or worms, always add eight or ten parts oil. Keep a supply of coal tar disinfectant, hydrogen peroxide, carbolic acid, boric acid, borax, sulphate of iron, ginger, gentian, cooking soda, castor oil, raw linseed oil, Glauber's salts, epsom salts, and a very good home liniment is made by mixing equal parts of turpentine, aqua ammonia and raw linseed oil. It is no mistake to keep on hand some of the commercial stable remedies as they all possess more or less merit. I also advise you to keep a few needles, catgut, silk or linen thread to sew wounds, and don't forget that tincture iodine is one of the most useful drugs you can keep, but remember it should be kept in a bottle with a rubber cork or glass stopper. Keep a milking tube, also teat plugs. A good fountain syringe is useful for washing out wounds, or vagina, besides a brass syringe with long nozzle to give medicine or injecting lotion into wound cavities is a handy instrument to have on farm.

Rheumatism.—I have a yearling colt kept in box stall all winter until I turned him out. Some time later he developed a stiff neck and has gradually grown to be stiff and sore in all four limbs; but, he has a good appetite and both kidneys and bowels act normally. J. H. E., Crystal, Mich.—Give colt 40 grs. sodium salicylate at a dose twice a day; give 20 grs. of potassium iodide at a dose once a day. This colt should be sheltered at night and during cold rain storms.

Stocking—Cough.—What shall I do for our six-year-old mare whose hind leg swells when in barn. This mare appears to be in a healthy condition, but occasionally coughs. She raised one fine colt and I would like to know if you believe it advisable to breed her again? J. A. B., Fife Lake, Mich.—Give your mare a teaspoonful of acetate of potash at a dose in either feed or drinking water night and morning, until her kidneys act fairly free. When she comes in from work, apply cotton and bangle, leaving it on until bed time. Her cough will perhaps leave her as soon as warm weather continues. I know of no reason why you should not breed her again, unless she is a small light mare.

Piles.—I have a two-months-old pig which seems to be affected with piles, protruding from the bowel there is a bunch about the size of a hickory nut and as this is one of the best pigs of litter, I would like to save him. W. W., Coleman, Mich.—Dissolve 1 oz. of sugar of lead, ½ oz. sulphate of zinc, ½ oz. powdered alum and 1 oz. tannic acid in one quart of cold water and apply to bunch three times a day.

SWEET EARTH NEEDED BY SOIL BACTERIA

Soil bacteria need fresh, sweet soil in which to do their work, as much as you require fresh, sweet air.

Just as the harvesting of any farm crop is done by the energy of men and horses, so is the work of growing the crop accomplished by the energy of soil bacteria. To transform every dry, dead seed into a sprout, and to push that green sprout up through the heavy ground, is the task of virtual armies of bacteria in the soil. The men and horses could not do their best work if the air they breathed was polluted. Neither can the vast armies of soil bacteria do their best work if the soil they work in is sour and acid.

SOLVAY
PULVERIZED
LIMESTONE

Here is the best material obtainable for sweetening your sour, acid soil—the most inexpensive, too. Solvay Pulverized Limestone is prepared especially for agricultural use, and is used all over Michigan as the base of fertility. Solvay guarantees that 95% of its Pulverized Limestone passes through 50-mesh screen, and that it contains 94% total carbonates. Its use creates maximum fertility.

"Use Lime!" reads on authorized statement of Carl Vrooman, Assistant Secretary United States Department of Agriculture. "Is it too late materially to increase our national food supply?"

"Not if our farmers in the eastern half of the country will promptly resort to the use of the cheapest and quickest known agency for speeding up national production of food-stuffs—namely, Lime." The initial returns from the application of lime to sour land are sometimes remarkable. An investment in limestone often pays a dividend of a hundred per cent or more the first year, if care is taken at the same time to maintain the organic content of the soil.

It is the duty of American farmers, in this national crisis, to make the most of this, our cheapest and most easily available agency for speeding up production. War or no war, a carload of crushed limestone where needed is always money in the farmers' pocket at the end of the crop year. And a carload of limestone, judiciously used by each farmer whose land is too acid, will augment our supply of breadstuffs by a surprising number of millions of bushels.

Sound advice every farmer will agree. And every farmer who wants to profit by it will find in Solvay Pulverized Limestone the best material of its kind on the market, reasonable in price, properly packed and promptly shipped. Write for full information and prices.

THE SOLVAY PROCESS COMPANY

680 West Jefferson Ave., Detroit, Mich.

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.
O. 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.

BIG TYPE POLAND CHINAS

Boar Pigs from the CHAMPION and GRAND CHAMPION and our other GREAT HERD BOARS and big STRETCHY SOWS of very best breeding and individuality. \$20.00 each if ordered now.
HILLCREST FARM, F. B. Lay, Mgr.
Kalamazoo, Mich.

"War is —"

So is starvation, every one should do their bit. You can raise more pork on less feed if you breed Butler's 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.

Big Type Poland Chinas April & May pigs from big stock with lots of quality. Stock guaranteed as represented. Prices right.
L. W. Barnes & Son, Byron, (Shiawassee Co), Mich.

L. S. P. O. 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 Chinas, fall and spring pigs, at farmers prices. B. P. Rock eggs
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, Salline, Michigan.

Big Type Poland China fall boars. Am booking orders for spring pigs, satisfaction guaranteed. G. W. Holton, R. 11, Kalamazoo, Mich.

Registered Poland China Sows and gilts bred for Lone Cedar Farm, Pontiac, Mich.

Hampshire Swine. Nothing for sale but fall boars and gilts. Write for prices.
FLOYD MYERS, R. No. 9, Decatur, Ind.

Hampshire Weanling Pigs from good breeding. Priced for quick sale.
A. E. BACON & SON, Sneridan, 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.

Additional Horse Ads. on Page 726



A real furnace. Heats whole house comfortably, dependably, cleanly and economically from one register. Exactly same construction as the old reliable Mueller line, but without pipes or flues. Ideal for old or new homes and buildings with small or partial cellars. Saves 35% in fuel. Burns hard or soft coal, coke or wood.

Made of solid cast iron, has triple jacket, substantial firepot and radiator, best type grate. Designed right, built right. 60 years of experience and the **Mueller Guarantee** behind it.

Tear out this ad, write your name and address on margin and mail to us for valuable free book on pipeless heating, and name of nearest Mueller dealer.

L. J. Mueller Furnace Co., 195 Reed Street, Milwaukee, Wis.
Makers of Heating Systems of All Kinds Since 1857

SAVE 40% on YOUR TIRES

3500 Mile Guarantee
Manufacturers of high-grade tires sell us their surplus stock or over-production for spot cash. These tires, actually firsts, are sold as blemished, at a **REDUCTION OF 40%.**

Size	Plain	H-Skid	Guaranteed
28x3	\$7.60	\$8.25	\$2.35
30x3	7.70	8.60	2.20
32x3	9.25	9.95	2.40
30x3 1/2	9.95	11.10	2.60
31x3 1/2	10.50	11.60	2.75
32x3 1/2	11.50	12.96	2.90
34x3 1/2	12.15	13.35	3.05
31x4	14.75	16.60	3.50
32x4	15.05	16.85	3.80
33x4	15.75	17.20	3.85
34x4	16.10	17.55	3.75
35x4	17.00	18.60	3.85
36x4	17.20	18.65	3.95
34x4 1/2	21.65	23.65	4.55
35x4 1/2	22.70	24.70	4.65
36x4 1/2	23.05	25.15	4.75
37x4 1/2	23.95	26.10	4.95
35x5	24.90	27.25	5.40
36x5	27.10	29.60	5.65
37x5	26.40	28.85	5.60

Pay After Examination on all parts and accessories. Tell us what you want. We ship C. O. D., subject to inspection. When ordering state if Clincher, Q.D. or S.S. are desired. **ORDER TODAY—prices may jump.** Full information on request. Address:

Philadelphia Motor Tire Co.,
240 N. Broad Street. PHILADELPHIA, PA.

THE IXL WINDMILL

Always Gives Good Service

It is a wonder—the most powerful, self-regulating windmill on the market. The IXL will always work in the slightest breeze and our patented self-governor positively eliminates all danger of damage in high winds. Adjustable main casting takes up all wear on cog-wheels.

Write to-day for catalog. Responsible agents wanted.

Phelps-Bigelow
Windmill & Mfg. Co.
Kalamazoo, Mich.

Delivered To You FREE

Your choice of 44 styles, colors and sizes in the famous line of "RANGER" bicycles, shown in full color in the big new Free Catalog. We pay all the freight charges from Chicago to your town.

30 Days Free Trial on the bicycle you select, actual riding test in your own town for a full month. Do not buy until you get our great new trial offer and low factory-direct-to-rider terms and prices.

TIRES, LAMPS, HORNS, pedals, single wheels and repair parts for all makes of bicycles at half usual prices. No one else can offer such values and such terms. **SEND NO MONEY** but write today for the big new catalog. It's free.

HEAD Cycle Company
Dept. P-77 Chicago

Rider Agents Wanted

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.

When writing to advertisers please mention the Michigan Farmer.

Marketing the Eggs

By EARL W. GAGE

WHAT would be your opinion of a farmer who packed his produce regardless of quality and shipped it to a commission merchant who made a specialty of inferior stuff for the lower class of trade?

What would you think of a farmer who graded and packed his produce with care and shipped to the above market, knowing that it would meet the attention of only those buyers who pay the very lowest prices?

In marketing the average egg crop the country merchant accepts without question all eggs that come to him, fresh, dirty and rotten—paying the same price for all. Anything with a shell on goes. The egg that was laid last spring on the sunny side of the strawstack, survived the process of incubation and was not discovered until several months later is just as good as the one that was laid this morning if it can be eased into the case without exploding. Both bring the same price.

Whether they are good or bad does not concern the merchant. He sells them to the egg dealer for what they are worth. He loses nothing. The egg dealer candles and grades them. He loses nothing. The real loser is the careful farmer who sells his eggs while they are fresh and good, and the reason he loses is because his neighbor sells eggs that are stale or rotten. Marketing unwholesome eggs on this one-price basis forces down the price of fresh eggs.

Last spring a farmer's incubator lamp went out and when the accident was discovered the eggs were stone cold. Not knowing the extent of the damage that had been done he sold the eggs at the village store and filled the machine with fresh. On some farms the eggs are gathered only when groceries are needed, when a dozen or so are found under a broody hen and sent to market.

An egg is fresh only once and then for a short time. In hot weather it is really a matter of hours. In the cold weather, even under the best of conditions, it will not be strictly fresh at the end of a week. Comparatively few farmers know what a really fresh egg is. A man who has a large fresh egg trade among summer resorts and buys the most of his stock direct from farmers, says it is unsafe to sell an egg as fresh that has not been candled, and cited the following from his own experience:

From two dozen eggs bought of a farmer five were thrown out as rotten, though all were guaranteed to be "new laid."

He bought nine dozen "strictly fresh" from a farmer's wife and found on candling that over four dozen were two weeks old or older and unfit for his trade.

After buying at one farm for several weeks and getting only first-class stock he one day found a rotten egg.

One farmer's wife supplied him with two cases a week. Time after time these were candled and never was one found that was not fair, full and fresh, and knowing the woman to be the very exponent of honesty he at last ceased to candle and shipped the cases without opening them, to one of his best customers. All went well until the end of the second season when he received a tremendous kick from the customer. Several bad eggs by some oversight had been included in one case. After that even these eggs were always candled, but the mistake never happened again. Now he makes no exception but candles every egg he buys.

A farmer's wife worked up a good trade in new-laid eggs. It took her two or three years to do this and she was getting unusually good prices. Then by mistake certain eggs used as nest

eggs were included in a shipment and she lost her trade. If a few cents had been invested in porcelain nest eggs this would not have happened.

On all large egg farms no males are kept with the flocks except when the eggs are wanted for hatching purposes. Under these conditions the eggs keep better and sell better.

Although there is no need to candle eggs that are properly gathered it is as necessary for the farmer to know how to distinguish between a good egg and a poor one as between a good apple and a poor one if he expects to be as successful in his poultry yard as in his orchard.

PLACE ORDERS FOR FOOD CONTAINERS AT ONCE.

In order to avoid serious delay and probable food loss during the approaching harvest season, growers and shippers are urged by the federal department of agriculture to estimate accurately their needs and place their orders for barrels, crates, hampers, baskets and other containers for food products at once. They should notify the manufacturers to begin making deliveries immediately, or at least as soon as their crops are reasonably assured. Larger supplies of containers will be needed this season than usual. Since crops of most perishable products must be moved as soon as ready to harvest, serious financial loss to growers and shippers and failure to save needed crops may result unless orders for packages are placed promptly and shipments begun within the next few weeks.

There may be a package shortage this season unless growers and shippers are able to anticipate their needs. It will be difficult for manufacturers to meet the emergency should abnormal demand for additional packages for perishable crops arise in the midst of the harvest season. At that time, it is pointed out, traffic on railroads will be heaviest and shipments may be much delayed when most needed. The responsibility of manufacturers to put forth every reasonable effort to help meet the situation should not be overlooked.

Few persons realize the enormous quantities of barrels, baskets, crates and similar containers that are used

each year. Containers for fruit and vegetables are very bulky. It is quite apparent it would be nearly impossible for factories to accumulate in advance and store a supply sufficient for the total needs of the fruit and vegetable crop of the country. The only safe plan is for each grower and shipper to order his supplies now. Prompt action will tend to speed up the manufacture and delivery of packages and may save many thousands of dollars' worth of crops.

RULING AS TO STANDARD CONTAINERS.

The fact that a standard container has been used as a food package does not in itself relieve the shipper from stating the quantity of the contents, as required by the Net Weight Amendment. The position of the Department of Agriculture is shown in the following statement just made public:

"Use of standard containers does not obviate necessity for declaration of quantity of contents required by net weight amendment."

"Numerous inquiries have come to the Bureau of Chemistry regarding the requirements of the net weight amendment to the food and drugs act as applied to food products in standard barrels and to small fruits in Climax baskets, and other standard containers, in view of the requirements of the Standard Barrel Act, (March 4, 1915), and the Standard Container Act, (August 31, 1916)."

"The Bureau is of the opinion that these laws in no wise conflict in their requirements, and that in case of food in package form, even though standard containers are used, it is necessary to mark the packages with the quantity of the contents. It will be noted that paragraph (e) Regulation 29, as amended by Food Inspection Decision 168, admits of the use of the term "one United States standard barrel" as a unit of dry measure for use upon standard barrels which are filled to capacity with food products."

"This ruling is not intended to revoke the previous public announcement (Item 155, S. R. A. Chem. 16), to the effect that, pending a determination of the question whether the Net Weight Amendment applies to berries in small containers, the department will not recommend proceedings under the act solely upon the ground that the individual containers bear no statement of the quantity of the contents. As previously announced, however, the department is of the opinion that crates containing berries, peaches and tomatoes in small open containers, constitute food in package form, and the law requires that the crates be marked with a statement of the quantity of the contents, which statement should include the number of small containers and the quantity of the contents of each."

Ship Perishables Carefully

SHIPPERS should exercise unusual care in packing and loading their perishable products. They should grade these products carefully with reference to the degree of their maturity and select a nearby market for the riper products and a distant market for the products that will hold up the necessary time in transit to reach the distant market. Weather reports should be utilized in a study of the weather conditions that are prevailing in the different large markets, to the end that food stuffs that normally are consumed in large quantities in warm weather may not be sent to markets where cool or cold weather prevails.

There should be a fuller recognition of the joint responsibility of the shipper with the carrier for the safer carriage of food products. Shippers should co-operate closely with carriers by giving ample instructions with reference to refrigeration and ventilation, to the end that food products may be properly conserved in transit and reach channels of consumption. Railroad agents could render useful service if they were instructed in some of the most fundamental things connected with the proper care of perishable shipments during the period of loading carload shipments at country stations.

Shippers too frequently through carelessness and a lack of knowledge of the proper methods of protecting perishable shipments leave wagon loads of them exposed to the hot sun for hours at a time instead of loading them promptly into a refrigerator car and keeping the doors of the car closed between loads. The carrier's representative or local agents usually take notice of such condition only for the purpose of recording the circumstances for consideration in connection with damage claims that may be filed. The fact frequently is overlooked that the carrier may render definite assistance in the conservation of food stuffs by co-operating with the shippers and giving them all the information which it has as to the proper methods that should be used.

Shippers should invariably notify consignees as soon as shipments are forwarded from point of origin. Where the distance to market is short the notification should be given by wire, so that the consignees may be in a position to take more prompt delivery of shipments on arrival and thus eliminate deterioration that so frequently takes place by the holding of shipments for long periods of time after arrival at the market.

Rape Pasture for Hogs

By W. E. J. EDWARDS

No hog raiser should fail to provide pasture for his hogs this summer, as it is essential that stricter economy be practiced under existing conditions than ever before. Rape is one of the most satisfactory pasturage crops, as it furnishes a large yield of palatable, succulent and nutritious food at a low cost. Sufficient exercise, fresh air and more sanitary quarters are provided in addition, while the saving of labor over pen feeding is another item worth considering.

During the summer of 1916 work was carried on by the Animal Husbandry Department of the Experiment Station of the Michigan Agricultural College to ascertain the feeding value of rape as a hog pasture. Three lots of pigs were turned into rape pasture. Of these, two lots were fed different amounts of grain in troughs as usual, while for the third lot a selffeeder was used to determine the merits of the cafeteria plan of feeding. The results were as follows:

Method of feeding:	Lot 1 Self-feeder.	Lot 2 Trough.	Lot 3 Trough.
Ration (rape pasture in each lot).....	Hominy and Middlings at 2 pts. will	Hominy and Middlings 1 pt.	Hominy and Middlings 2 pts.
Lbs. grain eaten daily per 100 lbs. of live weight	3 to 4	3 1/2	2 1/2
Size of lot.....	1/2 acre	1/2 acre	1/2 acre
Number of pigs in lot.....	9	9	9
Average gain per pig daily.....	1.34 lbs.	1.13 lbs.	0.80
Lbs. feed per 100 lbs. gain.....	258	280	257
Cost of feed per 100 lbs. gain.....	\$3.87	\$4.20	\$3.85
Hominy and middlings at \$30 per ton each.	plus pasture	plus pasture	plus pasture
Price received per 100 lbs. of feed pork at 7c per lb.....	\$2.71	\$2.50	\$2.72
Cost per 100 lbs. feed.....	\$1.50	\$1.50	\$1.50
Profit per 100 lbs. feed fed.....	\$1.21	\$1.00	\$1.22

It will be observed that much less grain was necessary to produce 100 pounds of pork than when pasture is not supplied for from 400 to 500 pounds of grain are necessary when pen feeding is practiced. With the prevailing high prices of all grains, this is very important. The cheaply produced rape replaced from one-third to one-half of the high-priced grain, showing that even at prevailing prices grain, when supplemented with rape pasture can be fed to hogs at a good profit. The price realized on the grain fed of from \$2.50 to \$2.71 per 100 pounds is worthy of note. Hominy has about the same feeding value for hogs as corn, which shows that through the hog remunerative prices can be realized for home-grown grains and the fertility of the soil be maintained for future crops.

The cost of production of Lot No. 3 was somewhat less than that of Lot No. 2, but the hogs in the former made considerably smaller gains, and were not finished until later in the fall, selling for less per pound, a fact which more than counteracted the cheaper gains produced. The advisability of feeding at least about one-half as much grain as in pen feeding is apparent, as hogs cannot utilize large amounts of forage to advantage.

The self-feeder lot showed the advantages of this system of feeding, the gains being made as cheaply as any. The hogs were finished before the others and commanded the higher early fall price. Less labor was necessary with this system, and a smaller amount of rape was eaten, the remainder being utilized by other pigs later. This system can be recommended especially with hogs that are to be pushed for the early market.

Rape will give best results if sown from early spring to June 1, but may be sown as late as July 1, or even later, depending upon weather conditions. Good yields are often grown on clover sod plowed after the first cutting of hay has been removed, if the seed bed can be put in good condition and show-ers are prevalent. Rape is usually

sown broadcast at the rate of about five pounds per acre, but as the crop requires a great deal of moisture it is advisable in a light soil to sow in drills about twenty-eight inches apart and cultivate between the rows, using about three pounds, or slightly more, seed per acre.

A TRUE SHEEP STORY.

(Continued from page 718).

It is scarcely necessary to comment on the above record. Doubtless other flocks have done as well, but this record is certainly worth passing around for folks to look at. Sheep-men everywhere may well take notice. The owner of this flock still has the sheep with which he started, as good as ever, except for additional age. The figures are indeed, startling. Taking into account the small amount invested in the beginning, the comparatively low cost of keeping the flock, and the amount of labor expended, the proposition ought to appeal to every farmer who is

in a position to keep sheep. Granting that feed of all kinds is high, the fact still remains that for a large portion of the year, pasture was the only expense in the case under consideration.

Perhaps another feature in this sheep story that is worth noting, is the fact that Mr. Cory delivered this year's wool crop in his auto. The utility of the auto in general, and the smallness of the wool package that brought \$258, are both brought out vividly in the light of the facts. If any farmer has been asking himself whether or not a small flock of sheep is a paying investment, the figures in this article ought to convince him in the affirmative. "Easy money," some farmers whom I know, term the money they realize from their flock of breeding ewes.

Hillsdale Co.

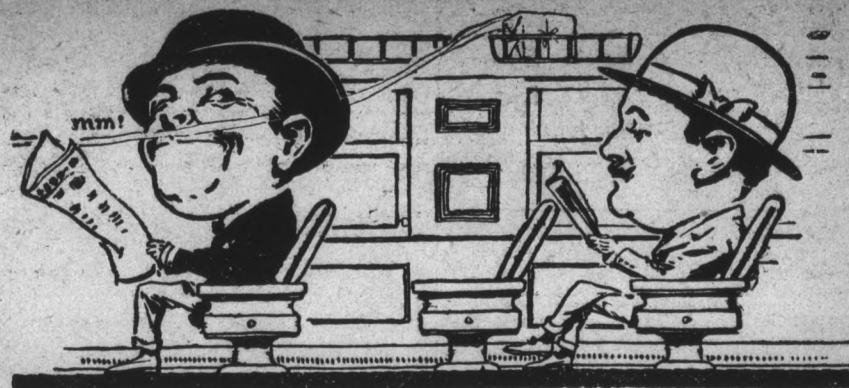
J. A. KAISER.

LIVE STOCK NEWS.

John Eichmeier, of Rockford, Iowa, who is widely known as one of the largest cattle feeders in that territory, appeared in the Chicago market on a recent day with 21 carloads of cattle and hogs. Over 11 cars of cattle which averaged in weight 1387 pounds sold for \$13 to one buyer. The remainder of the cattle were light in weight. The hogs averaged considerably more than \$16 per 100 pounds when sold. Mr. Eichmeier carried home with him close to \$56,000 for this one shipment, which meant a nice profit, the shipment ranking close to the largest single individual shipment on a single day's market. Last year he sent back over \$30,000 for a single shipment, showing a liberal profit.

Hammond & Hammond, of Van Buren county, Mich., who are known far and wide as extensive stock feeders, marketed a short time ago three carloads of yearling heifers, with 86 head which averaged 654 pounds going at \$11.25, while 32 head which tipped the scales at 555 pounds sold for \$10. These cattle returned good profits, despite the fact that the corn fed to them was worth \$1.80 per bushel.

James C. Barr, of Grundy county, Ill., widely known as one of the most successful and most progressive stock cattle feeders in the state, was in the Chicago market a short time ago looking after the sale of 15 carloads of fat cattle. One hundred head of the lighter weight cattle brought \$13.35, and the heavy end of the shipment sold for \$13.60.



HOW do you know
he's taking home Coffee?

"Your Nose Knows"

Fragrance is the essence of coffee. It's the fragrance that makes it appeal to you. It's the pure fragrance of a good tobacco, likewise, which guarantees a personal smoke satisfaction. Your sense of fragrance is a sure guide. Trust it—"Your Nose Knows."

It will lead you straight to

Tuxedo
The Perfect Tobacco

Made of the most fragrant leaves of the tobacco plant—the tender Burley leaves, ripened in the Blue Grass Sunshine of Old Kentucky, mellowed and carefully blended—Tuxedo has a pure fragrance all its own—"Your Nose Knows."



Try this Test: Rub a little Tuxedo briskly in the palm of your hand to bring out its full aroma. Then smell it deep—its delicious, pure fragrance will convince you. Try this test with any other tobacco and we will let Tuxedo stand or fall on your judgment—

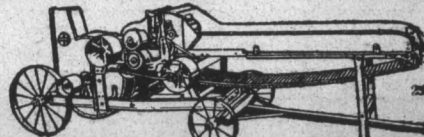
"Your Nose Knows"

The American Tobacco Co.



SILBERZAHN

The new models are "wonders." All steel frame; low feed table; positive safety device; automatic feeding; 6-arm blower that simply can't clog and can be regulated to height of silo; malleable knife heads; best knife adjustment. Holds record for simplicity, safety, clean cutting and great capacity. Write for catalog showing ten sizes. Gives full details and explains how and why the "Gehl Silberzahn" is better. Write today.



GEHL BROS. MFG. CO.
111 South Water St., West Bend, Wisconsin

The Cows Know—but SHE can't talk. Ask the Dealer.

SO-BOS-SO
TRADE MARK
KILFLY

Don't let your cows use up all of their energy on flies. SO-BOS-SO KILFLY

Keeps Flies Away

Spray the cow twice a day with SO-BOS-SO KILFLY and the flies will not bother the cows while milking or while in the pasture. Not injurious to skin. Will not gum the hair. Positive protection. Is the most effective preventive against the torture of flies known to chemical science. Has been used for over 17 years in the United States and foreign countries.

You can buy SO-BOS-SO KILFLY from your dealer in gallon cans. Send for circular describing how SO-BOS-SO KILFLY can help you with other farm duties.



The H. E. Allen
Mfg. Co., Inc.
Carthage, N.Y.
U.S.A.



A 60-TON SILO No Scaffolding Erected One Day Agents Wanted. Fully Guaranteed. Bontia Farm, RAYMORE, MO. \$75



Don't Get Caught Like This!

You'll need horse badly from now on. Why take risk or lay up because of lameness? Send for...

SAVE-THE-HORSE

THE humane remedy for lame and blemished horses. It's sold with signed Contract-Bond to refund money if it fails to cure SPAVIN, Ringbone, Thoropin and ALL Shoulder, Knee, Ankle, Hock and Tendon Diseases, and while horse works. Our 96-page FREE BOOK is the last word in the treatment of 58 kinds of lameness. It's our 21 years' experience. Expert veterinary advice. Sample Contract and BOOK—ALL FREE.

TROY CHEMICAL CO., 20 Commerce Ave., Binghamton, N.Y. Druggists everywhere sell Save-The-Horse with CONTRACT, or we send by Parcel Post or Express Paid.

**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.

Please Mention The Michigan Farmer When Writing to Advertisers

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. C. 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 \$3, \$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, trapnested 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 994 Union, Grand Rapids, Mich.

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 Postpaid: \$5 per 100; 30% 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; \$36.50 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 my 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 38 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 Catalogue free. **Interlake 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. Saliard, Prop. Res. W. St. Claire St., Romeo, Mich.

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

Pullets and Cockerels, Yearling Hens and Cocks Homestead Farms invites correspondence with the poultry farmers of Michigan with reference to all kinds of Pure Bred Practical Poultry. **Pur: Bred Barred, Buff and White Rocks; Rhode Island Reds; Wyandottes; Minorcas; Poultry White, Brown and Buff Leghorns; Anconas; Turkeys; Geese; Ducks. Young Cockerels and Pullets; Yearling Hens and Cocks from this year's breeders. Write for description of poultry and prices. Are you interested in the Homestead Farms' federation of interests and the consequent commercial advantage and profit? Write to HOMESTEAD FARMS, Bloomingdale, Mich.**

Bred-to-Lay S. C. W. Leghorns and Barred Rocks. Eggs, \$1 for 15, \$1.50 for 25, \$2.50 for 50. **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. Roster \$1 and \$1.25. **HILL-CREST POULTRY FARM, Ypsilanti, Mich.**

Silver Spangled Hamburg Eggs White Holland Turkey eggs \$5 per setting. Circulars sent for stamp. **RIVERVIEW FARM, Vassar, Michigan.**

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

S. C. White Leghorns. Size, shape, vigor, egg production. Hatching eggs \$5, Baby Chicks \$11 per 100. 15 years in the business. **A. O. Howard, Tecumseh, 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 per 100. Special matings \$5 for 15. **DAVID RAY, 709 Norris St., Ypsilanti, Michigan.**

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

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



Help For Hens and Chicks

Right now in midsummer all fowls are liable to be infested with lice. Day and night the torture goes on. Hens stop laying, chicks do not grow. Lice positively kill millions of chicks. Here's the way to help your fowls and chicks. Sprinkle

Dr. Hess Instant Louse Killer

into hens' feathers, about roosts and houses. Put it into the dust bath, both hens and chicks will work it all through the feathers, bringing the Louse Killer right home to the lice. You can do your poultry no better service. Don't neglect them.

Also destroys bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes. Sold in sifting-top cans. **Price, 1 lb. 25c; 3 lbs. 60c (except in Canada) DR. HESS & CLARK, Ashland, Ohio**



GET THIS CATALOG

WHEN YOU NEED POULTRY SUPPLIES

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
Crit	Automatic Feeders	Lice Paint
Oyster Shell	Beef Scrap	Disinfectants
Charcoal	Chick Feed	Poultry Remedies
Allalls	Scratch Coops	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.

AVICOL Stops chicks dying

A new scientific discovery that positively cures and prevents White Diarrhoea or Chick Cholera, Black-head, and other bowel diseases of poultry. Leading poultry breeders everywhere use and endorse Avicol. Easily used, in the drinking water. Bond-Guaranteed to do the work or money promptly refunded. Your poultry remedy dealer can supply you. If not, we will send you Avicol by mail prepaid. Price 25c and 50c. Don't accept a substitute. **Burrell-Miller, Indianapolis, Ind. 113 Hoosier Block**

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, Rambouillet 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 1915. 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.**

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.**

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

The Chicken Hawk

EVERY year there is much damage done to the poultry raiser by the many hawks of various kinds and sizes. This hawk menace is most seriously felt in the northern counties where there are many swamps and tracts of timber which serve as nesting places. The farmer never knows at what moment a hawk will swoop down and kill or carry off one of his finest fowls.

And the damage is not confined entirely to the poultry yard. Thousands of small birds, who are the farmer's best friends, as insect destroyers, are devoured by these pests. In some localities the great horned, or "Hoot,"



The Trap.

owl is even more of a nuisance than his smaller relatives the hawks.

I believe that a bounty should be paid by the state to help get rid of these enemies of feathered life. But, in the absence of a premium on these marauders, I believe that the readers of this paper will be interested in ways of combating them.

In the spring and fall, when the foliage hasn't appeared or has fallen off, the hawk is especially hungry because of the wariness of the small birds and becomes the more troublesome to the farmer and poultry raiser. At those times he is quite easily trapped by setting a trap and burying it in feathers. The hawk takes the pile of feathers for a chicken and descends to his meal; but when he buries his talons in his prey he is surprised by the trap and "sticks around" until the farmer comes and attends to his case. A No. 1 trap will do, but a No. 1½ or No. 2 is better. The trap should be placed where the wind will not blow off the feathers; in setting the trap, be careful that you don't get too big a wad of feathers over the hinges of the trap jaws as this will sometimes allow Mr. Hawk to pull out his foot and escape; but also be sure that the trap is entirely covered.

In mid-summer when the hawk is not so easily fooled, he will often kill a chicken or duck out in the field and after making a meal will fly away to return again in the morning and finish his quarry. In a case like this he will usually return at daybreak, or shortly after, for his breakfast. Here is a good chance to capture him; set a trap beside the dead fowl and cover it with feathers and you will be pretty sure to get him.

There is a creek near my house and a short time ago a hawk killed a duck on the bank of it, near a little trestle work. I took the remains of the duck and set a trap beside it, and the next morning I had a very large specimen of the hawk family.

G. F. DE LA MATER.

POULTRY QUERY DEPARTMENT.

Care of Goslings, and Cholera.

I have some goslings, five weeks old, that are inclined to be weak. At night they seem all right but in the morning I find some dead. When the sun is hot they get lame. I am feeding them on corn meal and bran and it does not seem to make them stronger. When they come from the shell they are all right.

I also have some old hens which have a rattling in their throat and their droppings are green and yellow. Their livers have white spots on them, sometimes in bunches on the side. I feed soft feed with poultry powder in the

morning and corn at night. Will lice cause this trouble? **M. H.**

The grain you are feeding your goslings is all right but you may be feeding them too much. The mixture should be fed quite dry. Also, it is very essential for young geese to get green food and every day they should be given opportunity to eat some fresh grass. It is best to keep them in an enclosure until they are a month old. Keep them dry and also protected from the hot sun. On account of the frequent rains we have been having, dampness may be the cause of your trouble.

During the first month of their life goslings are very susceptible to adverse conditions. Therefore one must use special care with them during that time. After that, if they have been cared for right, they are able to endure considerable bad treatment.

There is nothing you can do to cure cholera, which your hens undoubtedly have. Kill the birds which show signs of the disease and either bury them deep or burn them. Then thoroughly clean and disinfect the coop and keep it clean and dry hereafter.

If you continue feeding soft feed be sure that none is left over from one feed to another. Just give as much as the hens will clean up in a half hour. Soft food spoils easily and spoiled food always causes trouble.

Your method of feeding is not one which will give you good results with your hens, as you are not giving the proper essentials for egg production. Any method of feeding which does not produce results is costly, no matter how cheap it is.

I would suggest the following simple method: Have in hoppers before the hens all the time, bran with fifteen per cent of beef scraps added, or two parts bran and one part ground oats and fifteen per cent of beef scraps is better. Beef scrap is as cheap as anything you can feed now, but be careful not to feed more than fifteen per cent of it, otherwise you may have trouble. For grain feed equal parts of cracked corn and wheat. It is preferable that you feed this in litter so that the hens have to scratch for it.

Lice will not cause the trouble your



Trapped.

hens have, but unsanitary conditions will. Keep the coop clean and dry, feed clean food and give clean water in clean dishes and you will have little trouble. Lice will, of course, keep the hens from laying and will devitalize them so that they become more susceptible to disease.

INCREASE HONEY PRODUCTION.

Buy whole colonies now from your neighbor, who does not particularly care for his bees.

Buy prime swarms from the same source.

Buy combless packages of bees and queens from the south.

Either of the two methods first mentioned are preferable to the last, if healthy colonies can be secured at a fair price.

Some of the manipulations which help to prevent increase through swarming may be mentioned:

Give plenty of ventilation when the warm weather comes.

Shade the hives if they stand out in the sun.

Registered Guernseys

Stock always for sale. May Rose Strain—Herd Tuberculin tested annually. Never had a reactor—no abortion. J. M. WILLIAMS, North Adams, Mich.

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

Get More Butter-fat in future by using now, a pure-bred young bull for sale. Bred Guernsey bull. We have several young bulls for sale. Registration certificate also pedigree furnished with each animal. **NORLAND GUERNSEY FARM**, Long Lake, 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 bred 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

Holstein Calves, 10 heifers, and 2 bulls 15-18ths pure. 16 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. 99124. Dam's record at 6 yrs. butter 28.33 lbs. milk 619.4. Yearly record at 2 1/2 yrs. butter 802 lbs. milk 1302 lbs. W. B. READER, Howell, Mich.

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 33.4 lbs. butter and 18,675.6 lbs. of milk.

Pedigrees and Prices Sent on Application. **R. BRUCE MCPHERSON, HOWELL, MICH.**

**Purebred Registered HOLSTEIN CATTLE**

The ideal milk and beef form is represented by the registered purebred Holstein. It has a higher percentage of weight in the hindquarters than any other breed. Its beef is of high quality. Holstein calves are large, healthy, and easily raised, and a Holstein steer inherits from its dam hardiness and capacity to assimilate large quantities of feed. It makes fast weight gains and is a most economical producer of beef. There's big money in the big "Black and White" Holstein.

Send for FREE Illustrated Descriptive Booklets The Holstein-Friesian Association of America. F. L. Houghton, Sec'y., Box 164, Brattleboro, Vt.

OAK LEAF FARM

Herd Sire Ypsiland 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

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

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 try to you. Get our description booklet. **LONG BEACH FARMS**, Augusta, (Kalamazoo Co.), Michigan

WINNWOOD HERD

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

Reference: Old State Bank, Fremont, Mich. Have for sale 6 Maplecrest Korndyke Hengerveld Holsteins, all out of A. R. 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 bred from 20+ 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 record milk cow and his sire is a son of a world 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 Fats. Their dams grand daughters of Sadie Vale Concordia the first 30 lb. cow. **Edwin S. Lewis, Marshall, Mich.**

For Sale A Yearling Heifer, pure bred Holsteins, all out of A. R. 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 bred from 20+ months. Must sell at once, need the room. Our prices will surprise you. **John H. Winn, Holton, Michigan.**

FOR SALE Reg. Holstein heifers, 8 months old. Large, finely marked and thrifty. Price \$100, crated at depot. **C. 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.

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

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



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 S. T. Wood, Sales Mgr. WM. HAYWOOD Owners Wayne, Mich. Clyde Furlong, Clerk

CONSIGNMENT SALE OF HOLSTEINS

Wednesday, June 27th at 11 A. M.

On the farm of F. W. Savage, located 1 1/2 miles east of Belleville, 24 miles west of Detroit, 40 miles east of Adrian, on the Wabash R. R. Easily accessible from north or south, via Pere Marquette and Ann Arbor R. R.'s. Electric cars on A. A., Y., J. & C. line will be met on call from Canton, Mich.

Between 40 and 50 Females

will be offered, including some A. R. O. cows with records of from 15 to 22 lbs., and daughters of such sires as Pontiac Apollo, 38547; Huron Hill Paul Pontiac, 140857; Woodcrest De Kol Lad, 45103; Elzever King of Butter Kings, 71595; Prince Jewess Johanna, 81395; Ypsiland Colonel Korndyke De Kol; and are bred to such sires as Elzever King of Butter Kings, 71595; Huron Hill Paul Pontiac, 14857; Ypsiland Colonel Korndyke De Kol, and Colonel Korndyke Winona De Kol, 73834.

Luncheon Served at Noon

Consignees are as follows: J. R. Clark & Son, I. H. Riggs, E. D. Riggs, Bert Riggs, F. L. Robbe, A. R. Richardson, F. W. Savage, Belleville, Mich.; J. S. Childes, Willis, Mich.

Chas. F. Thompson, Auct'oneer Stephen Pearl, Clerk S. T. Wood, Sale Mgr.

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, OWNER BROOKWATER FARM O. F. FOSTER, MANAGER Ann Arbor, Mich., R. 7.

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.

eg. Holstein Frie 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. RINKE**, Warren, Mich.

Registered Cows, heifers and heifer calves. breeding and good individuals. B. B. Reavey, Akron, Mich.

On Our Easy Payment Plan we will ship you Holstein Bull calf in our stables. Prices from \$50 up. Ypsiland 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 Assn. records, also on semi-official test. C. B. Wehner, R. 6, Allegan, Mich.

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. **R. B. FOWLER**, Hartford, Mich.

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

The Wildwood Farm

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

Among the 55 offerings are 11 A. R. O. cows with attractive records.

Only three animals over six yrs. old.

All are well marked and fine individuals.

This sale will furnish a splendid opportunity for securing foundation stock.

All cattle over six months tuberculin tested.

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.

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

Shorthorns For Sale. Young bulls \$100. Bred cows, and heifers \$150 for quick sale. **W. J. BELL**, ROSE CITY, MICHIGAN.

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

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

For Sale One Roan Shorthorn Bull Calf

5 mos. old, a well built calf of milking strain. The first \$400 takes him; also a few heifers and a black, blocky Percheron Stallion, 2 yrs. old in Aug. we give \$600 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 1887. No stock for sale. **J. E. Tanswell**, Mason, Michigan.

Shorthorns for sale, 5 bulls Scotch top 10 to 14 mos. \$3 roan, 1 white, 1 red, price \$150. to \$250. 1 son of Mar. Walton Sultan, 19 mos. \$350. **C. Carlson**, Leroy, Mich.

HOGS.**Durocs and Victorias**

Heavy bone, lengthy Spring Boars and Gilt from prize winners sired by one of the best Sires 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. 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. **Carey U. Edmonds**, 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. 81333 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 1913 champion Iowa Fair. **W. C. Taylor**, Milan, Mich.

DUROC Jersey fall Boars, ready for spring service. 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. Heydenberg**, Wayland, Mich.

Duroc Spring Pigs sired by Fancy Orion King. the \$125 boar, for sale at \$50 at weaning age. Reg. and Del. **J. R. HICKS**, St. Johns, Michigan.

Durocs. Good Spring pigs by Defender's E. E. Calkins. **R. D. 6**, Ann Arbor, Michigan.

Durocs Big boned March boars sired by grandson of Volunteer. One July yearly Gilt bred for August farrow. Price \$30. **RUSH BROS.**, Romeo, 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

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.

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.

Additional Stock Ads. on Page 727

Buy a Jersey Bull!

The improvement of your herd depends chiefly on the selection of the right sire. Get the best. Read the ads of Jersey breeders in this and other papers. Write them at once for prices, pedigrees and plan to grade up your herd. Jersey bulls are strongly prepotent and you'll find even grade Jerseys surprisingly profitable.

Send for our free book, "The Story of the Jersey," and learn the truth concerning this great breed.

The American Jersey Cattle Club
346 West 23rd Street, New York City

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.

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 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, price 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. **TAVAS CITY**, Mich. C. H. Prescott & Sons, Prescott, Mich.

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

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

Safeguard your casings with New **FISK TUBES**

THE Summer months are coming when tubes are subjected to their greatest strain. Replace any tubes which will not stand up under that strain. Forestall inconvenience.

Don't chance ruining perfectly good casings with worn-out tubes. See to it NOW that your tube equipment is right and ready to meet all the conditions of Summer driving—have complete Fisk equipment.

Fisk Tubes have been of laminated construction ever since they were first built—that is, built up layer upon layer of pure rubber.

New Fisk Tubes bought NOW will give you better tire satisfaction and lower up-keep costs for the balance of the season.



THE FISK RUBBER COMPANY
of N. Y.

General Offices: Chicopee Falls, Mass.

Fisk Branches in Detroit, Grand Rapids, Saginaw, Toledo, Dayton, Lima, South Bend, Fort Wayne, Indianapolis and Chicago (4 Branches). *Fisk Dealers Everywhere* (1)



If you do not find a Fisk Branch in the partial list above that is convenient to where you live, write for complete list—there may be one nearer you.



Fisk Gold Bond Tubes are RED—there is no higher tube quality anywhere



Fisk Pure Fine Para Tubes are GREY—the most popular tube in the country