

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY
ESTABLISHED 1843.

VOL. CLVII, No. 1
Whole Number 4155

DETROIT, MICH., SATURDAY, JULY 2, 1921

ONE YEAR \$1.00
FIVE YEARS \$3.00





Published Weekly Established 1843 Copyright 1921

The Lawrence Publishing Co.
Editors and Proprietors

1632 LaFayette Boulevard Detroit, Michigan
TELEPHONE CHERRY 3384

NEW YORK OFFICE-95 Madison Ave.
CHICAGO OFFICE-111 W. Washington St.
CLEVELAND OFFICE-101-1013 Oregon Ave., N. E.
PHILADELPHIA OFFICE-261-263 South Third St.

M. J. LAWRENCE President
PAUL LAWRENCE Vice-President
J. F. CUNNINGHAM Treasurer
F. H. NANCE Secretary

I. R. WATERBURY Associate Editors
BURT WERMUTH
ALTA LAWSON LITTELL
FRANK A. WILKEN
I. R. WATERBURY 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 subscription 50c a year extra for postage

RATES OF ADVERTISING
55 cents per line agate type measurement, or \$7.70 per inch (14 agate lines per inch) per insertion. No advertisement inserted for less than \$1.65 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as Second Class Matter at the Post Office at Detroit, Michigan, Under the Act of March 3, 1879

VOLUME CLXIV NUMBER ONE

DETROIT, JULY 2, 1921

CURRENT COMMENT

Class Versus Community

THE constructive thoughts and high American ideals which President Burton, of the University of Michigan, presented to the graduating class of that institution in his baccalaureate address are worthy of consideration by every patriotic citizen as well as by the young men and women who are just entering active business life to whom the address was delivered. President Burton's address was so replete with wholesome truths and constructive ideals that it is impossible to cover them within the limits of this comment, and we must be content to mention only a few of the many thoughts expressed which have a wide application.

Briefly, he told the students that our future is dependent upon "Our sense of values." He declared that "Life has meaning just in proportion as an individual acquires some appreciation of excellence in whatever form it may appear." He asserted that during the war, "The morale of American and American forces was only possible because as a people we still believed that some things were right and other things were wrong." He laid down the principle that "Vital issues can only be solved by personal contact of warm-hearted human beings." He prophesied that "World peace waits the day when every nation, great and small, has the same chance to work out its destiny that democracy promises to the individual." He advised his hearers that "To know the deepest satisfaction in life you must become creative workers." He expressed his belief without qualification that "Real achievement, in the highest and best sense, is possible only to him who finds his inspiration in great challenging ideals which absolutely defy realization at any given moment."

In speaking of the solution of the many problems which confront us as a nation, President Burton stressed the vital importance of the human element. He declared that "Nothing in all the universe can compare in worth with a single human being," and expressed the belief that this truth alone will solve the growing problems of class and group distinctions in America." He well said that "When public questions are settled merely or solely upon the basis of their effect upon the personal interests of single groups and not upon the basis of the interests of the community as a whole, there is

danger ahead." Perhaps his most constructive suggestion regarding the proper settlement of the many vexed questions which are pressing for solution at the present time, and one which should appeal strongly to every thoughtful citizen, was that only as we insist upon having the facts in regard to our national problems gathered at public expense by honest, well-trained experts will we be able to compass their wise solution as an intelligent and well informed people, and not by demagogues, dominated largely by prejudice and basing their conclusions upon a partial understanding of the facts.

Price Levels of Farm Crops

FOR many months farmers have anxiously awaited an upward turn in the trend of prices for farm products. It has been the general belief of well informed people that as farm prices were the first to fall in the process of deflation, they would be first to show a favorable reaction. According to a statement just released by the United States Department of Agriculture that reaction is now in evidence. This report of the Bureau of Crop Estimates shows that using one hundred as the basis for the average price of farm crops during the year 1913, the index number of farm prices on June 1 was 109, as compared to 104 on May 1 and 309 on June 1, 1920, when the peak in prices of farm crops was reached.

The advance in prices giving this higher index figure was uneven, but it is a matter for encouragement that it was largely in the staple cereals which are generally looked upon as the barometer of general farm prices. The average price for wheat advanced during May from \$1.11 to \$1.21; that of corn from fifty-nine and a half cents to sixty-two and a half cents; that of barley from forty-nine cents to fifty-one cents; that of rye from \$1.05 to \$1.12, and that of apples from \$1.42 to \$1.69. During the same period hay, eggs and chickens showed a slight decline, while butter declined from thirty-nine cents per pound to twenty-nine cents.

These advances in the price of staple cereals are the more encouraging because of the fact that present financial conditions make investors particularly hesitant to invest in them, even though they may be convinced that general conditions favor higher future prices. But notwithstanding these conditions the trend of quotations during the present month indicates that the index figure for June will show a still further improvement while industrial investments are still on the downward price trend. What the result of heavy marketing following the harvest period may be is, of course, problematical, but with weather conditions unfavorable for the development of spring-sown grains over wide areas no abnormal price depression is likely to be maintained with the movement of the new crop, particularly if same is marketed gradually, which is likely to be the case, as the prospect of loss from holding grains at present prices has been correspondingly reduced with the deflation of grain prices. In the meantime statistical experts and economists are prophesying a general turn for the better in business conditions this fall, which should be a stimulating factor in the market for farm products if their predictions are realized.

At any rate it is a matter for sincere congratulation to the farmers of the country that for the first time since June, 1920, there has been an average upturn in prices for farm products. It is an apparently plain indication that the bottom has been reached and that a reaction has set in which is likely to be of very considerable benefit to the farmers of the country during the marketing season for the current year's production. As ever, the greatest ben-

efit will accrue to those who study most closely and judge most correctly the economic conditions which will affect price levels during future months. But there is substantial ground for encouragement of both farmers and business men in the indicated trend of farm prices as above noted.

Michigan Continues to Lead

THAT work of a high order is being done in at least some of the departments of the Michigan Experiment Station is quite satisfactorily shown by a report of wheat tests which has been received just now from the Missouri Experiment Station. That station has undertaken to test out every distinct type of wheat known to the United States. Of these the station found and tested over a thousand. The plots for this season have just been harvested and an examination made of the quality and yield of the different varieties. The plan of the tests provide for the sowing of a single typical head of each of the various kinds. These small plots are cared for and harvested by hand. A few of the best kinds are then selected and grown on a more extensive scale on larger plots where field implements are used. Following further selection the best grains for that state are then sent out to the various state farms where quantities of seed are produced for distribution.

The news in which Michigan readers will be particularly interested is that one of the two types of wheat selected by the Missouri plant breeders for general propagation in that state was bred at the Michigan Experiment Station by Professor Spragg and his assistants. The Missouri authorities also declare in their report that one of the most helpful ways in which the station can assist in improving farming from an economic standpoint is to give the farmers better seeds to sow. If this be true, and thoughtful agriculturists everywhere concur in it, then the Michigan station is working along right lines and the result of the Missouri tests would further indicate that the plant breeders of East Lansing are doing work of a high quality. For all of which they are to be highly congratulated.

Outlook for Fruit Growing

ALTHOUGH growers of a few kinds of fruits fared unusually well last season, the general situation has not been as satisfactory to the producer as in times past. Now that a review of the apple season of 1920-21 is possible, the student will find upon examining the records that the past season has been a notable one. Three features mark the year as such to the apple grower: The unusually heavy production, the lack of demand from customary buyers in the producing sections, and the unusual high costs of marketing. Notwithstanding the fact that a considerable portion of the stock in the barreled districts was not marketed at all, shipments reached the record-breaking total of 105,000 cars, of which 70,000 barrels were from the barreled apple sections. High costs of marketing were due to the unprecedented high prices asked for containers, to the advance in transportation rates and to the high commissions and other charges asked by the dealers.

There is promise that some of these barriers to the proper and profitable conduct of the business of the Michigan fruit growers will be cleared away for the present season. The traffic department of the Michigan State Farm Bureau reports that a reduction in the water rates across Lake Michigan has been effected. This reduction amounts to from twenty to fifty per cent as noted in another column of this issue. This is bound to be a big relief to

many cooperative associations as well as to private shippers. A more or less successful effort has also been made by the fruit growers through the farm bureau to bring down the prices on containers. This, together with a general reduction in production costs should help the fruit farmer to overcome in part the reduction in income which will result from his light yield occasioned by the freezes in April and May. Realizing that interstate freight rates will probably not be changed during the present marketing year, the fruit growers are looking forward to the distribution of their product as near the point of production as possible. In all, it would appear that the outlook is becoming more encouraging to the producer of good fruits.

News of the Week

Wednesday, June 22.

SEVERAL American ships have mysteriously disappeared from the high seas. U. S. Naval Department is looking for pirates.—Heavy storm in vicinity of Detroit floods basements, and causes considerable property damage.—University of Michigan chemist says gasoline will eventually go up to sixty cents per gallon.—Ireland serves "No Peace without Freedom" notice as King George goes to Ulster to open Irish Parliament.—Chicago board of trade "cleans house" by making drastic amendments to rules.—Allied diplomats in joint note to Greek government offers mediation in Greco-Turkish conflict.—Hawaii fears that the Japanese will gain industrial control of the islands.—Navy fliers sink former German submarine with bombs in test off Cape Charles.

Thursday, June 23.

THE department of agriculture announces that the milk production of 1920 is forty million pounds lower than that of 1919.—Rescue tugs saved twelve passengers of naval bombing plane which fell in the water at Hampton Roads.—Mysterious disappearance of American ships is claimed by New York police to be due to Russian Reds.—James R. Angell, former Michigan University man, is installed as president of Yale College.—Mexican rebellion, claimed to be headed by former supporters of Carranza, is reported as brewing at the border.—President Harding tells National Association for the Advancement of Colored People that he will study the race question.—Secretary Hughes says Great Britain has not pledged United States refusal to aid Japan if there is war, in its treaty with Japan.—Senate ratifies house bill to reduce personnel of army to 150,000 by October 1.—Eighty-five foot fall from smokestack of the Roach canning factory at Hart, Michigan, kills steeplejack.

Friday, June 24.

PREMIER MEIGHAN, of Canada, says the Canadian minister at Washington would facilitate business between the two countries.—Over four hundred thousand G. A. R. veterans march during the state encampment at Flint.—Landslide in southern Japan causes destruction of four thousand homes and the death of three hundred people.—Egypt asks the League of Nations to end British rule in that country.—The United States government is educating eighty-three thousand five hundred former war veterans.—Admiral Sims, upon return from England, says his speech in London was misquoted.—Babe Ruth hits his twenty-fifth home run for this season.—Japanese navy buys 22,000 tons of fuel oil from Mexico.

Saturday, June 25.

IT is rumored that war has been declared between Russia and Latvia.—Gasoline prices are reduced two cents per gallon to consumers.—President Harding names C. B. Warren, from Michigan, as envoy to Japan.—Congressmen from New York state are fighting hard to stop the waterway project designed to open up the Great Lakes to ocean traffic.—Governor Groesbeck issues a call for a special session of the Michigan Legislature to reinact the soldiers' bonus bill with a provision exempting the bonds from taxation in Michigan.—The national convention of the socialist party is in session in Detroit.

Sunday, June 26.

THERE is promise that the British coal strike may end shortly.—The radical wing of the socialist party in Detroit is outvoted by the conservatives.—The armory at Coldwater is de-

(Continued on page 22).

Promoting Our Live Stock Industry

By R. S. Shaw, Director Michigan Experiment Station

THE Michigan Agricultural College Experiment Station has played an important part in stimulating the development of Michigan's varied and valuable live stock industry. The latest Year Book of the department of agriculture furnishes the following data relative to the numbers and values of Michigan live stock for 1920, viz.:

	Number.	Value
Horses	640,000	\$ 60,800,000
Mules	4,000	396,000
Milk cows	873,000	83,808,000
Other cattle ..	773,000	33,084,000
Sheep	2,224,000	31,900,000
Swine	1,450,000	31,900,000

Total\$236,231,000

It is very apparent from these figures representing large numbers of a variety of live stock, aggregating a huge valuation, that the experiment station must necessarily meet a variety of demands for assistance by way of solving difficult problems.

Numerous and varied experiments designed to stimulate the live stock industry in the state were conducted during the interval between the opening of the college in 1857 and the organization of the experiment station in 1887. During this period the college established excellent herds of Shorthorns, Herefords, Angus, Gallo-way, Ayrshire, Holstein, Jersey and Devons, in addition to several breeds of sheep and swine, and the period was notable for its efforts in the line of improved breeding and breeding experiments, particularly those of Dr. Manley Miles.

Since the establishment of the Michigan Experiment Station in 1887, no less than ninety-seven official bulletins have been issued, distributing results of investigations relating to farm animals, including bees. Of this number forty-eight related to beef, dairy, mutton, pork and poultry production, thirty-three to animal diseases and sixteen to bees.

The experiments relating to animal production included the following important features, viz.: Feeding trials with steers and pigs of different breeds,

work with the former beginning as early as 1887. Many experiments relating to the differences in the breeds in value of wool and mutton production were reported on, including the comparison of different feed combinations. In the dairy department, world's records in production were made by three famous Holstein cows, Belle Sarcatic, Rosa Bonheur 5th, and Houtje D, and by the Brown Swiss cow, College Bravura II, and also by the Guernsey cow, Carrie of Hillhurst. The publications of the late C. D. Smith in 1896 on feeding dairy cows, resulting from his experiments, were basic to educational work in this line and still continue to be used. The results of investigation concerning costs of market milk production, directed by Prof. A. C. Anderson, meant a saving of millions of dollars to dairymen in the state.

At two different times grade dairy herds were established to investigate means of increasing production and improvement through up-grading. The results were of much value to the milk producer and resulted in the publication of a practical method of improving common cattle by the use of pure-bred sires. A method of organizing cooperative cattle breeders' associations was worked out in 1909. The first bull association in this country was organized in Michigan, followed rapidly by fifty or sixty others. Two other important investigations repeated for three successive years produced very definite data relating to rearing calves on skim-milk and also to the production of baby beeves. The Michigan Experiment Station was the first to determine the feeding value of dried beet pulp and cull beans. The station chemists, including the pioneer, the late Dr. R. C. Kedzie, made many determinations relative to the composition and digestibility of a great variety of animal feeds.

The experiment station erected one of the first, if not the first, silos in Michigan and issued a bulletin in 1889 on silos and ensilage. The poultry pub-

lications dealt especially with the general methods of feeding, care, management and housing, the two bulletins covering these subjects were outstanding in their usefulness. The first advanced registry testing work was done at the college in March, 1894; since this time all work of this kind in the state has been supervised by the dairy department and has grown so as to require the entire time of one supervisor directing an average of about forty testers, who, for the year ending June 30, 1920, tested a total of about 1,650 individual cows.

Agriculture has long been an important industry in Michigan. The number of bee-keepers in the state is estimated at 15,000 people, owning probably 175,000 colonies. Before the organization of the experiment station in 1887, Prof. A. J. Cook had conducted many investigations relating to bee-keeping. To date the bulletins total sixteen in number, including such subjects as wintering, planting for honey, composition, foul brood, transferring bees and numerous other topics of importance.

Researches in veterinary science and bacteriology resulted in the publication of thirty-three bulletins on animal diseases, between 1884 and 1915. By 1896 Dr. E. A. Grange had conducted investigations and published bulletins on common diseases of farm animals, with special bulletins on diseases of the horse and sheep. Other publications related to laminitis, foot rot, glanders and farcy, new contagious diseases of horses in America, tuberculosis in cattle and two publications on external conformation of the horse in relation to selection. Since 1898 the bacteriological department of the station has published twenty bulletins relating to tuberculosis of cattle and fowls, contagious abortion, hog cholera and foot-and-mouth disease. When preventive measures against hog cholera were discovered, the bacteriological department of this station was the first institution of the kind in the United States to produce virus and serum

for the control of this most dreaded disease.

The college and experiment station maintains large herds and flocks of excellent quality for educational and investigational purposes. The horse equipment at the present time includes the following pedigreed animals, viz.: Twenty Percherons, five Belgians, six Clydesdales and twenty-five high-grade Percherons. In 1920, M. A. C., at the State Fair, won first prize on heavy draft team with Percheron mares, and also reserve championship on Belgian mare. In 1919 the State Fair winnings included Grand Champion Percheron and Clydesdale mares. The dairy herd consists of fifty-seven Holsteins, twenty-six Guernseys, twenty-five Jerseys and three Brown Swiss. Many state and world records, both in production and in the show ring, have been made by individuals in the college herd. The beef herd comprises twenty-one Herefords, sixteen Aberdeen Angus, and twenty-six Shorthorns. The station flock of sheep totaling two hundred head includes flocks of Shropshires, Hampshires, Oxfords, Southdowns, Dorsets, Rambouillets and Cotswolds. In addition grades are used annually for experimental work. The breeding pig herd of sixty head includes Duroc Jerseys, Poland-Chinas, Chester-Whites, Berkshires, Tamworths and large Yorkshires. In the poultry department are 747 hens and sixty-three cockerels, including White Leghorns, Barred Rocks, Rhode Island Reds, Brown Leghorns, Wyandottes and Orpingtons. The number of turkeys, geese and ducks comprises seventy-five head. Twelve colonies of bees are maintained for investigational purposes.

One of the leading live stock experts of a sister state recently pronounced the Michigan Agricultural College live stock equipment as being the strongest he had seen from the standpoint of uniformity and symmetry. An outline of experimental projects now under way will be given in a subsequent article.

Good Hay at the Lowest Cost

By W. H. Underwood

HAYMAKING is a task which must be performed while the heat of summer is oppressive. There is also a good deal of anxiety connected with the operation for a good deal of skill and judgment is required to make and secure hay in good condition so as to give the best results as feed. When the weather conditions may reduce the quality and consequent value of the hay for food at home or commercial purposes, hay

may be termed "dried grass" but this does not convey the meaning of all that we want or all that is desired in hay. Grass may be dried before it is cut and yet be unpalatable as food for farm animals and yield little nutriment when it is consumed. As fresh grass is in itself a nearly perfect food for live stock the hay made from grass cut when it is at its best, and cured so as to retain all the constituents of the grass, with only the loss of the

water during the process, is the hay that is not only the most palatable but the most profitable as feed.

The man who operates a large farm and who has a good deal of hay to care for should have a complete outfit of modern hay-making machinery, because other work on the farm is likely to interfere with the handling of the hay crop and haying must be done in the shortest possible time. The small farmer can get along with more mod-

est equipment. All necessary preparations for handling the hay crop should be made a few days in advance of the time the mower is to be put in the field. A machine may need overhauling and repairing, possibly some new machine will need to be purchased, and it is not advisable to wait until it is time to begin haying before this is done.

Of course, the time when hay should be cut is a matter of much importance.



The Hay Loader Has Become Indispensable.



With Plenty of Men and Horses Haying is Rapidly Done.



Published Weekly - Established 1843 - Copyright 1921

The Lawrence Publishing Co.

Editors and Proprietors
1632 LaFayette Boulevard Detroit, Michigan
TELEPHONE CHERRY 8384

NEW YORK OFFICE-95 Madison Ave.
CHICAGO OFFICE-111 W. Washington St.
CLEVELAND OFFICE-101 1-1013 Oregon Ave., N. E.
PHILADELPHIA OFFICE-261-263 South Third St.

M. J. LAWRENCE President
PAUL LAWRENCE Vice-President
J. F. CUNNINGHAM Treasurer
F. H. NANCE Secretary

I. R. WATERBURY Associate Editors
BURT WERMUTH
ALTA LAWSON LITTELL
FRANK A. WILKEN

I. R. WATERBURY 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 subscription 50c a year extra for postage

RATES OF ADVERTISING
55 cents per line agate type measurement, or \$7.70 per inch (14 agate lines per inch) per insertion. No advertisement inserted for less than \$1.65 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as Second Class Matter at the Post Office at Detroit, Michigan, Under the Act of March 3, 1879

VOLUME CLVII, NUMBER ONE

DETROIT, JULY 2, 1921

CURRENT COMMENT

Class Versus Community

THE constructive thoughts and high American ideals which President Burton, of the University of Michigan, presented to the graduating class of that institution in his baccalaureate address are worthy of consideration by every patriotic citizen as well as by the young men and women who are just entering active business life to whom the address was delivered. President Burton's address was so replete with wholesome truths and constructive ideals that it is impossible to cover them within the limits of this comment, and we must be content to mention only a few of the many thoughts expressed which have a wide application.

Briefly, he told the students that our future is dependent upon "Our sense of values." He declared that "Life has meaning just in proportion as an individual acquires some appreciation of excellence in whatever form it may appear." He asserted that during the war, "The morale of American and American forces was only possible because as a people we still believed that some things were right and other things were wrong." He laid down the principle that "Vital issues can only be solved by personal contact of warm-hearted human beings." He prophesied that "World peace waits the day when every nation, great and small, has the same chance to work out its destiny that democracy promises to the individual." He advised his hearers that "To know the deepest satisfaction in life you must become creative workers." He expressed his belief without qualification that "Real achievement, in the highest and best sense, is possible only to him who finds his inspiration in great challenging ideals which absolutely defy realization at any given moment."

In speaking of the solution of the many problems which confront us as a nation, President Burton stressed the vital importance of the human element. He declared that "Nothing in all the universe can compare in worth with a single human being," and expressed the belief that this truth alone will solve the growing problems of class and group distinctions in America. He well said that "When public questions are settled merely or solely upon the basis of their effect upon the personal interests of single groups and not upon the basis of the interests of the community as a whole, there is

danger ahead." Perhaps his most constructive suggestion regarding the proper settlement of the many vexed questions which are pressing for solution at the present time, and one which should appeal strongly to every thoughtful citizen, was that only as we insist upon having the facts in regard to our national problems gathered at public expense by honest, well-trained experts will we be able to compass their wise solution as an intelligent and well informed people, and not by demagogues, dominated largely by prejudice and basing their conclusions upon a partial understanding of the facts.

Price Levels of Farm Crops

FOR many months farmers have anxiously awaited an upward turn in the trend of prices for farm products. It has been the general belief of well informed people that as farm prices were the first to fall in the process of deflation, they would be first to show a favorable reaction. According to a statement just released by the United States Department of Agriculture that reaction is now in evidence. This report of the Bureau of Crop Estimates shows that using one hundred as the basis for the average price of farm crops during the year 1913, the index number of farm prices on June 1 was 109, as compared to 104 on May 1 and 309 on June 1, 1920, when the peak in prices of farm crops was reached.

The advance in prices giving this higher index figure was uneven, but it is a matter for encouragement that it was largely in the staple cereals which are generally looked upon as the barometer of general farm prices. The average price for wheat advanced during May from \$1.11 to \$1.21; that of corn from fifty-nine and a half cents to sixty-two and a half cents; that of barley from forty-nine cents to fifty-one cents; that of rye from \$1.05 to \$1.12, and that of apples from \$1.42 to \$1.69. During the same period hay, eggs and chickens showed a slight decline, while butter declined from thirty-nine cents per pound to twenty-nine cents.

These advances in the price of staple cereals are the more encouraging because of the fact that present financial conditions make investors particularly hesitant to invest in them, even though they may be convinced that general conditions favor higher future prices. But notwithstanding these conditions the trend of quotations during the present month indicates that the index figure for June will show a still further improvement while industrial investments are still on the downward price trend. What the result of heavy marketing following the harvest period may be is, of course, problematical, but with weather conditions unfavorable for the development of spring-sown grains over wide areas no abnormal price depression is likely to be maintained with the movement of the new crop, particularly if same is marketed gradually, which is likely to be the case, as the prospect of loss from holding grains at present prices has been correspondingly reduced with the deflation of grain prices. In the meantime statistical experts and economists are prophesying a general turn for the better in business conditions this fall, which should be a stimulating factor in the market for farm products if their predictions are realized.

At any rate it is a matter for sincere congratulation to the farmers of the country that for the first time since June, 1920, there has been an average upturn in prices for farm products. It is an apparently plain indication that the bottom has been reached and that a reaction has set in which is likely to be of very considerable benefit to the farmers of the country during the marketing season for the current year's production. As ever, the greatest ben-

efit will accrue to those who study most closely and judge most correctly the economic conditions which will affect price levels during future months. But there is substantial ground for encouragement of both farmers and business men in the indicated trend of farm prices as above noted.

Michigan Continues to Lead

THAT work of a high order is being done in at least some of the departments of the Michigan Experiment Station is quite satisfactorily shown by a report of wheat tests which has been received just now from the Missouri Experiment Station. That station has undertaken to test out every distinct type of wheat known to the United States. Of these the station found and tested over a thousand. The plots for this season have just been harvested and an examination made of the quality and yield of the different varieties. The plan of the tests provide for the sowing of a single typical head of each of the various kinds. These small plots are cared for and harvested by hand. A few of the best kinds are then selected and grown on a more extensive scale on larger plots where field implements are used. Following further selection the best grains for that state are then sent out to the various state farms where quantities of seed are produced for distribution.

The news in which Michigan readers will be particularly interested is that one of the two types of wheat selected by the Missouri plant breeders for general propagation in that state was bred at the Michigan Experiment Station by Professor Spragg and his assistants. The Missouri authorities also declare in their report that one of the most helpful ways in which the station can assist in improving farming from an economic standpoint is to give the farmers better seeds to sow. If this be true, and thoughtful agriculturists everywhere concur in it, then the Michigan station is working along right lines and the result of the Missouri tests would further indicate that the plant breeders of East Lansing are doing work of a high quality. For all of which they are to be highly congratulated.

Outlook for Fruit Growing

ALTHOUGH growers of a few kinds of fruits fared unusually well last season, the general situation has not been as satisfactory to the producer as in times past. Now that a review of the apple season of 1920-21 is possible, the student will find upon examining the records that the past season has been a notable one. Three features mark the year as such to the apple grower: The unusually heavy production, the lack of demand from customary buyers in the producing sections, and the unusual high costs of marketing. Notwithstanding the fact that a considerable portion of the stock in the barreled districts was not marketed at all, shipments reached the record-breaking total of 105,000 cars, of which 70,000 barrels were from the barreled apple sections. High costs of marketing were due to the unprecedented high prices asked for containers, to the advance in transportation rates and to the high commissions and other charges asked by the dealers.

There is promise that some of these barriers to the proper and profitable conduct of the business of the Michigan fruit growers will be cleared away for the present season. The traffic department of the Michigan State Farm Bureau reports that a reduction in the water rates across Lake Michigan has been effected. This reduction amounts to from twenty to fifty per cent as noted in another column of this issue. This is bound to be a big relief to

many cooperative associations as well as to private shippers. A more or less successful effort has also been made by the fruit growers through the farm bureau to bring down the prices on containers. This, together with a general reduction in production costs should help the fruit farmer to overcome in part the reduction in income which will result from his light yield occasioned by the freezes in April and May. Realizing that interstate freight rates will probably not be changed during the present marketing year, the fruit growers are looking forward to the distribution of their product as near the point of production as possible. In all, it would appear that the outlook is becoming more encouraging to the producer of good fruits.

News of the Week

Wednesday, June 22.

SEVERAL American ships have mysteriously disappeared from the high seas. U. S. Naval Department is looking for pirates.—Heavy storm in vicinity of Detroit floods basements, and causes considerable property damage.—University of Michigan chemist says gasoline will eventually go up to sixty cents per gallon.—Ireland serves "No Peace without Freedom" notice as King George goes to Ulster to open Irish Parliament.—Chicago board of trade "cleans house" by making drastic amendments to rules.—Allied diplomats in joint note to Greek government offers mediation in Greco-Turkish conflict.—Hawaii fears that the Japanese will gain industrial control of the islands.—Navy fliers sink former German submarine with bombs in test off Cape Charles.

Thursday, June 23.

THE department of agriculture announces that the milk production of 1920 is forty million pounds lower than that of 1919.—Rescue tugs saved twelve passengers of naval bombing plane which fell in the water at Hampton Roads.—Mysterious disappearance of American ships is claimed by New York police to be due to Russian Reds.—James R. Angell, former Michigan University man, is installed as president of Yale College.—Mexican rebellion, claimed to be headed by former supporters of Carranza, is reported as brewing at the border.—President Harding tells National Association for the Advancement of Colored People that he will study the race question.—Secretary Hughes says Great Britain has not pledged United States refusal to aid Japan if there is war, in its treaty with Japan.—Senate ratifies house bill to reduce personnel of army to 150,000 by October 1.—Eighty-five foot fall from smokestack of the Roach canning factory at Hart, Michigan, kills steeplejack.

Friday, June 24.

PREMIER MEIGHAN, of Canada, says the Canadian minister at Washington would facilitate business between the two countries.—Over four hundred thousand G. A. R. veterans march during the state encampment at Flint.—Landslide in southern Japan causes destruction of four thousand homes and the death of three hundred people.—Egypt asks the League of Nations to end British rule in that country.—The United States government is educating eighty-three thousand five hundred former war veterans.—Admiral Sims, upon return from England, says his speech in London was misquoted.—Babe Ruth hits his twenty-fifth home run for this season.—Japanese navy buys 22,000 tons of fuel oil from Mexico.

Saturday, June 25.

IT is rumored that war has been declared between Russia and Latvia.—Gasoline prices are reduced two cents per gallon to consumers.—President Harding names C. B. Warren, from Michigan, as envoy to Japan.—Congressmen from New York state are fighting hard to stop the waterway project designed to open up the Great Lakes to ocean traffic.—Governor Groesbeck issues a call for a special session of the Michigan Legislature to reinact the soldiers' bonus bill with a provision exempting the bonds from taxation in Michigan.—The national convention of the socialist party is in session in Detroit.

Sunday, June 26.

THERE is promise that the British coal strike may end shortly.—The radical wing of the socialist party in Detroit is outvoted by the conservatives.—The armory at Coldwater is de-

(Continued on page 22).

Promoting Our Live Stock Industry

By R. S. Shaw, Director Michigan Experiment Station

THE Michigan Agricultural College Experiment Station has played an important part in stimulating the development of Michigan's varied and valuable live stock industry. The latest Year Book of the department of agriculture furnishes the following data relative to the numbers and values of Michigan live stock for 1920, viz.:

	Number.	Value
Horses	640,000	\$ 60,800,000
Mules	4,000	396,000
Milk cows	873,000	83,808,000
Other cattle ..	773,000	33,084,000
Sheep	2,224,000	31,900,000
Swine	1,450,000	31,900,000

Total\$236,231,000

It is very apparent from these figures representing large numbers of a variety of live stock, aggregating a huge valuation, that the experiment station must necessarily meet a variety of demands for assistance by way of solving difficult problems.

Numerous and varied experiments designed to stimulate the live stock industry in the state were conducted during the interval between the opening of the college in 1857 and the organization of the experiment station in 1887. During this period the college established excellent herds of Shorthorns, Herefords, Angus, Galloway, Ayrshire, Holstein, Jersey and Devons, in addition to several breeds of sheep and swine, and the period was notable for its efforts in the line of improved breeding and breeding experiments, particularly those of Dr. Manley Miles.

Since the establishment of the Michigan Experiment Station in 1887, no less than ninety-seven official bulletins have been issued, distributing results of investigations relating to farm animals, including bees. Of this number forty-eight related to beef, dairy, mutton, pork and poultry production, thirty-three to animal diseases and sixteen to bees.

The experiments relating to animal production included the following important features, viz.: Feeding trials with steers and pigs of different breeds,

work with the former beginning as early as 1887. Many experiments relating to the differences in the breeds in value of wool and mutton production were reported on, including the comparison of different feed combinations. In the dairy department, world's records in production were made by three famous Holstein cows, Belle Sarcastic, Rosa Bonheur 5th, and Houtje D, and by the Brown Swiss cow, College Bravura II, and also by the Guernsey cow, Carrie of Hillhurst. The publications of the late C. D. Smith in 1896 on feeding dairy cows, resulting from his experiments, were basic to educational work in this line and still continue to be used. The results of investigation concerning costs of market milk production, directed by Prof. A. C. Anderson, meant a saving of millions of dollars to dairymen in the state.

At two different times grade dairy herds were established to investigate means of increasing production and improvement through up-grading. The results were of much value to the milk producer and resulted in the publication of a practical method of improving common cattle by the use of pure-bred sires. A method of organizing cooperative cattle breeders' associations was worked out in 1909. The first bull association in this country was organized in Michigan, followed rapidly by fifty or sixty others. Two other important investigations repeated for three successive years produced very definite data relating to rearing calves on skim-milk and also to the production of baby beeves. The Michigan Experiment Station was the first to determine the feeding value of dried beet pulp and cull beans. The station chemists, including the pioneer, the late Dr. R. C. Kedzie, made many determinations relative to the composition and digestibility of a great variety of animal feeds.

The experiment station erected one of the first, if not the first, silos in Michigan and issued a bulletin in 1889 on silos and ensilage. The poultry pub-

lications dealt especially with the general methods of feeding, care, management and housing, the two bulletins covering these subjects were outstanding in their usefulness. The first advanced registry testing work was done at the college in March, 1894; since this time all work of this kind in the state has been supervised by the dairy department and has grown so as to require the entire time of one supervisor directing an average of about forty testers, who, for the year ending June 30, 1920, tested a total of about 1,650 individual cows.

Agriculture has long been an important industry in Michigan. The number of bee-keepers in the state is estimated at 15,000 people, owning probably 175,000 colonies. Before the organization of the experiment station in 1887, Prof. A. J. Cook had conducted many investigations relating to bee-keeping. To date the bulletins total sixteen in number, including such subjects as wintering, planting for honey, composition, foul brood, transferring bees and numerous other topics of importance.

Researches in veterinary science and bacteriology resulted in the publication of thirty-three bulletins on animal diseases, between 1884 and 1915. By 1896 Dr. E. A. Grange had conducted investigations and published bulletins on common diseases of farm animals, with special bulletins on diseases of the horse and sheep. Other publications related to laminitis, foot rot, glanders and farcy, new contagious diseases of horses in America, tuberculosis in cattle and two publications on external conformation of the horse in relation to selection. Since 1898 the bacteriological department of the station has published twenty bulletins relating to tuberculosis of cattle and fowls, contagious abortion, hog cholera and foot-and-mouth disease. When preventive measures against hog cholera were discovered, the bacteriological department of this station was the first institution of the kind in the United States to produce virus and serum

for the control of this most dreaded disease.

The college and experiment station maintains large herds and flocks of excellent quality for educational and investigational purposes. The horse equipment at the present time includes the following pedigreed animals, viz.: Twenty Percherons, five Belgians, six Clydesdales and twenty-five high-grade Percherons. In 1920, M. A. C., at the State Fair, won first prize on heavy draft team with Percheron mares, and also reserve championship on Belgian mare. In 1919 the State Fair winnings included Grand Champion Percheron and Clydesdale mares. The dairy herd consists of fifty-seven Holsteins, twenty-six Guernseys, twenty-five Jerseys and three Brown Swiss. Many state and world records, both in production and in the show ring, have been made by individuals in the college herd. The beef herd comprises twenty-one Herefords, sixteen Aberdeen Angus, and twenty-six Shorthorns. The station flock of sheep totaling two hundred head includes flocks of Shropshires, Hampshires, Oxfords, Southdowns, Dorsets, Rambouillets and Cotswolds. In addition grades are used annually for experimental work. The breeding pig herd of sixty head includes Duroc Jerseys, Poland-Chinas, Chester-Whites, Berkshires, Tamworths and large Yorkshires. In the poultry department are 747 hens and sixty-three cockerels, including White Leghorns, Barred Rocks, Rhode Island Reds, Brown Leghorns, Wyandottes and Orpingtons. The number of turkeys, geese and ducks comprises seventy-five head. Twelve colonies of bees are maintained for investigational purposes.

One of the leading live stock experts of a sister state recently pronounced the Michigan Agricultural College live stock equipment as being the strongest he had seen from the standpoint of uniformity and symmetry. An outline of experimental projects now under way will be given in a subsequent article.

Good Hay at the Lowest Cost

By W. H. Underwood

HAYMAKING is a task which must be performed while the heat of summer is oppressive. There is also a good deal of anxiety connected with the operation for a good deal of skill and judgment is required to make and secure hay in good condition so as to give the best results as feed. When the weather conditions may reduce the quality and consequent value of the hay for food at home or commercial purposes, hay

may be termed "dried grass" but this does not convey the meaning of all that we want or all that is desired in hay. Grass may be dried before it is cut and yet be unpalatable as food for farm animals and yield little nutriment when it is consumed. As fresh grass is in itself a nearly perfect food for live stock the hay made from grass cut when it is at its best, and cured so as to retain all the constituents of the grass, with only the loss of the

water during the process, is the hay that is not only the most palatable but the most profitable as feed.

The man who operates a large farm and who has a good deal of hay to care for should have a complete outfit of modern hay-making machinery, because other work on the farm is likely to interfere with the handling of the hay crop and haying must be done in the shortest possible time. The small farmer can get along with more mod-

est equipment. All necessary preparations for handling the hay crop should be made a few days in advance of the time the mower is to be put in the field. A machine may need overhauling and repairing, possibly some new machine will need to be purchased, and it is not advisable to wait until it is time to begin haying before this is done.

Of course, the time when hay should be cut is a matter of much importance.



The Hay Loader Has Become Indispensable.



With Plenty of Men and Horses Haying is Rapidly Done.

I always begin cutting clover when about one-third of the heads have turned brown. At this stage it is about eighty per cent water and cannot be stored safely if it contains over sixteen per cent, so the problem of curing clover hay is simply that of evaporating the difference between eighty per cent of water and about sixteen per cent or less. In order to do this quickly, or in from twenty-four to thirty-six hours, it must be done through the leaves. As soon as the stem is separated from the stubble the supply of water from below ceases while the evaporation from the leaf continues as long as it has life in it. To secure this quick evaporation air must have free access to the leaves. Hence the problem of curing clover hay is to keep it in as loose form as possible. When the crop is heavy and the sun hot, the leaf structure of the upper part of the swath is often killed, as is shown by the leaves becoming brown or black while those in the under part of the swath are scarcely changed in color. Hence the value of the tedder in lifting the swath and allowing free access of the air. Unless this is done the clover is sunburned and if the leaf structure is killed before the sap is out of the stalk it is impossible to make a good quality of hay, nor can the curing be done in any reasonable time. It is impossible to cure clover hay properly during damp muggy weather. It is, however, an easy matter to cure it in clear sunshiny weather with a fresh north or northwest wind. In fact, it is easy to cure clover hay as it should be cured if the atmosphere is very dry with sunshine and any kind of a breeze. The problem therefore, is to keep the clover so loose during the curing process that it is quickly converted into hay by the evaporation of the moisture through the leaf and before the leaf structure is destroyed by the hot sun. With favorable weather clover in the condition above described can be cut one evening, tedded or put in small windrows before dinner the following day, and hauled during the afternoon.

Where one has only a few acres of clover probably the best method of handling is to cut it and allow it to wilt, put it in small piles, then cover it with hay caps and let it go through

the sweating process in the piles.

I begin cutting my first crop of alfalfa when it is about one-fourth in bloom. When the time for harvesting alfalfa approaches it begins to prepare for it as though it were a foreseen event by throwing out buds near the root, thus forming a crown. If the alfalfa is cut before it has prepared itself by throwing out these buds or new shoots from the root it will not do anything in the way of growing until it has time to start these shoots. That may be a matter of a week or ten days. In the meanwhile weeds will fight for the possession of the land and therefore if the alfalfa is cut too early there will inevitably be a short crop following. If, however, we neglect to cut alfalfa soon after it has made the new growth the plants will begin to throw their strength to these buds, the main stalk will start to crinkle down, and the hay will grow and produce seed, but the second crop will not be as good for hay as it would have been had the first crop been removed, for a seed crop detracts a good deal from the next cutting. If the first crop is cut at the proper time then the plants will start off vigorously and we shall soon have a good growth for a second, third or fourth cutting. I always run the cutter bar of the mowing machine rather high when cutting alfalfa, as otherwise there is danger of cutting off the buds or shoots that are growing to make the next crop, thus seriously damaging the following crop.

There are two ways of handling alfalfa. One is to cut at the time specified above, allow it to wilt, put it in small piles, then cover with caps and let it stand for a few days. Then on a clear day remove the caps, open up the piles, air and sun the hay and then put it in the mow. The other method is to cut it in the evening or early in the morning after the dew has dried away and put it in small windrows. Then when, by taking a wisp of it and twisting it hard no moisture can be seen on the outside it is ready to be put in the barn. The first is the safest way so far as the present crop is concerned, but the objection is that if the piles remain on the ground more than a day or two the alfalfa underneath will be killed and the field will be badly spotted. Alfalfa is no more

difficult to cure than clover, provided there is the same amount of heat, wind and sunshine. In fact, it is scarcely as difficult. Whichever method is adopted the great object in curing alfalfa is to preserve the leaves and it should not be allowed to stand until after they have begun to fall which they will do shortly after the new shoots from the root are an inch or so in length. The greater part of the nutriment in alfalfa is contained in the leaves. In feeding values these are worth more than their weight in bran.

Making Good Timothy Hay.

I always prefer to cut timothy when it has reached the stage of full bloom and the first blossoms have begun to fall. At this stage the plant has attained its maximum growth and it also contains the maximum of digestible nutriment. The plants have been gathering and storing up soluble nutrition until the point of blossoming is reached after which the seed begins developing and drawing upon the nutriment in the stalk which becomes concentrated in the seed. From the cell the soluble nutrition in the stalk gradually diminishes and the woody fibre which is insoluble in water begins to increase and continues until the seed is mature. Hence the proper stage of growth at which to cut timothy for hay is immediately after full bloom.

Timothy hay does not require as much sunshine for curing as clover and alfalfa. If one has a large amount of timothy of the same grade to harvest a beginning should be made a little before the best stage for cutting, so as not to lose by some of the field becoming overripe. If the day is bright and breezy I proceed as follows: I start the mowing machine in the morning as soon as the dew has dried away and stop the same as soon as I think there is sufficient timothy cut to handle during the day. If, however, I have suspicion of foul weather I stop the machine before I think there is half enough down, as it is better to secure one or two loads of hay thoroughly well made than to have twice the quantity partly spoiled with a rain shower. I start the tedder about one hour after starting the mower. If the timothy is very heavy it is given a

second tedding, going in the opposite direction. Then about noon I start the rake and about an hour later commence hauling and clean up the last swath before night. After the hay is in the barn the latter is tightly closed at night. There is no danger of heating or moulding in the mow if the timothy is cut when the bloom is on the head and mowed away without any rain or dew on it. The hay will come out in the winter bright green in color and it will be worth as much to feed and the stock will relish it almost as well as the grass it is made from.

Hay may be unloaded in the barn very satisfactorily with the double harpoon hay fork, but the hay slings should be used wherever the structure of the barn will permit. I like slings because they drop the hay in the mow so that it can be easily and evenly spread over the mow. Slings also aid in getting the hay unloaded quickly and take it perfectly clean from the wagon. If considerable hay is to be harvested it will prove economical to obtain a hoist, which may be run with a small gasoline engine. In this way an extra wagon may be brought into service. When the team pulls a load into the barn it immediately leaves it and hitched to the empty wagon and returns to the field. The load is taken off with the hoist and the empty wagon run out of the barn by hand.

A great amount of hay is stacked out of doors and allowed to take all kinds of weather which results in tons upon tons of hay being spoiled every year. When hay must be stacked it should be protected with stack covers or a temporary shed built over it, that is, if it is to remain in the stack for some time and not baled. However, it pays to bale the hay. It is more important to bale stacked hay than that which is stored in good barns, but it is well to bale all the hay as it is better protected, easier to handle and does not require as much room as the loose hay. Of course, all hay grown for commercial purposes must be baled. I have for years baled my hay. I have my own baler. Neighbor farmers assist me in baling my crops for the use of the baler after I am through with it, so my labor expense is nothing except the use of the baler.

ACTIVITIES OF FARM BUREAUS

Latest News From Local, State and National Organizations

WATER TRANSPORTATION RATES REDUCED.

WATER freight rate reductions on fresh fruit, which will affect the saving of thousands of dollars to western and northwestern Michigan fruit men, have been made by the Michigan transit and the Goodrich steamship lines, largely through representations of the Michigan State Farm Bureau, says that organization, which represents the growers before the steamship lines. The two lines operate between principal Michigan fruit-shipping points and Chicago.

A sweeping reduction of fifty per cent, or ten cents on one-third, quarter and one-fifth bushel baskets of fruit from eighteen northwestern Michigan points is a feature of the Michigan Transit Company's reduction, says the farm bureau. It is declared that hundreds of thousands of packages of this size are shipped out of northwest Michigan every year. The saving to the growers on the three foregoing sizes of baskets will be \$10 on every hundred baskets shipped, says the farm bureau. It is also pointed out that city consumers should benefit proportionately.

Steamboat men declare that the re-

duction in rates cannot stand without a big volume of business, says Frank E. Coombs, Farm Bureau Traffic Commissioner.

WOOL POOL INCREASES IN POPULARITY.

THREE hundred and sixty thousand pounds of wool are rolling into the Michigan State Farm Bureau wool pool each week, an average of 60,000 pounds a day, says the farm bureau wool department in announcing that during the week of June 20 the pool passed the 1,500,000 pound mark and should reach 2,000,000 within the next ten days. More than \$150,000 has been advanced to growers as initial payments on the wool they have pooled. The advance is one-half the value of the graded wool on date of pooling, says the farm bureau.

Wool is moving out of the pool. Last week a block of 150,000 pounds of short staple fine wool was sold at twenty-two cents a pound. Graders are still busy cleaning up the southern section of the state and preparing the wool for shipment at grading warehouses in that region. Volume sales of new wool are expected to begin shortly after July 1.

Wool grading dates for the week of July 5 are as follows:

Tuesday.—Ewart, Mt. Pleasant, Portland and Climax.

Wednesday.—Reed City, Mt. Pleasant, Pewamo and Schoolcraft.

Thursday.—Custer, Clare and Marshall.

Friday.—Cadillac, Clare and Albion.

Saturday.—Manton, Beaverton, St. Louis, Stockbridge and Mesick.

FEDERAL TRADE COMMISSION BACKS FARM BUREAU.

EVERY contention of the farm bureau regarding cooperative elevators and the grain trade is backed up by the federal trade commission's "Preliminary Report on the Profits of Terminal and Country Grain Elevators," just issued in Washington. The report shows that cooperative elevators are more efficient than independent and line elevators, as judged by the profits made.

The joint congressional commission to investigate agricultural conditions will organize and begin its inquiries next week. The commission will discuss the cold storage interests, the Haugen packed bill, the Tincher bill, which prohibits short selling of grain,

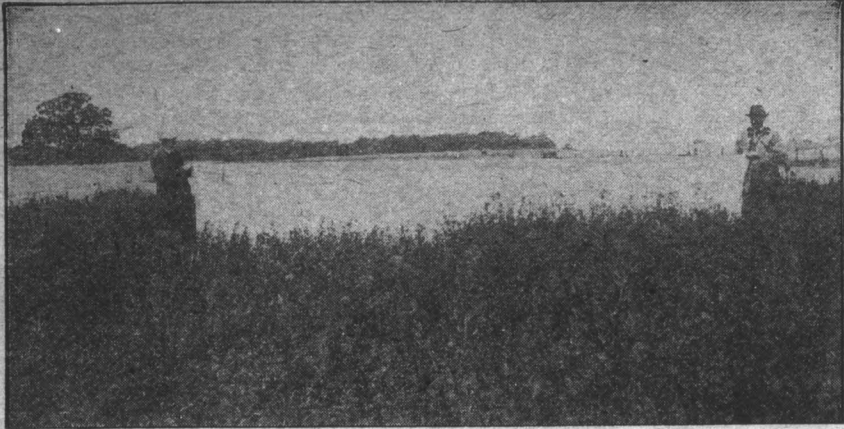
the Volstead cooperative marketing bill and the French truth-in-fabric bill.

BEWARE OF FOREIGN SEED.

FARMERS of the northern states are facing a serious situation in the matter of getting adapted clover and alfalfa seed, due to the fact that within the past year millions of pounds of southern-grown French and Italian clover has been dumped upon the American market, says the State Farm Bureau, which now has representatives in the northwest, signing up the growers of hardy alfalfa for Michigan growers. The farm bureau is also taking measures to protect Michigan farmers on their clover seed.

Farm bureau figures show that during the eleven months ending May 31 more than 13,000,000 pounds of French and Italian clover entered the United States. During the week ending June 4 there was a great increase in the imports and 2,165,000 pounds were landed at the ports of New York and Baltimore.

Such seed, the farm bureau declares, has been found by the Virginia department of agriculture and immigration to be utterly unfit to stand the rigors of even a Virginia winter.



Sweet Clover Tests. At Right Eighty-mesh Limestone was Used, and at Left Forty- to Sixty-mesh.

Soil Demonstrations

CONCLUSIVE proof of the value of commercial fertilizer for use on clover and alfalfa was afforded farmers of southwestern Michigan at the field meeting at Cassopolis on Saturday, June 25, when demonstration plots on the Cass county poor farm were thrown open to public view after five years of experiment by the M. A. C. soils department.

Abandoned for five years previous and covered with sorrel, the land was chosen originally because of its run-down condition, typical of much of southwestern Michigan. The soil is a sandy loam. From the total area of approximately ten acres, more than one hundred plots of one-tenth acre each were formed. Supervisors of Cass county cooperated and the labor was furnished by the manager of the poor farm.

The purpose of the experiment was to test the effect of lime and commercial fertilizer on the catch and growth of sweet clover, red clover and alfalfa. Of the single elements the plants receiving potassium showed a remarkable growth and catch and this element proved of most value. Best results were obtained from the complete commercial fertilizer, however.

Tests also were carried on to determine the effect of limestone divided to

different grades of fineness. It was found that the finer grades gave proportionately better results, chiefly in the catch. Just what is the reason is not known, according to G. M. Grantham, extension specialist at M. A. C., who has supervised the experiment. It is thought possibly the lime goes into solution. The fact remains that it does the work. Similar results were obtained with hydrated lime and marl.

Last year areas unlimited yielded no sweet clover whatever, while those treated with three tons of ground limestone per acre yielded 3,176 pounds, green weight, and those with limestone and commercial fertilizer, 7,648 pounds per acre. These results will be duplicated this year.

Other tests were made to determine the effect of different applications of nitrogen on small grain crops. This element was found the most profitable as far as these crops were concerned—the more it was possible to use, the better the results. Even soluble nitrates along with barnyard manure gave good returns.

"The demonstration plots at Cassopolis have yielded probably more striking results than any other soils experiments ever carried on in Michigan," said Dr. M. M. McCool, head of the M. A. C. soils department.—H.



Sweet Clover Treated with Lime, Phosphates and Potassium. At Right is Check.

Market for Michigan Flax

AS soon as the financial situation turns, growers in eastern Michigan may be expected to be in position to capture the Irish flax seed trade. Members of the farm crops department at M. A. C. call attention to this development, which is the result of efforts by the Michigan Crop Improvement Association and the United States Department of Agriculture in cooperation with M. A. C.

In former years Ireland imported most of its flax seed from Russia. More recently, however, with the Russian supply cut off, Canada has provided the necessary amount. Because of the strict importation laws in the British Isles, only the Canadian government-inspected product was accepted. This kept the Michigan growers in Sanilac and St. Clair counties from direct dealing with the British Isles and made it

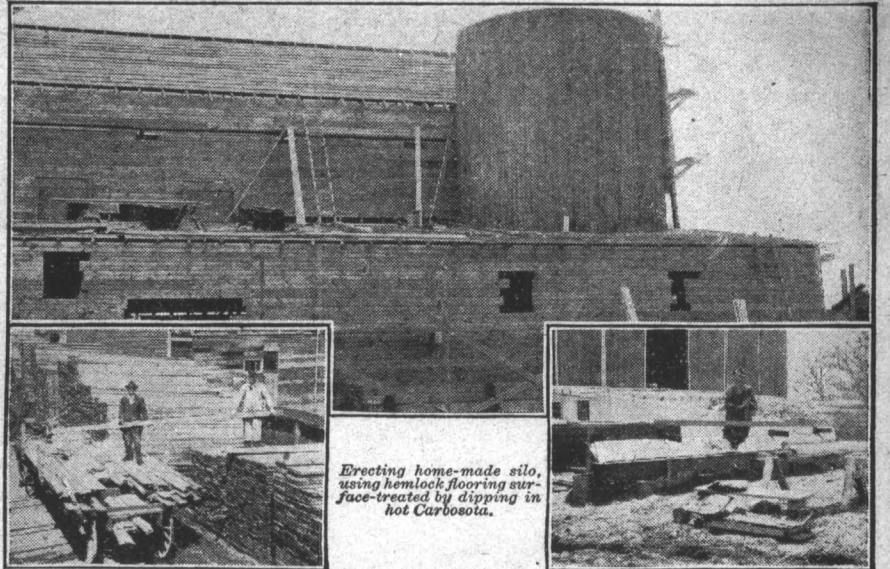
possible for the Canadian government through buying up Michigan seed to add \$40,000 to its coffers last year.

During the last few months the Michigan Crop Improvement Association has established an inspection system entirely satisfactory to the Irish Department of Agriculture, members of which have highly complimented its thoroughness and efficiency and advocated its adoption throughout the world. Fifteen hundred acres of blue-blossom flax has been certified by the association as to purity, origin, name and freedom from such diseases as anthracnose and wilt.

Pedigreed strains, some of which are said to be far superior to the blue-blossom, are now being cultivated by Robert Davis, representative of the federal department, who is now in East Lansing.—H.

WOOD PRESERVATION

A timely talk in the interests of timber conservation on the farm



Farmer buying stock flooring for "home-made" silo at local lumber yard.

Erecting home-made silo, using hemlock flooring surfaced-treated by dipping in hot Carbosota.

Applying Carbosota by dipping—about 25 gallons per 1000 board feet. (The Open Tank process requires about 60 gallons.)

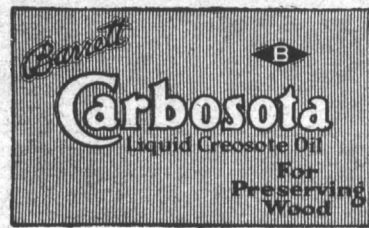
Satisfactory, Economical Silos

TO be satisfactory, a silo must properly "cure" the ensilage. To be economical, it must be inexpensive, durable, and free from repairs.

Wood, when it does not rot prematurely, is unquestionably the ideal material for silos. And it will not rot prematurely, if protected from decay by preservative treatment with Carbosota. Such treatment in no way contaminates the ensilage, and a well carbosoted silo should last fully a generation. It is practically "rot-proof."

You can go to the nearest lumber yard; buy common 1"x4" flooring; treat it yourself with Carbosota, as the farmer in the picture is doing, and build a good home-made silo at comparatively small cost.

Wisconsin hemlock was used for the silo at the right, although practically any sound species of lumber is suitable. The lumber, and the Carbosota for treating it, were purchased at a local lumber yard, which also furnished the plans for the silo. If your lumber dealer cannot supply the plans, you can readily obtain them from



your State Agricultural College.

This silo, 10 feet in diameter by 30 feet high, requires about 4,000 board feet of lumber.

The treatment employed depends upon circumstances. It may consist merely of dipping the lumber in hot Carbosota. But where a number of silos are to be erected in a community, a far better way is for the farmers interested to rig up a "community treating plant" for carbosoting by the Open Tank process.

For such a plant, steam piped from a threshing engine, can be used to heat the Carbosota, and an ordinary horse-operated derrick to lift the lumber into and out of the treating tanks. (Detail blue-print free on request.)

Green wood should not be treated by non-pressure processes.

If unavoidable, write for special instructions. The different methods of applying Carbosota are fully described in our free booklet, "Long Life for Wood."

Most lumber dealers carry Carbosota in stock. If your dealer does not, write to our nearest office and we will see that you are supplied.



Double wall "home-made" silo. Any species of sound knotted lumber can be used.

The **Barrett** Company

New York	Chicago	Philadelphia	Boston	St. Louis	Cleveland	Cincinnati
Pittsburgh	Detroit	New Orleans	Birmingham	Kansas City	Minneapolis	Dallas
Nashville	Syracuse	Seattle	Peoria	Atlanta	Duluth	Salt Lake City
Bangor	Washington	Johnstown	Lebanon	Youngstown	Milwaukee	Toledo
Columbus	Richmond	Lafayette	Bethlehem	Elizabeth	Buffalo	Baltimore
Omaha		Houston		Denver		Jacksonville

THE BARRETT COMPANY, LIMITED, Montreal, Toronto, Winnipeg, Vancouver, St. John, N. B., Halifax, N. S.

LATE AGRICULTURAL NEWS

Ironing Out Rural Problems

Interesting Discussions at M. A. C. Conference

COMMUNITY life in the country must be developed so that agriculture may maintain a dignity of its own that will not be threatened by the lure of the cities, in the opinion of leading speakers before the combined assemblage of ministers and laymen, Michigan farmers' automobile tourists, visitors to the conference on economic problems and rural educators at M. A. C. from Monday to Friday, June 20-24.

The economic problems are in reality problems of learning cooperation and of learning to think in terms of hundreds instead of tens of years. The present low prices on farm products appeared of little concern either to speakers or auditors. They took the situation as a matter of course and assumed that it will be remedied as soon as the business depression is over. But the sociological, educational and religious questions are permanent and must be faced.

Dr. Carver Speaks.

Many angles of farm life were touched upon in the series of gatherings through the week. Dr. Thomas Nixon Carver, professor of agricultural economics at Harvard University, was easily the outstanding figure of the conference. His five addresses covered a wide range of topics and he showed himself almost as well versed in religion as in economics.

Along with the interchange of ideas, visitors to M. A. C. were afforded several kinds of wholesome recreation during the week. Six Grange teams participated in simultaneous base ball games on the drill ground on Wednesday. On Thursday the ministers and Boys' and Girls' Club leaders clashed on the diamond. Visits to the barns and crops demonstration plots on the M. A. C. farm proved popular and, needless to say, the bivouac of the Michigan Farmers' tourists who attended their reunion, was a scene of merriment.

Dean R. S. Shaw, of M. A. C., taking up the "The Farmer's Viewpoint," declared farmers have faced the extreme decline in agricultural prices with equanimity and harbor no resentment toward other classes for present conditions. During the war live stock raising was neglected in favor of the cereal crops, he pointed out, but now the pendulum is swinging the other way again. He warned against specializing in one kind of stock too much, however.

Looks for Better Prices.

That the price index, which on general commodities is now one hundred and fifty, and on farm products is one hundred and seven as compared with one hundred in 1914, will rise slightly before becoming stabilized, was predicted by Prof. G. F. Warren, of the agricultural economics department of Cornell University, who discussed "Prices of Farm Products." Short ups and downs may be expected for a time, he said, but these fluctuations will become steadily less. He predicted that farm prices will regain their relative position with respect to other commodities.

Professor Warren displayed a large number of charts during the rise and fall of prices on various farm products since the Civil War. The situation of this period is very similar to that following the Civil War, he said, except that the period of inflation continued longer in 1919 and 1920 than in 1865.

The great task of the American woman is to give back to society chil-

dren socially fit, morally strong and able to carry the responsibility of being citizens, declared Miss Mary E. Sweeny, dean of home economics at M. A. C., in her address given in the open air on the campus on Thursday afternoon.

Home Problems Are Large.

Executive ability equal to that of men in the business world is required of a woman in keeping up her home, Miss Sweeny asserted. "I'd like to put up a job like that against any managerial position in the country and see how many men face tasks involving as many factors as woman's," she said.

"If you discharge your wife and put her in a dormitory or lunchroom she'd earn \$3,000 a year. But you say, 'Oh, well, it's a woman's task.' You don't realize what a woman gives uncomplainingly. I am not going to worry about you husbands. I am interested in that two-year-old boy or girl—the future of America. I am appalled when I see how much money the government spends teaching men how to raise pigs and how little on how to raise babies."

Miss Sweeny discussed the various phases of a woman's task and said she is obliged to be everything from an expert buyer to a trained psychologist in the management of a husband. "I'd rather take care of a whole orphan asylum than one man with a cold in his head," she declared. She closed with an appeal to the men to go "fifty-fifty" with the women on labor-saving equipment.

Woman's Program.

A special woman's program was held Thursday in the Woman's Building. Speakers were Mrs. Edith Wagar, of the Michigan State Farm Bureau; Mrs. I. R. Johnson, secretary of the State Association of Farmers' Clubs; Miss Jennie Buell, secretary of the Michigan State Grange; R. A. Turner, state leader of Boys' and Girls' Club work, and Mrs. Louise Campbell, state leader of home demonstration agents.

Simultaneously the men were meeting in the open air west of the Senior House. Besides Dr. Carver's address, short speeches were given by Hale Tennant, of M. A. C., extension specialist in marketing; N. P. Hull, president of the Michigan Milk Producers' Association; George B. Horton, of Fruit Ridge, and A. B. Cook, master of the State Grange. All stressed the necessity of cooperation among farmers.

In the afternoon the first and only

R. F. D. flag in the country, which has stood in the center of Climax marking the spot where one of the first experiments in rural free delivery was made, was raised on the campus with proper ceremonies. Later Rolph Duff, secretary to the governor, and Clarence E. Holmes, superintendent of the Michigan School for the Blind, welcomed the visitors on behalf of the state and city.

Consolidated Schools.

Consolidated schools are needed in Michigan because they are more economical and make possible a higher standard of rural education, according to W. H. French, professor of agricultural education at M. A. C. Dr. Carver, of Harvard, and other leaders who addressed the joint conference on economic problems and consolidated schools, spoke Friday.

The one-room institution would be ideal, said Dr. Carver, speaking on "The Consolidated School in its Economic Relation to Agriculture," if there were enough good teachers to go around. But the consolidated school has been found to mean economy. "Sin itself is nothing but the uneconomic use of human energy and truthfulness is a labor-saving device," declared the Harvard economist. "Any proposition that is economical is right, and if it's right, it's economical. If the consolidated school is economical, it's right."

Professor French, who discussed "Vocational Education in the Consolidated School," agreed with Dr. Carver that "mere consolidation won't solve the educational problem. Teachers of a high class must be provided to justify a change in system."

He favored a high school curriculum consisting of three years' training in English, two years in history and civics, two years in mathematics, three years in science, half a year in elementary economics, half a year in accounting, two years in Latin, four years in vocational training and two years in music. For the boys in rural schools he advocated manual training along agricultural lines and for the girls training in home economics. High school boys and girls should be given chorus work and taught to understand and appreciate the beauties of music, he held, so as to help the nation in its march toward civilization.

Develops Community Spirit.

The consolidated school is valuable, in the opinion of Dr. Carver, because it builds up a spirit of teamwork throughout the community besides teaching the technique of doing things. The desire to cooperate must be developed. "Every teacher and minister might regard himself as a coach to turn out winning teams," he said. "I've

sometimes thought we ought to put a few athletic coaches on the faculties of our theological schools. We might have to chasten their language a bit, but they understand teamwork."

The rural problem is fundamentally a religious problem, contended the Harvard economist. "A man's religious duty is to do whatever will contribute most to the life of the people. An economist doesn't need to be squeamish about concerning himself with anything that produces economic results."

Other speakers of the day were Miss Helen Retoska and Mrs. John Shaw, of the Mattawan consolidated school; L. Roy Perry, county road commissioner, Grand Blanc; Lee L. Driver, Pennsylvania; Roy Noteware, school commissioner, Wexford county; W. L. Coffey, assistant superintendent of education, and A. B. Cook, master of the State Grange.

During the week, also, two hundred and fifty veterinarians, comprising more than half of the number practicing in Michigan, attended the conference called for preliminary instruction preparing them for the government tuberculosis testing examination on Saturday, June 25. In addition, Boys' and Girls' Club leaders gathered in Lansing for their annual conference.

FINANCING STOCKMEN.

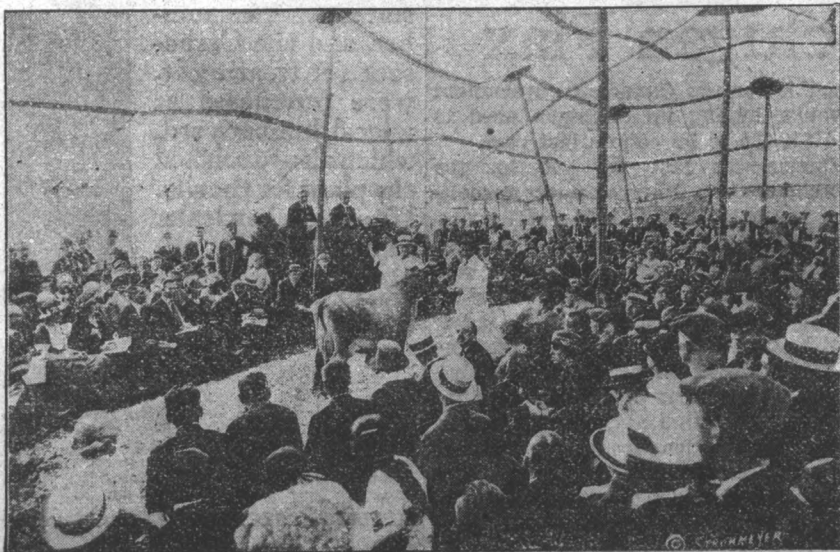
A NATIONAL banking pool of \$50,000,000 somewhat similar to a live stock loan company, to finance the live stock industry, was formed tentatively in Chicago on June 15. The scheme is the outgrowth of suggestions by Secretary of the Treasury Mellon and Federal Reserve Bank officials and is expected to displace the \$22,000,000 pool formed several months ago but whose funds were used only to a small extent.

The details have not been completed but the main features included are as follows: Commercial banks all over the country will contribute to the \$50,000,000 pool, making it national in scope. Operations of the pool will be under direction of a paid manager who will be a practical banker having long experience and thorough knowledge in handling live stock credits. Notes, moneys and collateral will be in charge of a committee of three to five trustees from Chicago banks. Each application for credit must have the approval of a committee of three bankers in the state from which it emanates. Money will be loaned at current rates of interest, plus one per cent bonus, but it is believed interest in no case will exceed eight per cent.

The one per cent bonus will go to the country banker, virtually acting as agent, who forwards the application for credit to the pool, as a fee for handling the local details of the transaction, such as examining the credit standing of the seeker of the loan and the safety of the security.

The pool will lend about seventy-five per cent on present market prices for live stock. The notes received by the pool will run for six months with the privilege of renewing four times if necessary and if the security remains satisfactory, thus providing a loan of thirty months' duration. The pool is expected to remain in operation for two and a half years, by which time the live stock industry is expected to have overcome present difficulties. This factor would limit the renewal privilege of loans issued later on.

The decision is to loan up to seventy-five to eighty per cent of present market values indicates that the bankers believe that prices are not likely to decline much further.



Gamboge Oxford Gem, Jersey Sire, Sells for \$18,000 at Recent Connecticut Sale.



AMERICA'S PROTECTIVE FOOD.

WHILE testifying on the Voigt bill before the house committee on agriculture, Dr. E. V. McCollum, of Johns Hopkins University, defended America's great dairy industry by giving in detail the results of his experiments which show that dairy products supply the only protective foods likely to be used in sufficient quantity in the American diet to produce normal growth in children, protect normal health in adults and prevent early beginning of senile decay.

He contrasted this very plainly with the oriental diet, which includes large quantities of leafy vegetables. This is what the vendors of "cocoanut cow" products advise, to go with oleomargarine and "filled milk." The oriental, he said, is undersized and "ready to grow whiskers and sit down for his children to care for" when he is fifty years old or earlier. The great races of the world, he said, from the times of Abraham, were the races whose diet has milk as its basis.

Dr. McCollum told the committee that the sale of any food which in any way would result in people using it as milk and in place of milk when it was not milk, thereby weakened disease resistance, destroyed growth and attacked longevity to that extent. "Vegetable oils do not contain vitamins so they can be relied upon as protective foods," he told the committee.

He showed photographs proving that ulcerated sore eyes and rickets resulted from a diet deficient in milk or its products. He gave the evidence to show that the absence of butter-fat caused rats to die as of starvation, even when fed on a diet rich in vegetable fats. He proved to the committee that men fed on the normal diet with milk left out, even when given a normal ration of collards and other leafy vegetables and of fat pork, developed pellagra and were cured of pellagra by the addition of milk to their ration.

"Every person should use two quarts of milk a day," he told the committee. It was evident from what he said that he considered the sale of a counterfeit product which the uninformed buyer or user would think of as milk, when in fact, it was not milk, but whose use would prevent the use of real milk, should be prohibited by law.

VETCH FOR PASTURE.

How long will vetch sowed with rye this fall pasture next season?—E. O.

Vetch, like almost any other plant, if it is pastured off or clipped often enough, will continue to grow nearly the whole season and furnish pasture. It is the same way with rye. If you allow the rye to form joints and head out and then cut it, it will not grow up again, but if you keep it pastured off and take pains to clip it with a mowing machine, providing your stock do not keep it eaten down evenly, it will furnish pasture nearly the whole summer and so will the vetch.—C. C. L.

Concrete floors, or any other kind for that matter, should always be well bedded so as to keep the cow dry and her udder from coming in contact with the cold floor. It is a wise provision to lay on top of the cement a wooden grating, cork brick, or creosoted wood blocks.

Choose the DELCO-LIGHT that fits your needs — and install it now



You can now get a Delco-Light Plant that exactly fits your needs—at a rock-bottom price.

Delco-Light will bring to your home a flood of electric sunshine—relief from the work and worry and danger that go with old-fashioned lamps and lanterns.

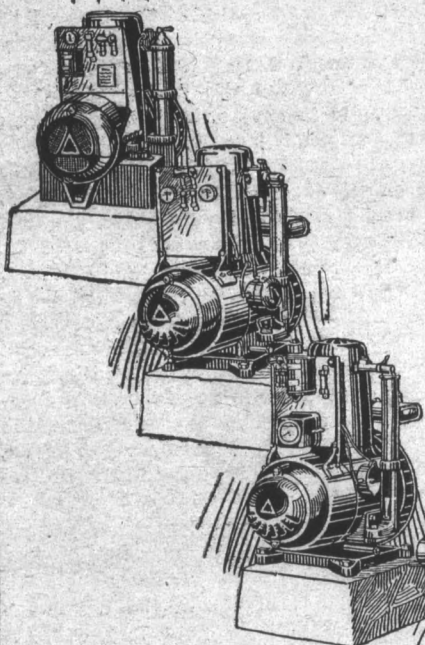
Delco-Light will help you and your family. It will lighten your burdens. It will furnish the current to do your chores; pump the water; milk the cows; separate the cream and in other ways bring happiness and contentment to farm life.

Find out what Delco-Light will do for you—how little it will now cost you—and how it will pay for itself over and over again. We will gladly send you a catalog showing the many models of Delco-Light and explain our plan whereby it can be bought on payments if desired. Write now for details.

DELCO-LIGHT COMPANY,
DAYTON, OHIO

DISTRIBUTORS:

M. L. LASLEY, 49 E. Elizabeth St., Detroit, Mich.
PRINGLE-MATTHEWS CO., 18 Fulton St., West, Grand Rapids, Mich.



All Delco-Light plants have four-cycle, valve-in-head engines; air cooled; self-cranking; one place to oil. They run on Kerosene—are economical and easy to operate, have thick-plate storage battery, with both wood and rubber separators, insuring long life.

New Models

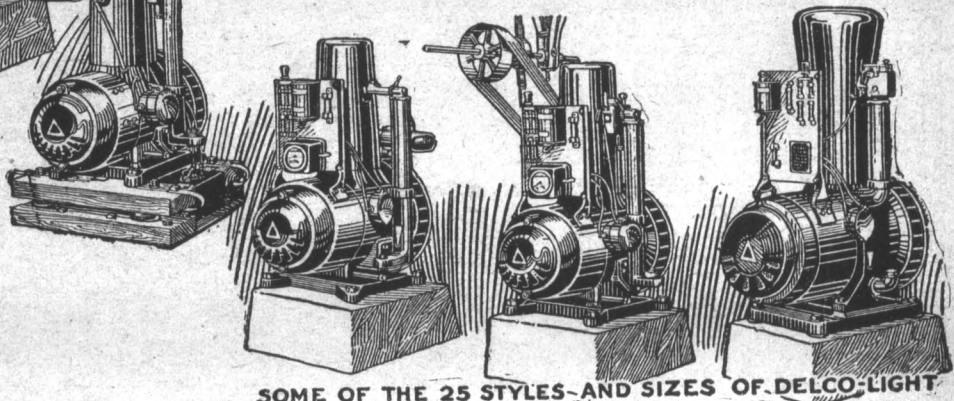
\$ 250

16 Volts 300 Watts

\$ 295

32 Volts 600 Watts

25 Styles and Sizes \$250 to \$1675 f.o.b. Dayton, O.



SOME OF THE 25 STYLES-AND SIZES OF DELCO-LIGHT

DELCO-LIGHT

There's a Satisfied User near you

THE AUTO-OILED AERMOTOR

A Real Self-Oiling Windmill

Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

Write today for Circular. **AERMOTOR CO.** Chicago, Kansas City, Des Moines, Minneapolis, Oakland



MICHIGAN LIVE STOCK INSURANCE COMPANY

INDEMNIFIES Owners of Live Stock — Horses, Cattle, Sheep and Hogs
Against Death by Accident or Disease
308 Davidson Building, Bay City, Michigan

When Writing to Advertisers Please Mention
The Michigan Farmer

World's Best Roofing

At Factory Prices

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

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

Free Roofing Book
Get our wonderfully low prices and free samples. We sell direct to you and save you money. Ask for Book No. 167.

LOW PRICED GARAGES
Lowest prices on Ready-Made Fire-Proof Steel Garages, 8' up any place. Send postal for Garage Book, showing styles. **THE EDWARDS MFG. CO.** 717-767 FIVE ST., Cincinnati, O.

FREE Samples & Roofing Book

Hardwood Ashes applied to meadows after haying pay big Peterborough, Ontario
GEORGE STEVENS.

BUY FENCE POSTS direct from forest. Prices delivered your station. M. M. care of Michigan Farmer

U S

MUTUAL
AUTOMOBILE
INSURANCE COMPANY

The Farmer's Own Company

Would An Accident Spell Disaster For You?

Country driving daily subjects you to accident and loss, but you cease to worry the minute you secure U. S. MUTUAL protection against unavoidable hazard.

The U. S. FIVE POINT FULL COVERAGE NON-DEDUCT-
ABLE POLICY positively guards you against:

- 1--Fire
- 2--Theft
- 3--Collision
- 4--Property Damage
- 5--Liability

And \$1.00 per Horse Power, plus the small membership fee of \$1.00 annually, covers the cost.

Why Take Risky Chances?

Motoring involves sufficient hazard to make fore-sighted country drivers insist upon dependable insurance,—drivers who see the fallacy in taking risky chances. U. S. FIVE POINT POLICIES have, therefore, built their reputation on square-deal methods, capably backed by men of integrity, whose satisfactory settlement of all just claims is fundamentally important.

How the Farmer Benefits.

There is no Fly-By-Night protection about U. S. In fact: U. S. FIVE POINT POLICIES convince even skeptics in proving just how such reasonable rates can be offered farmer members.

Farmer Members are insured without having to build a reserve to pay for the city man's hazard.

You pay your OWN risk to a MUTUAL PROTECTOR who only has to take care of losses and operating expense.

Consequently, extreme care is exercised in the selection of every U. S. MEMBER.

Auto Clubs for U. S. Policy Holders.

Col. A. H. Gansser, Over-seas Veteran and U. S. MUTUAL Director and General Manager, is busy organizing Motor Troops throughout the State. The formation of such community protection comprises the following:

- A Motor Troop for Each Community
- A Motor Squadron for Each County
- A Motor Corps for Each State.

Substantiating his prediction, these Auto Clubs are proving very successful, by making the MUTUAL IDEA thoroughly practical and beneficial for each U. S. FIVE POINT POLICY HOLDER.

Drop a card to Col. Gansser, Bay City, Michigan, today and, without obligation, you will receive complete information.

U S Mutual Automobile Insurance Company

Executive Office
Grand Rapids, Michigan
Colon C. Lillie, Pres.

Home Office
Bay City, Michigan
F. F. McGinnis, Sec. and Treas.
Col. A. H. Gansser, Director and Gen. Mgr.

News From Cloverland

By L. A. Chase

UPPER PENINSULA SOIL SURVEY.

THAT official assurances have been given that the project of a soil survey will be taken care of by the state administrative board, is pleasing to people on this side of the Straits, and it is hoped, southward also. There is a real need for such a survey, or, more properly, land classification, in the northern sections of the state, and it was regretted that the legislature did not see fit to make provision for it. If the governor can see a way of effecting the same result, it will be gratifying to our people.

MARQUETTE COUNTY FAIR.

THE Marquette County Fair is to be held August 30 to September 2, and this year's event will mark the first fair under the direct control of the board of supervisors. The premium list will carry \$5,700 in its budget, which is twice the outlay of former years, it is declared. The premiums are allotted as follows: Horses, \$1,543; cattle, \$1,320; sheep, \$607; hogs, \$452; poultry, \$237; greens, \$199.75; roots and vegetables, \$117.50; potatoes, \$67; fruits, \$128.25; schools, \$153; manual training, \$229.50; clubs, \$84.50; foods, \$147.75; clothing, \$210.50; art, \$143; plants, \$54.25.

The Mining Journal of Marquette, which furnishes this information, insists that there is no reason why Marquette county should not have the greatest fair in the upper peninsula, and reports much public favor and interest in this year's project.

SOME RANCH ACTIVITIES.

MR. J. A. Doelle, of the Upper Peninsula Development Bureau, recently visited the Triangle Ranch near Amasa, and found very interesting developments under way. The ranch comprises an aggregate of fifteen thousand acres, of which 250 acres have been cleared this year, while it is planned to clear 2,500 acres during the ensuing three years. There are now fifty-six men employed at headquarters while forty men are engaged in clearing operations. The company uses four tractors, including one ten-ton machine, and relies mainly on dynamite for removing stumps. The cleared portions of the land are carefully levelled and will be devoted to the raising of forage crops. There are now five hundred cattle on the ranch, but this number will be materially increased.

Another big ranch has gone in in Blaney township, Schoolcraft county, and it was recently announced, was shipping 2,500 head of cattle from Arizona to be summer-fed on its grasslands. This is regarded as only an initial shipment, and annual shipments of at least 10,000 head are promised. The Blaney Company is said to hold some 22,000 acres of cut-over lands in this territory, in addition to some 200,000 acres in the southwestern United States, cattle are to be winter-fed in the southwest, summer-fed here, and marketed in the fall, it is stated. The reported shipments from the Blaney Ranch last year, were eighteen cars.

The Buffalo market is said to be favored.

HIGHWAY CONSTRUCTION IN CLOVERLAND.

THERE is great activity in the upper peninsula this year, in relation to highway construction. It is regarded as both socially necessary and economically expedient to turn to this work during the slack time in mining

operations. Houghton county supervisors have been at odds with the state highway department over the letting of the contract for the new fourteen-mile Ontonagon road, apparently because they wished to keep the contract in their own hands and thus better be able to handle the local labor problem. The commissioner at Lansing preferred to award a portion of the contract to a private concern. It was thought that the disagreement might prejudice the voting on the proposed two hundred thousand dollar bond issue, June 7, but it did not do so. At all events the vote was overwhelmingly favorable. Large outlays are also being undertaken in other counties. It was brought out at a hearing held in Marquette, late in May, to effect a reduction in the railway rates for the transportation of sand and gravel for road construction, that some four hundred miles of trunk-line highway construction are projected in the upper peninsula, and that half of this amount is under contract, in addition to large mileage under county and township construction. The state highway department's program involves linking up all cities and important places of the peninsula, it was announced, but the high freight rates on road material was holding up construction, it was asserted. Marquette county seems to have been more successful than Houghton county in having its way with the state highway department, and has taken over a contract to construct a highway from Little Lake to the Delta county line. Iron Mountain is to spend over \$100,000 on highways within the city, which is a part of the state trunk-line system. Delta county reports the largest amount of road construction projected this season in the county's history. Some twenty-five miles of new construction are going on and repairs on the present system will be fully carried out. Seventeen miles of new gravel road are going in on the trunk-line from Rapid River to the Alger county line. This is only a sample of the general activity everywhere manifest in upper Michigan roads. It is good work and the tourists from the southern portions of the state will eventually also be the beneficiaries. Markers of all sorts are also being installed this summer.

GRASSHOPPER BAIT HANDY.

ALREADY we are hearing of grasshoppers and of means of combating them. Fortunately, arsenite of lime is a by-product of the copper smelters of the district and so it is ready to hand. Marquette county supervisors have authorized the purchase of hopper poison which is to be distributed to the farmers through the agency of Mr. Walker, agricultural agent, at half the cost.

GOOD PROSPECTS FOR BLUE-BERRIES.

THE people of Garden, Delta county, are confident that they are to have an exceptionally fine run of blueberries this season, reports the Morning Press of Escanaba. Frost and fires are on their good behavior, and the crop has a good chance. This probably reflects conditions throughout the peninsula.

The contract for the new tuberculosis sanitarium to be erected jointly by Delta and Menominee counties, has recently been let, the amount involved, it is stated, being \$113,000. Gogebic county has also determined to build a similar institution. In this way only will the inadequate provision now made by the state, be satisfactorily offset.

FARMER'S POSITION IMPROVING.

WHOLESALE price index numbers for May, as prepared by the bureau of labor statistics, show that farm products advanced slightly for the first time in a year while the price trend in the other groups of commodities was still downward. Farm products in April were fifteen per cent higher than the average for 1913. During May they advanced to seventeen per cent over 1913. Wholesale prices for all commodities, including farm products, in April were fifty-four per cent over the 1913 average but declined three points in May to fifty-one per cent over 1913. Stated briefly, these index numbers show that the farmer's dollar is about two per cent larger than it was during April but it is still only about three-fourths of pre-war size.

These figures do not show the true relationship of what the farmer sells to what he buys since they are in all cases terminal market prices. By comparing the prices paid to farmers on their products at the local delivery point with wholesale prices for commodities other than farm products and foods, the bureau of crop estimates finds that the purchasing power of unit quantities of farm products during April was only sixty-three per cent as large as in 1913. The figure for May has not been published, but presumably it would be larger than during April. It is significant also that it has risen from fifty-eight per cent last December to sixty-three per cent in April.

These sources show that the farmer's position is improving. The rate is slow and prices must be leveled off much more before the farmer's buying power has returned to normal.



John S. Southwell, 77 Years Old, Farmer in Saginaw County 50 Years.

CAMPAIGN AGAINST WEEDS.

AN alsike clean-up campaign will be staged in several counties of northeastern Michigan during July, by the State Farm Bureau. A weed expert from the University of Michigan, working with the county farm bureaus, will give field demonstrations and will show farmers how to remove different weeds that detract from the quality of his alsike seed. Seed containing noxious and foreign seeds bring a much lower price than pure seed, for example; seed that is worth \$12 a bushel may bring only \$5.00 or \$6.00 if it contains a large amount of noxious weed seeds or foreign seeds, such as white clover, which on account of the similarity in the size of the alsike and white clover seeds is impossible to remove. In some cases farmers may have to abandon certain fields altogether for a time for seed-growing purposes if they would have a number one alsike seed crop.

Properly drained lands will absorb and hold for the crops a larger amount of the rainfall on the land than land lacking in drainage facilities.

*Enlarged
from a negative
made with a*

Two Dollar BROWNIE



THE BROWNIE CAMERAS of the box type are the simplest of all cameras to load and to use. But what is even more important, they are well made and carefully inspected, have good lenses and make *good pictures*.

THE No. 0 BROWNIE makes pictures $1\frac{5}{8} \times 2\frac{1}{2}$ inches. It has an excellent meniscus lens, a shutter for snap-shots or time exposures, has two finders and is handsomely finished. Kodak film cartridges for 8 exposures to fit this Brownie are but twenty-five cents. In every detail a practical little camera. Inexpensive to buy and inexpensive to use.

Ask your dealer or write us for a catalogue of Kodaks and Brownies.

EASTMAN KODAK CO., ROCHESTER, N.Y.



The No. 0 Brownie.
The Price, \$2.00, includes the
excise war tax.

Missed his train—but
not refreshment.
Coca-Cola is sold
everywhere.
THE COCA-COLA COMPANY
Atlanta, Ga.

**\$54.50 PUTS THIS NEW
MILL ON YOUR
OLD TOWER**

ALBION

Albion steel and wood mills are quiet and powerful. One-third the working parts of any other mill. Only main frame bearing subject to wear. This is oilless, and easily replaceable. Govers by dependable weight without springs. Fits any 4-post steel tower. Why not shorten your chore hours now with a good Windmill? This is your chance—an Albion direct from the manufacturer, fully guaranteed. Write today for catalog.

Union Steel Products Co. Ltd.
No. 525 N. Berrien Street,
ALBION, MICHIGAN, U. S. A.

WITTE
LEVER CONTROLLED
Log Saw

Engine, Saw, Etc., all complete.
From Pittsburgh add \$6.80. Ask for Terms, Folder FREE.

WITTE ENGINE WORKS
2191 Oakland Avenue
Kansas City, Mo.

\$125 F.O.B.

2191 Empire Building
Pittsburgh, Pa.

POTATO BAGS

Sound and free from holes.
Sold direct to growers at
wholesale prices. WRITE
LINCOLN BAG CO., Dept. D, Springfield, Ill.

When You Write to Advertisers Please Mention This Paper

Mention The Michigan Farmer When Writing Advertisers

SERVICE

TRESPASS BY TRAPPERS.

Please tell me whether I can keep a man from trapping on my farm, as he has become a nuisance. I have notices posted for trespassers, but this man tells me that I have no rights within eight feet of a creek which runs through my farm. Is he right? F. S.

The trapper has no such rights as he supposes. He is liable for damages in a civil action at all events; and if signs warning trespassers are posted conspicuously he is liable criminally. J. R. R.

GARBAGE-FED HOGS.

I have an opportunity to get garbage from a nearby city which I intended to feed to my hogs, but I have been informed that it is unlawful to offer the meat of garbage-fed hogs for consumption. Please advise me.—H. S.

I am not aware that there is any law against selling hogs that are fattened on city garbage. In fact, it cannot be that there is, because many cities dispose of a certain part of their garbage in this way. The city of Grand Rapids, for instance, for years has disposed of its garbage to men who make a business of fattening hogs, and I think it is safe to say that you need have no fear from anything in this direction. It is barely possible that you would have to offer these hogs on the market as "garbage-fed hogs," but there is no reason why their meat is not fit for food.

If you have had no experience in feeding city garbage to hogs, I would advise you to look into the matter carefully before you put very much money in it. The mortality from "garbage-fed hogs" is heavy, that is, many of them die. Sometimes they get small pieces of glass. The food varies greatly at times and cases of pneumonia and sometimes cholera affects them. I cannot tell you exactly why this is, possibly it is because they are kept under unsanitary conditions rather than the food which they eat.

City garbage is a good cheap food for hogs and ought to be utilized. It certainly ought not to go to waste but it should be handled properly and the hogs kept under proper sanitary conditions else there is great danger of sickness and death.—C. C. L.

SEEDING WITH BUCKWHEAT.

I am going to sow fifteen acres of buckwheat early in July on sandy land in just fair condition, and would like to seed it, but need some advice as to what seed would be best to sow. How would alfalfa be mixed with other seed, and how much per acre? Macomb Co. J. A. S.

Buckwheat is not considered a good crop to seed with for any kind of grass or clover because it is a rapid grower and shades the ground so much that the slower growing grass or clover seeds cannot become established. Of course, if you seed the buckwheat real thin and there happens to be timely rains, sometimes you get quite a good catch of clover with the buckwheat, but it is considered risky to seed with buckwheat. The buckwheat comes off so late in the fall that there is hardly time then to seed to clover or alfalfa and have it become well enough established to withstand the winter. My advice would be to attempt to grow a good crop of buckwheat without any seeding and then this fall, as soon as the buckwheat is harvested, disk the ground thoroughly and seed to rye. Rye will get along seeded very late. Then next spring you can seed on the rye with a mixture of your clovers and grasses and expect very good results. If this soil is in none too good condition, I would use commercial fertilizers on the buck-

(Continued on page 21).

\$13⁹⁵

NOW BUYS A STANDARD NON-SKID

30 x 3¹/₂

Ford and other light car owners can now buy a tire of recognized standing and quality at a price that Firestone knows is the greatest value ever offered to the motoring public.

Cords At New Low Prices

Firestone Cords also are offered at lower prices: 30x3¹/₂, \$24.50; 32x4, \$46.30; 34x4¹/₂, \$54.90. Tire repair men, who judge values best, class the Firestone Cord as the sturdiest carcass made. Forty-seven high-grade car manufacturers now use it as original equipment.

Go to the Firestone dealer. He offers you greater protection and economy at a time when protection and economy are demanded as never before.

Firestone

PULLETS

generally one-fourth larger than most stock of the same age. For winter layers, get our 8 or 10 week stock at once. Also yearling hens for sale.

Zeeland Pullet Farms, Zeeland, Mich.

A Ford Never Boils With a Perfection Water Circulator

You can drive your car thru mud, sand, up steep hills or run in low gear AND STILL WE GUARANTEE IT WILL NOT OVERHEAT.

Price \$5.50
(plus war tax)

No parts to wear out. Put on in 30 minutes. AGENTS WITH "PEP" WANTED.

Ask for selling plan now.

The Simms Magneto Co.
East Orange, N. J.
Department "F"

Please Mention The Michigan Farmer when writing to advertisers

Get your White Leghorn and Ancona pullets from experienced pullet raisers. We raise pullets exclusively. In buying from us you get not only from high laying strains but pullets that have the best of development. Our stock is warm or cold milk. Different from picture which shows larger capacity machines. Our guarantee protects you. Get our plan of easy

\$24⁹⁵ American CREAM SEPARATOR
On trial. New, well made, easy running, easily cleaned, perfect skimming separator. Skims warm or cold milk. Different from picture which shows larger capacity machines. Our guarantee protects you. Get our plan of easy

MONTHLY PAYMENTS
and handsome free catalog. Whether dairy is large or small, write today. Western orders from Western points.

AMERICAN SEPARATOR CO.
Box 6061
Bainbridge, N. Y.

MICHIGAN FARMER PATTERNS.

Send fifteen cents in silver or stamps for our up-to-date spring and summer 1921 catalog, containing over five hundred designs of ladies', misses and children's patterns, a concise and comprehensive article on dressmaking, also some points for the needle, (illustrating thirty of the various, simple stitches).

No. 3528.—Ladies' House or Work Dress. Cut in six sizes, 34, 36, 38, 40, 42 and 44 inches bust measure. A 38-inch size will require seven yards of 24-inch material. The width of the skirt at its lower edge is 2³/₄ yards. Price 12c.



No. 3540.—Ladies' "Sleeping" Garment. Cut in four sizes: Small 34-36; medium 38-40; large 42-44; extra large 46-48 inches bust measure. A medium size will require 3³/₄ yards of 36-inch material. Price 12c.



No. 3535.—Junior's Dress. Cut in three sizes, 12, 14 and 16 years. A 14-year size will require 6¹/₂ yards of 27-inch material. Price 12c.

No. 3091.—A Pretty Frock. Cut in the four sizes, 8, 10, 12 and 14 years. Size 10 requires 4³/₄ yards of 27-inch material. Price 12c.

WORLD EVENTS IN PICTURES



John Wanamaker unveils bust of Salvation Army Founder.



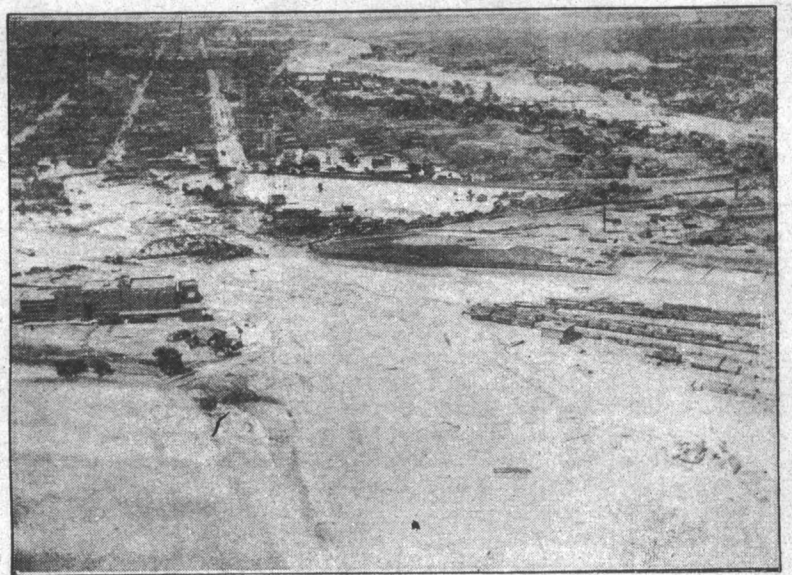
Young lions are both "watch dogs" and pets in Algeria. They are very effectual in both capacities.



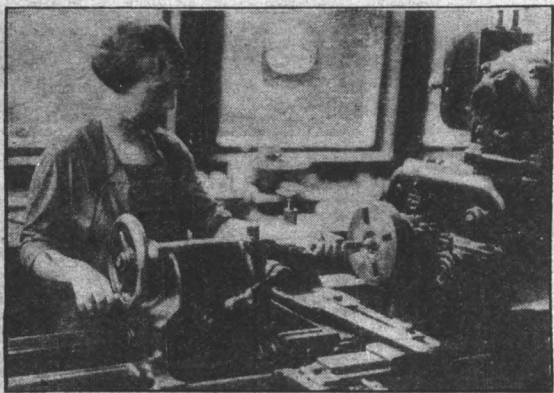
Marguerite Sylva, prima donna, sees New York by seaplane.



Foreigners, barred by immigration law, are transferred to Deer Island, near Boston, pending action by authorities.



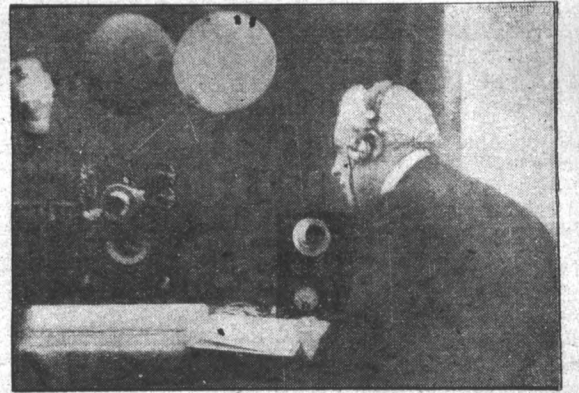
Arkansas river overflowing at Pueblo, Colorado, causes disastrous loss of property and deaths of five hundred people.



Miss Frances B. Hosfeld, a graduate engineer from Pennsylvania State College.



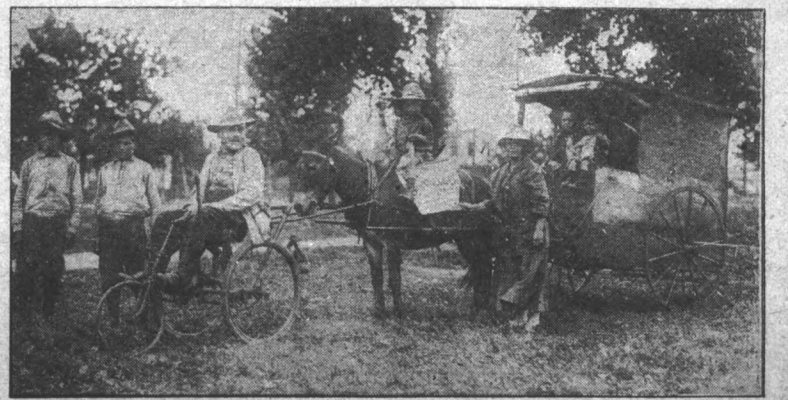
College graduate will organize Camp Fire girls in Philippines.



Parson marries pair in a balloon by wireless. Go up two, come down one.



Elks and elephants frolic at Elks party in Long Beach, Calif. The elephants enjoyed being guests of honor.



One mule power moves whole family from New York to California. The husband, a cripple, rides in wheel chair.

THE CLAN CALL

By HAPSBURG LIEBE Copyright 1920, Doubleday, Page & Co.

CHAPTER XVI. Sentenced to Hang.

SHERIFF TOM FLOWERS and four able deputies rode out of Cartersville very early on the following morning. They went to the Big Pine Mountain country, and, by a scheme that entailed some shrewdness on the part of the chief officer, arrested two Balls and two Torreys on suspicion and took them away without trouble.

The two Balls and the two Torreys were lodged in the Cartersville jail and offered their liberty and exoneration from all blame in the dynamiting affair if they would give the names of the other guilty parties and appear against them. The mountaineers declared stoutly that they knew nothing whatever of the matter, and when pressure was applied they grew sullen and refused to talk at all.

It was plain to Flowers that they did know something about it, and he finally ordered that they be kept in a cell on a diet of bread and water until their tongues loosened. At which the Balls and Torreys swore loudly and swore that they would rot in jail first—unless their kinsmen came and shot up the town and liberated them by force!

"To me that is proof that you four are guilty," grimly smiled the sheriff. "And if your folks want to try storming the jail, let them. A full company of militia can be rushed here within an hour, at any time, and we'll give your folks all the fun they want."

It may be recorded that the four hill-men never confessed.

Bill Dale, closely shadowed by one lanky Samuel Heck with his inevitable, ever ready rifle, went among the workers with a cheer that he did not feel. For Caleb Moreland was in jail, and Caleb Moreland was innocent. But there was one sincere delight for Dale: Hayes was driving the little railroad ahead with all his might and all the might of his men. Hayes was in high favor with those under him; they worked even harder when he was absent than they worked when he was standing over them.

The days ran on, and there was no sign of a hostile demonstration from the Balls and Torreys. Judging from appearances, they were wholly satisfied with Caleb Moreland's being in jail.

Henderson Goff had disappeared. Dale hoped that he was rid of the man for all time. But he wasn't. Goff was not so confident as was Major Bradley that he could establish his innocence

in the matter of the dynamiting of the two buildings and the trestle. He wished very much to steer clear of arrest, for reasons of his own, and he was biding his time in a little town in western North Carolina. When the dynamiting affair had blown over he would go back and try again, perhaps by an altogether new scheme, to get himself into possession of the Moreland coal.

Then there came to the neighborhood a man whom no Moreland, and none of the Littlefords, had ever set eyes upon before. He was a very uncouth mountain man, with long black hair and shaggy beard; his clothing was outlandish and ragged. He had not much to say; there was about him, somehow, an air of mystery.

Two days after his arrival, in the afternoon, the stranger met Dale midway between the Halfway Switch and the opening of the coal vein, and stopped him with an upraised hand.

"Do you know good coal when ye see it?" he drawled.

"Why?" asked Dale, on his guard.

The stranger looked sharply in all directions, as though he wished to make sure that no person was within earshot of them. Evidently satisfied, he drew from a trousers pocket a shining black lump of coal, which he held out for Dale's inspection.

"What do ye think o' this here?" he wanted to know.

Dale took the lump and examined it closely. It was apparently as good as the Moreland coal, which had sent the expert Hayes into raptures. Dale then looked closely at the stranger. He appeared to be honest; his gaze was steady, and seemed very innocent.

"Where did you get this?" Dale asked.

The alert eyes narrowed. "Do ye think this here vein you're a-foxin' to mine is the only vein in the whole country?"

"Where did you get this?" Dale repeated.

"Do ye think?" drawled the other, "'at I'm plumb fool enough to give my find away fo' nothin'? I been pore all o' my life, Mister!"

"How am I to know," frowned Dale, "that you've really got a find?"

"Ye'd believe yore own eyes, wouldn't ye?"

"Yes," Dale agreed, "I'd believe my own two eyes, of course. What's your name, and where are you from?"

"What do I git outen it? I don't own the mountain it's in, but it shore can be bought fo' fifteen cents a acre. And nobody knows about it but jest me. It lays close to the railroad an'

this here Moreland vein, too. What do I git outen it, Mister?"

The mountaineer seemed more honest than ever, but Dale was still on his guard. He asked again:

"What's your name, and where are you from?"

This time the answer came readily: "My name it's Walt Turner, and I'm from Turner's Laurel, Madison County, State o' Nawth Ca'liner. But my find it ain't nowhars clost to home. 'Tain't no more'n about two hours o' walkin' from right here, Mister. Ef you'd jest up and go along wi' me, I'd show it to ye."

Dale rubbed his smoothly shaven chin and considered. He was the last person in the world to throw away a big opportunity. There might be a considerable vein of this new coal. Even if he was sent to the state penitentiary for a term of years, Hayes was entirely capable of carrying on the mining operations.

"I'd like to take my mining man, Hayes—"

"No!" quickly objected Walt Turner. "I don't want nobody else to know whar it's at but jest you and me. That away, ye see, ef I'm treated crooked I'll know edactly who done it—and I'll shore git you!" But I heerd tell 'at you was pow'ful square, Mister."

"Could I get back here before night-fall?"

Turner's eyes lighted. "Shore!"

"Then lead the way," ordered Dale.

Walt Turner, from Turner's Laurel, Madison County, State of North Carolina, crossed the little creek on stones and went straight to the northeast, missing the Ball settlement by a good mile, and hard on his heels followed the Moreland Coal Company's stalwart general manager.

The way was exceedingly rough. The two men climbed rugged cliffs, threaded dense thickets of great laurel, mountain laurel, sheep laurel, and huckleberry bushes. They were one hour in a stretch of woods where the hemlocks, poplars and hickories stood so thickly that the interlacing branches overhead shut out completely the light of the sun and half the light of day. Fearing a panther, or a wildcat, Dale kept his revolver loosened and ready in its holster. Walt Turner armed himself with a long staff—for snakes, he said; and then he proved it by killing a rattler that had eight rattles to its tail.

But they traveled rapidly, notwithstanding the fact that the going was difficult; and two hours after the beginning of the little journey Dale saw

before him a small and almost circular, level-bottomed basin walled in by low cliffs. A small creek ran through this basin and made two easy ways of entrance. In the hollows they saw clumps of laurel and huckleberry bushes, and wild grasses knee-high; toward the center stood a solitary big and gnarled black walnut tree.

They entered at the point at which the creek ran in, and wen to the walnut tree. There Turner halted and faced Bill Dale with a peculiar glint in his eyes. Dale was looking at the rugged walls of stone, and at the thick green forest that rose above them; he was marvelling, as only a true lover of beauty can marvel, at the wonderful grandeur of it all.

Walt Turner, of Turner's Laurel, opened his slit of a mouth and spake, "Here's the kitty!"

Dale was brought out of his enjoyment must rudely. From behind clumps of laurel and huckleberry bushes, from the tall grass, from everywhere—it seemed from nowhere—there sprang dozens of Balls and Torreys with rifles in their hands! Bill Dale had walked, as gentle as a kitten, straight into a trap.

His right hand moved toward the butt of his revolver, then dropped at his side. It was foolish, worse than useless, to show fight; dozens of rifles were staring at him with their frowning, murderous eyes, and their bullets would riddle him if he showed fight. He glanced toward Walt Turner, kinsman of the Balls.

Turner was laughing openly. "Poor little kitty!"

"If ever I have the chance," muttered Bill Dale, "I'll thrash you for this cute little joke of yours."

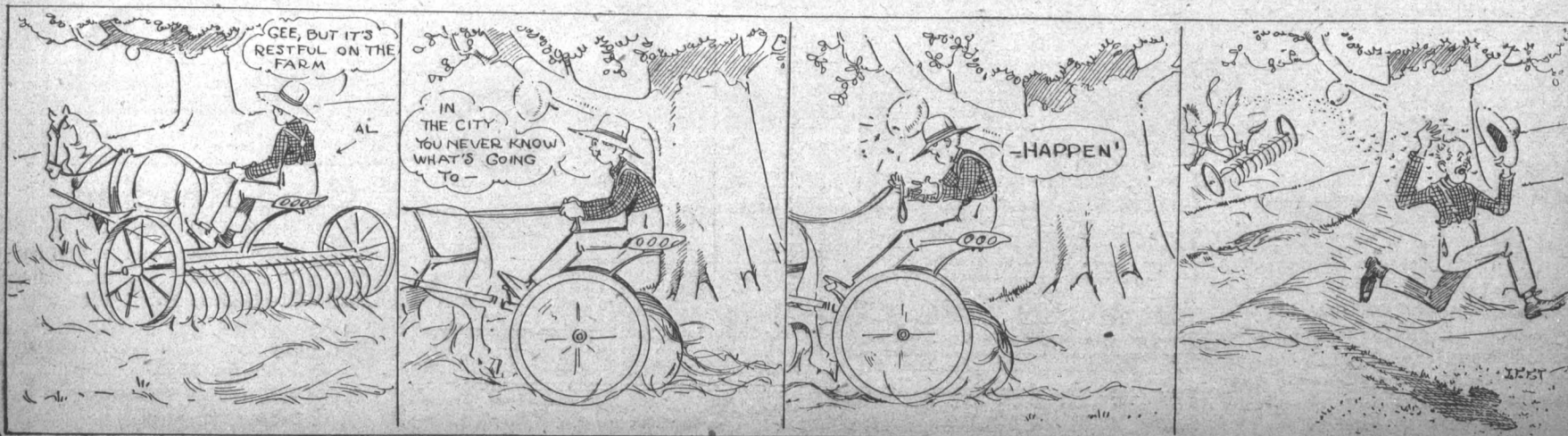
"You won't ever have the chanst," laughed Walt Turner.

The Balls and Torreys began to close in on all sides, and a solid ring of dark and for the most part bearded, wickedly triumphant faces formed itself around Dale. Adam Ball's father, the acknowledged leader of that band of cutthroats that was now the Ball-Torrey faction, glared at Dale with black eyes that were filled with the fire of intense hatred; then he seized Dale's revolver and thrust it inside the waistband of his worn jean trousers. Dale felt the grip of rough hands on his shoulders and arms. He fully realized his great danger; but he strove to keep all signs of fear out of his countenance, and he was not unsuccessful.

"I presume this is what you call taking the law into your own hands, isn't

AL ACRES—Al Finds that the Farm Vies with the City for Excitement.

—By Frank R. Leet



it?" he said with a smile that was forced.

"Edzactly!" snapped old Ball. "We ketched ye fo' the law, and we held ye fo' the law, and we turned ye over to the law; and 'en, by gonnies, the law turned ye loose the very next day! And 'en the shuriff he comes out here and arrests four o' us! Ef the law won't trye ye and punish ye fo' a-shootin' my son Adam in cold blood, by gonnies, we'll trye ye and punish ye fo' a-doin' it. But ye needn't be skeered none at all. Ye're plumb shore to git jestic. I'll promise ye jestic."

"You've evidently overlooked the fact that another man confessed to the killing, and that that was why they liberated me," said Dale.

"It's some cussed frame-up," snarled the leader of the gang. "No man on earth don't like no other man well enough fo' that. Asides, you're the one at killed my son Adam, by gonnies, and you're the one 'at must suffer fo' it. Right here onder this here warnut tree we're a-goin' to hold co'te and have yore trial, by jedge and jury, and you'll shore git what's a-comin'—"

Bill Dale cut in with some bitterness: "And you'll be the judge, and your plans have already been laid, and I'm to be hanged by the neck until dead; eh? Well, you'll pay dearly for it, I promise you. We always have to pay for what we get, you know. The Morelands and the Littlefords will be quick to settle the account. You know that."

"No," old Ball disagreed hotly, "and I don't know that!"

He turned to the others.

"Set down, boys. It's the same price as standin'. The jury will please set over thar," pointing to his right. "The pris'nar and his yards will please set right over thar," pointing to his left. "The hon'rable jedge, which same is me, will please set right thar," indicating a spot at the base of the old gnarled walnut. "The rest," he finished, "will set anywhar they pleases. Set down, men."

His orders were obeyed. Dale found himself sitting on the ground between two pairs of mountaineers and facing a line of twelve mountaineers—the so-called jury. To his left was the self-appointed judge and to his right lounged a score or more of men whose attention was then being turned toward a jug of fiery new whisky that had never been near to a revenue stamp or anything else that was honest. The jug travelled rapidly from one hairy mouth to another.

Old Ball made a wry face, smacked his lips, passed the jug to a member of the "jury," and announced:

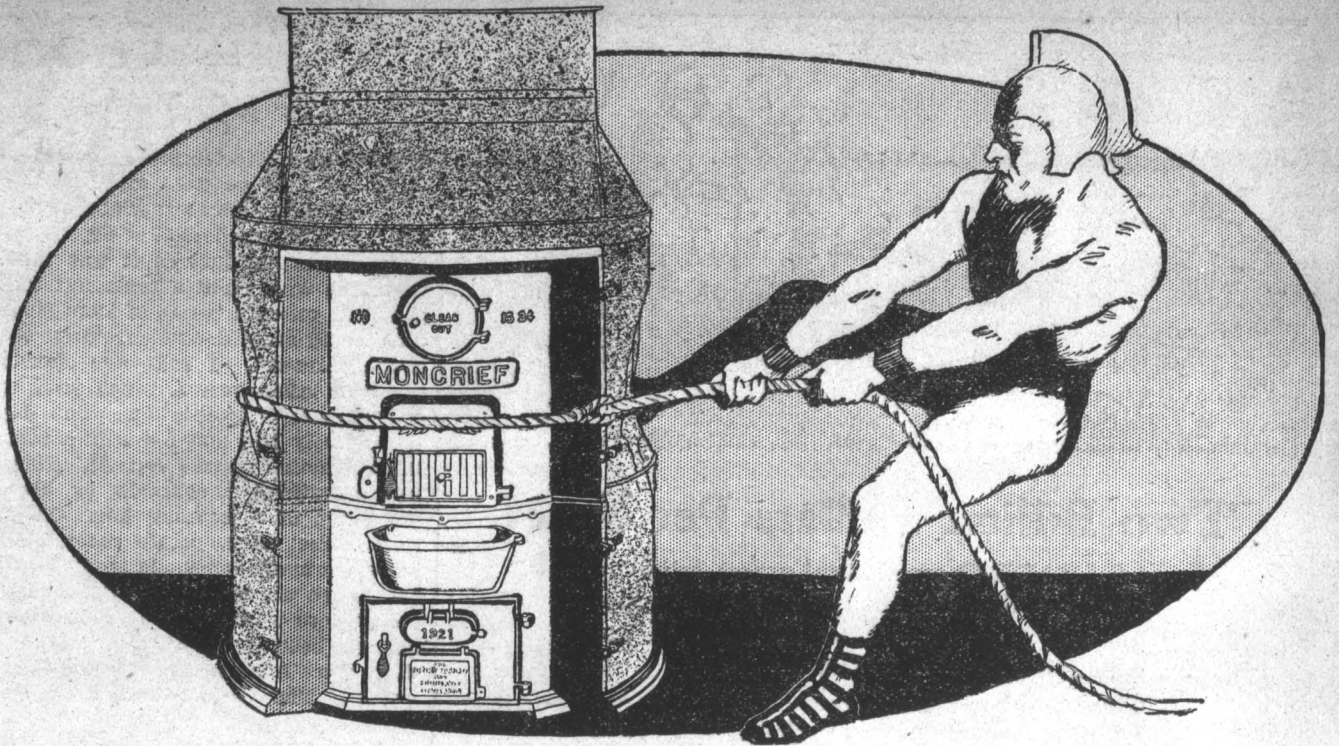
"Well, co'te's open now."

"Kitty, kitty, kitty!" taunted Walt Turner. "Pore little kitty!"

The mockery began. It was ridiculous, and yet it was grim. Adam Ball's father himself furnished most of the evidence; also he acted as prosecuting attorney. Of course there was no counsel for the defence, and it would not have helped if Dale had a proverbial Philadelphia lawyer on the grounds; all the proof and eloquence and pleading in the world never would have changed, in the slightest degree, the sentence that had been cut and dried for Bill Dale. The mock trial was being held solely because the Balls and Torreys felt that by holding it they were insulting the majesty of the law and making their vengeance sweeter. It became worse than a travesty.

Night fell during the wordy and profane harangue of the Ball leader, and it was ordered that a fire be built at once. At once a fire was built, dry brushwood being used, and in its red and flickering glare the faces of the hillmen looked doubly dark and doubly wicked. Then the judge begged a chew of tobacco and deliberately kept the whole twist, and told the jury to

(Continued on page 15).



Why Strangle Your Furnace?

If you were to take as big a crimp in the outer casing of a Moncrief Pipeless Furnace as the fellow above has taken, it would still have as much capacity for air circulation as has the ordinary pipeless furnace.

Full and free air circulation is the very breath of life of pipeless furnace heating. It is the extra air circulation of the Moncrief that enables it to produce such wonderful heating results at so low a cost.



MONCRIEF PIPELESS FURNACE

The casings, or air chambers, of the Moncrief afford passage for 50% more air circulation than the average pipeless furnace. Large casings mean more heat and small fuel bills. Large casings effect a greater and wider distribution of heat through your house with a more slowly moving current of air. That means absence of floor drafts and cold corners.

In every way the Moncrief is the big value, high quality pipeless furnace. Every part is generously, honestly made. Castings are of the finest grey iron, close in grain and well finished. They radiate heat in a degree that a

coarse grained unfinished casting never can. Every joint is ground smooth and straight so that the sections go together smoke- and gas-tight. All the dust and smoke goes up the chimney, not into your house.

It is worth your while to investigate this improved pipeless furnace. It will do the biggest job of heating at the smallest cost of anything you will find.

Any Moncrief dealer will tell you more about it. Write us for the name of the Moncrief dealer in your community.

Manufactured by

THE HENRY FURNACE & FOUNDRY CO.,
CLEVELAND, OHIO

DEALERS: Many desirable territories are still open. Write for the details of the Moncrief Proposition.

DO YOUR CANNING

by the

Cold Pack Method

To Save Money
To Save Waste
To Save Labor

The Duncanette Water Seal STEAM COOKER AND CANNER

COLD PACK CANNING, as encouraged by the United States Government, can be easily and quickly done with the Water Seal Kitchen Canner.

The food is cooked in the container by Live Steam. This method of Canning assures positive results. The fruits and vegetables retain their original flavor and form. The Cold Pack Method eliminates the waste which occurs when canning the old way. The housewife does not have to stand over the hot stove for hours. No stirring is necessary. 25 to 40 per cent less time is consumed than when canning the old way.

This Model Only \$9.50

Our wonderful book, "Food," is given free with each Cooker. This book gives recipes and formulas on different processes of Cooking and Canning. Also a great deal of other very valuable information.

Send for descriptive circulars

If your dealer does not carry it write us direct giving dealer's name.

DUNCAN MFG. CO.
542 Railway Exchange Bldg., Chicago, Ill.

For Sale Case farm tractor 9x18 used one season, good working order, farm top rolling for practical tractor work. Excellent belt power. B. B. SMITH, Howell, Mich.

I NEED BRANCH MANAGERS

Will pay big money to men with autos. Install Rideezee, the BETTER THAN AIR INNER TIRE. Cheaper than tubes, a light resilient substance guaranteed ten years. Equip your car at agent's price. Sell to friends. The business of the future. **RIDEZEE CO., ST. PAUL, MINN.**

We Offer Unusual Opportunity

to a few real salesmen in Michigan to represent the K. C. Harley Co. selling groceries and household supplies direct from factory to customer. Your earnings will be steady and your business permanent. Your profits will be sufficient to give you a good living and enable you to save money. Protected territory and high quality goods at prices that insure quick sales and big repeat orders. Write for full information. **THE E. C. HARLEY CO., 502 E. Third St., Dayton, Ohio.**

LEARN AUCTIONEERING

at the World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught. Write today for free catalog. **JONES NAT'L. SCHOOL OF AUCTIONEERING** 25 N. Sacramento Blvd., Chicago, Ill. Cary M. Jones, Pres.

LIGHTNING RODS

Exclusive agency and quick sales to Live Dealers selling "DIDDLE-BLITZEN RODS". Our copper tests 99.96% PURE. Write for agency. Prices are right. **L. D. DIDDLE CO., Marshfield, Wis.**

Kentucky Tobacco 3 years old, aged in bulk, the best and cheapest smoke on earth. 5 lbs. \$1.00 postpaid. Freight and express shipments, 50 lbs. \$6.00; 100 lbs. \$10.00. **S. ROSENBLATT, Hawesville, Ky.**

WANTED — Learn how anyone can own a high grade tractor on the "Easy Payment Plan". Address P. O. Box 1130, Indianapolis, Indiana.

Farms and Farm Lands

Wanted to Hear from owner of land for sale. **O. K. HAWLEY, Baldwin, Wisconsin.**

Farm With 300 Fruit Trees Horse, Crops, 6 Cows and

Heifers, vehicles, implements, dairy utensils, tools, etc. thrown in; happiness and prosperity yours in delightful section big fruit farms; 112 acres on good road, 1 1/2 miles village, advantages; machine-worked fields; spring-watered pasture; abundance wood, timber; fine orchard over 300 apples, pears, plums, cherries, grapes, etc.; good 6-room house, magnificent outlook; 50-ft. basement barn, 2 poultry houses, ice house, etc. To settle owner's affairs all only \$2500 easy terms. See page 9 Illus. Catalog 1100 Bargains, FREE. **STROUT FARM AGENCY, 814 BC Ford Bldg., Detroit, Mich.**

Buy a Virginia Farm Now. Now is the time to buy a farm in Virginia. Prices are reasonable. You can grow fine crops of corn—all grain and grass crops. Types of soil especially adapted to fruit growing. Opportunities for dairying unexcelled. Virginia offers more advantages to the farmer than any other State—variety of soil, mild winters, long growing season. Why farm where you can grow only two or three crops and be far away from good markets, when you can grow a variety of crops in Virginia and be near the great consuming markets? The healthiest climate in America, free from disastrous storms. Write now for Hand Book, maps, etc. **G. W. KOENER, Commissioner of Agriculture, Richmond, Va.**

FOR SALE Cattle ranches, large or small, fenced or not. Improved farms, unimproved Sugar Maple lands, easily cleared. Summer Resort Propositions. Soil clay loam, in a well settled country, with good roads, schools and markets. Write me what you would be interested in. Good terms. **H. M. Marsh, Owner, Marquette, Mich.**

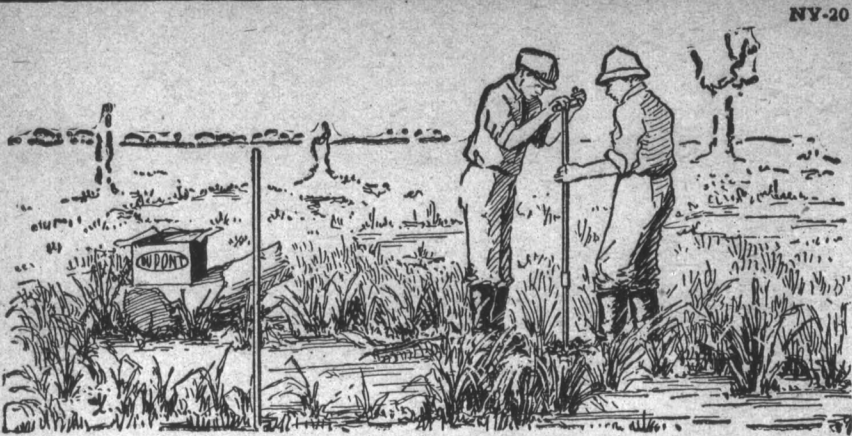
Good Reading

OFFER No. 317.

Michigan Farmer, one year.....\$1.00
Swine World, one year..... 1.00
American Sheep Breeder, 1 year 1.50

Total value\$3.50
All for \$2.50.

THE MICHIGAN FARMER,
Detroit, Michigan.



Two Billion Dollars Per Year!

A LEADING agricultural expert estimates that this enormous sum would be added annually to our agricultural production if our swamp lands were properly drained.

This state has thousands of acres of rich soil lying under water—you probably have some wet spots on your own farm, waiting for the mighty force of



NITROGLYCERIN DYNAMITE

to drain it and put it in shape to bear crops.

Ditching with dynamite is the accepted method all over this state because it is easy, quick and quite inexpensive. No machinery—just a few sticks of dynamite. It does not require expert knowledge to handle explosives on the farm successfully, but if your project requires it we will send a Du Pont field representative to help you.

First write for our Farmers' Hand Book of Explosives, which has complete instructions, then see our local dealer.

E. I. du Pont de Nemours & Co., Inc.

Chicago, Ill.
McCormick Bldg.

Duluth, Minn.
Hartley Bldg.

OTTAWA

1 1/2 H-P ENGINE IS
Now only \$35.50

Other sizes 2 to 22 H-P at proportionally low prices.

90 Days Trial—10 Yr. Guarantee

Good engines at low prices because made in large quantities and sold direct from factory. Stationary, Portable, Saw, Big, Kerosene, Gasoline. Most sizes to choose from.

FREE ENGINE BOOK—Get our low prices before you decide on any engine.

OTTAWA MFG. CO.
1863A King Street
OTTAWA, KANSAS

HOLDEN Spreader

SPREADS 16 1/2 FT.

handles wet or dry lime, phosphate and fertilizer. Haul direct from car to field. Saves time and labor. **FREE Folder.** Low price—write.

The Holden Co., Inc. Peoria, Ill. Dept. 42

KITSELMAN FENCE

Get It From the Factory Direct

PRICES REDUCED June 1st. We pay the freight and save you money. Direct from Factory to Farm. Mr. O. P. McIndoo, Lyons, Ind. writes: "My fence arrived O.K. Like it fine. Saved 24c a rod by buying of you." You can't afford to buy fence until you get our Big Free Catalog showing 100 styles and heights of farm and lawn fence, gate, etc. Write today.

KITSELMAN BROS. Dept. 278 Muncie, Indiana.

CORN HARVESTER cuts and piles on harvester or winnow. Man and horse cuts and shocks equal Corn Binder. Sold in every state. Only \$28 with fodder tying attachment. Testimonials and catalog FREE showing picture of Harvester. Process Harvester Co., Salina, Kansas

Trained American Fox Hounds Rabbit and Skunk dogs all ages. Send stamp.

W. R. LEOKY, Holmesville, Ohio

Western Canada Offers Health and Wealth

and has brought contentment and happiness to thousands of home seekers and their families who have started on her FREE homesteads or bought land at attractive prices. They have established their own homes and secured prosperity and independence. In the great grain-growing sections of the prairie provinces there is still to be had on easy terms

Fertile Land at \$15 to \$30 an Acre—land similar to that which through many years has yielded from 20 to 45 bushels of wheat to the acre—oats, barley and flax also in great abundance, while raising horses, cattle, sheep and hogs is equally profitable. Hundreds of farmers in Western Canada have raised crops in a single season worth more than the whole cost of their land. Healthful climate, good neighbors, churches, schools, rural telephone, excellent markets and shipping facilities. The climate and soil offer inducements for almost every branch of agriculture. The advantages for

Dairying, Mixed Farming and Stock Raising make a tremendous appeal to industrious settlers wishing to improve their circumstances. For certificate entitling you to reduced railway rates, illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan, Alberta and British Columbia, etc., write

J. M. MacLachlan,
10 Jefferson Ave., East,
Detroit, Mich.

Authorized Agent, Dept. of Immigration and Colonization, Dominion of Canada

Cut Cost Ditch, Terrace

Grade roads, build dykes, levees with the **Martin Farm Ditcher and Grader**

Works in any soil. Makes V-shaped ditch or cleans ditches up to four feet deep. Horses or tractor. Get my great labor and cost saving story.

Owensboro Ditcher & Grader Co., Inc.
Box 315 Owensboro, Ky.

10 Days' FREE Trial

The Glorious Fourth

Our Weekly Sermon—By N. A. McCune

WE do not celebrate holidays exactly as we used to. Probably we take them as seriously as we did then, but our method of expressing ourselves is not just as it was then. The time was, when a town felt that it had to get up a series of attractions that would draw the folk from all the country around. I rode one Fourth nineteen miles over a rough road to attend such a celebration. The day was fiercely hot, and I was in a state of liquefaction when I arrived. There was everything imaginable to cheer the heart of a country boy. There were horse races, potato races, sack races, fat men's races, old men's races, but above all there was the human race. There were farmers present who had not been to town for a year, and there were Indians, negroes and immigrants. The parade was a howling success, especially among the babies.

Then came dinner. In spite of having drunk lemonade and milkshakes enough to put a ruminant's stomach out of business, I was hungry. I paid a quarter to get into an improvised dining-room filled with farmers of every description and many who had

tem was in no way militarized. But now we are apprehending the fact that we are not isolated. It is only a few days' journey to Europe. Our labor market is influenced by immigration, and our money conditions are sensitive to the financial barometer across the seas. Moreover, we are not (it is to be hoped) fostering hatred for Great Britain. On the contrary, we now sense the fact that if the Anglo-Saxon is to have an honorable place in the world, the two great English-speaking races must act in a spirit of harmony and good-will.

Our boys and girls might well be taught that the soldiers Washington fought were sent to America by a faction of the English government at the behest of a German king on the English throne who was insane part of the time, and that English statesmen like Lord Chatham favored the colonists and hoped they would never submit. This is not said with the idea that Great Britain is perfect as an international neighbor, but neither does Europe regard America as a perfect neighbor. You may not like the color of your neighbor's house, nor the presence of his chickens in your pansy bed, but you do not shoot him, nor bring a law suit. In other words, there is not quite the eagle-screaming there used to be, on our national holidays. Our way of expressing love of country has changed a bit, and I rather think it is deeper and more sound than it was in those other days. We have only one world to live in, at present, and we have to live in it together. War does not settle anything very satisfactorily. We are learning that now. Peace is possible, if it is cultivated early enough.



Our Sermon Writer, Mr. McCune, and Son, Enjoy an Outing.

never been described. I sat next to a lumber-jack. The piece of meat on his plate only whetted his appetite and he reached over and took the piece off my plate. Everybody reached in all directions for anything he saw, and in ten minutes the tables were as innocent of food as so much space in a desert. There was, of course, an orator of the day. There always was. He was usually a congressman or a man who wanted to be. He was listened to attentively by the committee on arrangements and the G. A. R. Post. It is very hard for an orator to compete with races and merry-go-rounds. But the congressman did a good piece of work, the committee said. He waved his arms and shouted some things about the flag and this glorious country of ours, accepted his \$25, and took the next train for home.

THESE old-time celebrations were a good thing. They brought people together, and, with the exception of the drunkenness, most people were better for them.

There is needed, however, a sort of patriotic instruction today that was unknown then. America was very self-sufficient in those days. She lived by herself, far from other nations. The old antipathy between us and Great Britain was carefully fed and fanned in the school histories, and the children were taught that the only flag in the world worth looking at was the Stars and Stripes. It was the same thing that was being taught in Germany, only we did not do it as thoroughly as Germany did, and our sys-

TODAY we are aware as never before that Christianity has everything to do with patriotism. It has everything to do with our international relations. Many good folk do not believe in foreign missions. They remark that we do not have enough religion, and other sapient sayings. There is only one answer to this, namely, that if we do not export Christianity, we will import anarchy. Universal Christianity means a new area in politics, and a new era means peace and good will. When it is realized that the contact of America with Asia often misrepresents the best elements in American life, there will be a greater respect for the exporting for religion. But it must be genuine Christianity, not make-believe. So-called Christian governments have been dishonest in their dealings with other powers, especially with the weaker peoples. England forced opium on China against that nation's will. When China protested, it brought on the opium war, and a treaty in which China promised never to interfere with the importation of opium. Today United States manufacturing interests have representatives in Asiatic lands introducing good American whiskey, guaranteed to produce crime, pauperism, hatred and degeneracy. There is much atheistic propaganda in Asia. European and America writers like Nietzsche and Haeckel are translated and circulated widely. If there were not circulation of Christian literature, the result would be tragic. Happily the printing presses of good literature turn out as high as four hundred millions of pieces of literature in a single year. The Bible has gone forth in the last hundred years in nearly four hundred languages, to the number of two hundred millions of copies.

THIS is a phase of religion and patriotism that the church has realized for a good while, though not as

clearly as it might have. Other people have not sensed it at all. It is a question of universal Christianity or universal paganism. Universal religion or universal anarchy. Our patriotism and our religion both have been too narrow. The Fourth of July orator who shouted fine things about the flag, and said we could whip any nation that dared to insult our navy, was as narrow as the religionist who thinks we should keep all our Christianity at home. There are other nations in the world besides ourselves. It is very proper that we should love the United States more than any other nation. Pity us if we do not. But that is not the reason we should be bragging about the nations we can lick. People who spend their money forever in law suits never get very far. Christianity must be applied universally, or it cannot be applied at all. As the great French preacher said, Christ is either Lord of all, or He is not Lord at all. It is a matter of selfishness, of self-preservation. Export whiskey and evil ideas and you will import a train of ills and violence. Export religion, peace, love, and the reaping will be glorious, a millionfold. There are plain illustrations of that, now on record. There is nothing in the way of world development that the Christian religion cannot effect, if it will. And that is the highest patriotism.

The Clan Call

(Continued from page 13).

go out and bring back a verdict without losing time.

The twelve mountaineers rose unsteadily and went to the creek, and there one of them uncovered another jug of fiery new whisky that was alien to a revenue stamp. They drank heavily and returned to the walnut tree court without mentioning the trial.

The foreman was a Torrey, and a particularly bad one. His swarthy face, with its high Cherokee cheekbones and its thin-lipped mouth, was ultra-cruel, ultra-vicious. He entered the circle of red and flickering firelight, smiling evilly, and the other eleven crowded up close behind him. He cleared his throat, spat between two fingers at the fire, and turned to the judge.

"Gentlemen o' the jury," growled the ruling Ball, "have ye reached a verdict?"

"We have, yore honor," very promptly answered the Torrey who was foreman. "And we ha' found the pris'ner guilty o' the wust kind o' coldblooded, premeditated mudder in the fust degree, yore honor."

Old Ball levelled a knotty forefinger toward Bill Dale.

"Fo' the killin' o' my son, Adam," he pronounced sentence, "you sh'll hang by the neck ontel dead, from a limb o' this here walnut tree, by gonnie's, at sunrise in the mornin'."

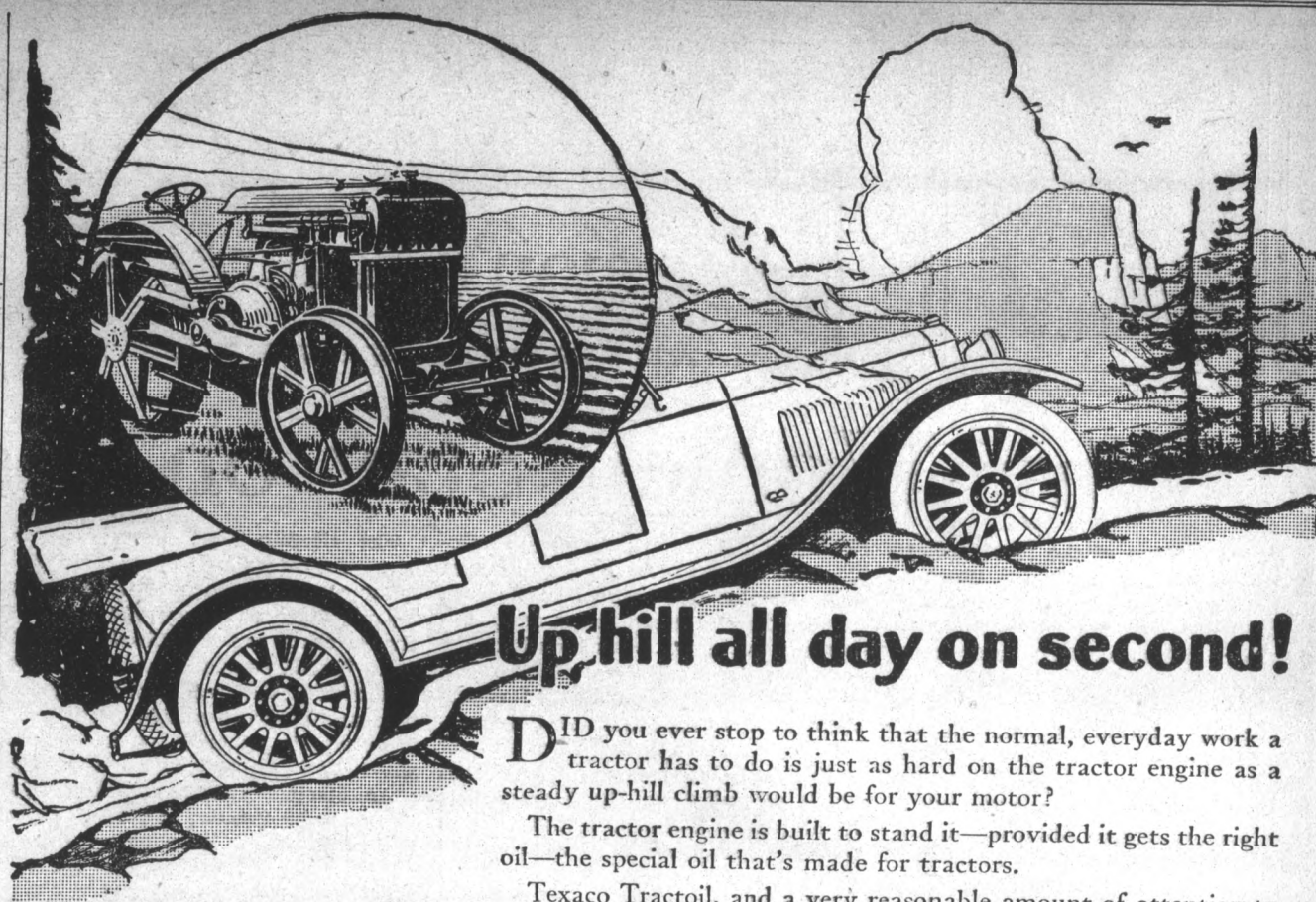
Although he had well known what the sentence would be, Dale went suddenly ashen. Then he took a firm grip on himself and began to reason.

He could not hope, he decided, that the Morelands and the Littlefords would find him before the sun rose. They would miss him, of course, and they would suspect foul play and look for him; but finding him in that wilderness—it was impossible. It became plain to him that he would have to save himself if he were saved. He believed his best chance lay in his proving that he was anything but a coward; the worst mountaineer, he knew, admired a brave man.

So he turned slightly toward the self-appointed judge and asked calmly: "Is there anything really game about you?"

"Shore, by gonnie's!" quickly. "I'm all game. I'm the feller 'at showed wildcats how to fight. What about it?"

(Continued next week).



Up hill all day on second!

DID you ever stop to think that the normal, everyday work a tractor has to do is just as hard on the tractor engine as a steady up-hill climb would be for your motor?

The tractor engine is built to stand it—provided it gets the right oil—the special oil that's made for tractors.

Texaco Tractoil, and a very reasonable amount of attention to mechanical details, will keep your tractor fit—ready for the work at all times. Proper lubrication is most important.

Use Texaco Tractoil for your tractor engine—and Texaco Thuban Compound for the *enclosed* gears, Texaco Crater Compound for *exposed* gears, and Texaco Grease for the grease cups. A Texaco product for every tractor purpose.

Buy Texaco Tractoil in 33 or 55-gallon steel drums, wooden barrels and half-barrels, or in 5-gallon sealed cans. Buy it from your nearest dealer—ask him the grade you need "B", "C" or "D".

THE TEXAS COMPANY

Petroleum and its Products

General Offices: Houston, Texas

Offices in Principal Cities

TEXACO TRACTOIL



SUPERIOR BABY CHICKS

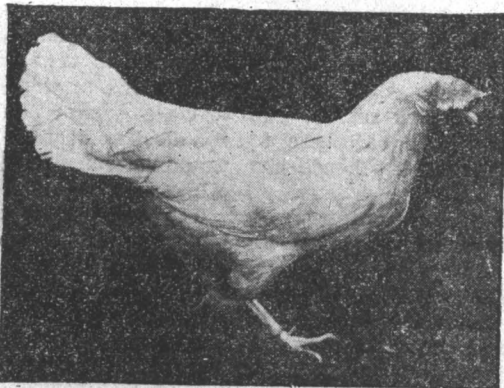
June and July Chicks Make Best Winter Layers

We now offer Baby Chicks from our purebred farm raised, free range flocks at the following low prices. We ship by Parcels Post Prepaid to your door and Guarantee live arrival and complete satisfaction.

Order direct from this Ad. and save time.

English
White
Leghorns,
Anconas
at
10c
each

Broiler
Chicks
eight cents



Trap-nest record of 278 Eggs in one year.

American
White and
Brown
Leghorns
at
9c
each

Ship any
amount 25
to 5000

SUPERIOR POULTRY FARMS & HATCHERY,
Box 203, Zeeland, Michigan, G. D. Romeyn, Prop.

SCHRADER UNIVERSAL VALVE CAPS



ADD TO THE LIFE OF YOUR TIRES

Valve Caps are an essential part of the Tire Valve Stem. They should always be used to keep foreign matter from entering the mouth of the Valve Stem.

Now come packed in handy metal boxes, five in a box.

PRICE, 40 CENTS A BOX

At your dealer, or

A. Schrader's Son, Inc.

Brooklyn, N. Y.

Chicago

Toronto

London



MINERAL HEAVE COMPOUND
FOR HEAVES

Booklet Free

\$5.25 Box guaranteed to give satisfaction or money back.
\$1.10 Box Sufficient for ordinary cases. (Includes War Tax).
MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburgh Pa.

OFFER No. 314.

Michigan Farmer, one year.....\$1.00
Hoard's Dairyman, one year..... 1.00
Swine Breeders' Journal, one year .50

Total value\$2.50

All for \$2.00.

OFFER No. 315.

Michigan Farmer, one year.....\$1.00
American Fruit Grower, one year 1.00
Corn Belt Farmer, one year..... .50
Gleanings in Bee Culture, 1 year 1.00

Total value\$3.50

All for \$2.60.



Flowers are the sweetest thing that God ever made
and forgot to put a soul into.
—Henry Ward Beecher.

Woman's Interests



Why Women Stay on the Farm

IF you are one of the many women whose work is made ten times as hard as it need be by an inconvenient kitchen and a misplaced pantry, this story of how another farm woman completely changed her home by moving a partition along five feet, and eliminating the pantry altogether, may give you an idea of how you can overcome some of your difficulties. You wouldn't believe unless you saw it, how much difference just changing that partition, and altering the position of

Not all the space taken from the dining-room was needed for kitchen space, so this was made into a closet for the men's outside garments, the entrance being just at the south of the door between kitchen and dining-room.

In the old arrangement of rooms there were no cupboards in the kitchen. Dishes and supplies were all kept in the pantry, the china in cupboards which ranged down the kitchen side of the pantry to the pass window. The flour bin and broad shelf were on the

The electric light system and the pump for the water supply are in a cellar under the kitchen, which, being separated from the vegetable cellar is always clean and is utilized as a laundry. Water, pumped from the well by a windmill is stored in a storage cistern underground outside. The pump is automatic, starting when the tank, which holds only a pailful, is emptied.

An electric washing machine, electric vacuum cleaner, and electric iron are among the labor-saving devices

staff. The college furnishes blueprints and a small tank as a working model to farmers who wish to put one in.

COMMUNITY SINGS.

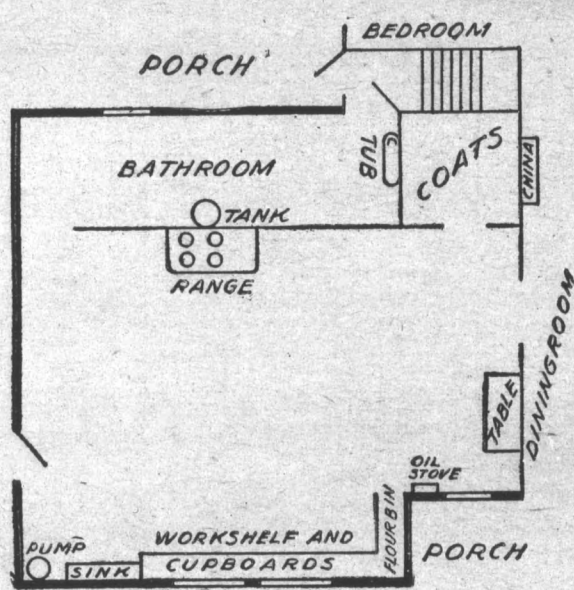
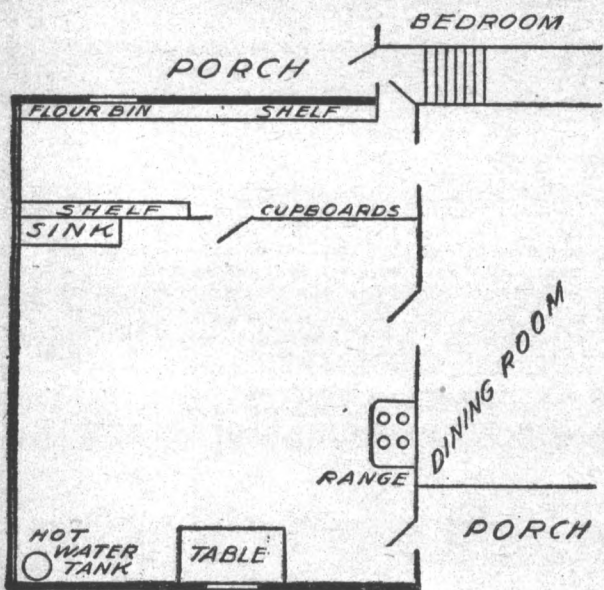
WHEN grandfather was a boy, it was singing school. Now it is community sings. Different names, different methods of leading, but the results are about the same, a get-together event for the community. In grandfather's day the singing master with his tuning-fork led, and initiated the folks into the mystery of sight reading. Maybe they had a five-octave organ for accompaniment. Now the leader is the man with the biggest voice and most pep, and he doesn't teach you how to sing by note. You have to find your own key and keep on it as best you can. Maybe a victrola grinds out the accompaniment, maybe some pianist helps out, and again, maybe you have no accompaniment at all.

Community sings since the war have become a big factor in drawing folks together. If you want to try one and have no music, write to Community Service, Inc., No. 1 Madison avenue, New York City. They will supply you at cost with leaflets as follows: "Community Songs," "Twice 55 Community Songs," and "One Hundred and One Best Songs." The same service also puts out a handbook on Community Music for leaders of training schools.

Talking machine companies and player piano companies also make records especially adapted for community sings. Also write instrument makers for selections. If your community needs something to bring the folks together try a songfest. Nothing goes farther towards awakening a feeling of good fellowship than singing and playing together.



A Play Frock of Yellow Linen with Touches of Blue Cord.



These Diagrams Before and After Remodeling, Show Inconvenience Changed to Convenience in the Kitchen.

stoves, tables and cupboards could make in a day's work.

Mrs. Fremont Baird, of Allegan county, near Hopkins, owned the kitchen. It was much such a kitchen as the average farm kitchen, too small for all the things which should be in it. In fact, it was the summer kitchen, with all that implies in the way of moving stoves twice a year, and having to see your dining-room steamed up in the winter months with cookery. The pantry, as you can see by studying the first illustration, opened off the dining-room. There wasn't a door into it from the kitchen, just a little pass window through which dishes and food might be put. Flour bin and moulding board were in the pantry. This meant that on baking days in summer, you stood in the pantry to get your cookies ready to bake, and while you might put them through the window into the kitchen, you had to travel around out there through the dining-room to get them into the oven. It meant no end of steps that shouldn't be taken, and Mrs. Baird being a progressive farm woman took steps to eliminate them.

The old kitchen, as you will see, was a rectangle, about 11x12 feet. The range stood against the wall separating the kitchen from the dining-room, the sink was in the farthest corner by the pantry wall. The table was on the opposite wall under the one window, and the hot water tank filled another corner. A door led from the kitchen onto the porch.

The alteration was made by taking five feet off the large dining-room, thus making the kitchen irregular in shape, but giving room to bring the cupboards from the pantry into this workroom.

opposite side under a window which looked out on a screened-in porch.

The cupboards were torn out of the pantry and taken to the kitchen. A second window was cut through alongside the other, and a work-shelf with cupboards beneath built along this entire north wall, with the exception of space enough for the sink and cistern pump. The door leading onto the porch was walled up and cupboards built in this niche, with flour bin and moulding board beneath. This brings the things for baking altogether. The old pantry was then converted into a bathroom. The range was moved from its position by the dining-room wall, and set next the bathroom wall, where connection could be easily made with the hot water tank in the latter room. The tank was placed in the bathroom to assist in heating it, as the house has no furnace.

The table, little used as the work-shelf under the windows takes its place, was put in the space to the left of the dining-room, with the oil stove on the porch side of this alcove. In the dining-room a china closet was built on the wall space formerly taken up by the pantry door, the cupboards coming out of the coat closet in the kitchen.

A door which in the old arrangement led from the pantry to the cellar has been utilized to give an outside entrance to the bathroom so that workmen may enter that room and wash up, without bothering workers in the kitchen. This door opens into a little vestibule, which opens out upon the screened-in porch. The window in the old pantry has been made into a half-window in the new bathroom.

which makes life on the Baird farm easy, but in spite of these conveniences Mrs. Baird declares that if she could have but one—electricity or running water—she would take the water.

"Nobody knows unless they have had to go without it, just what running water means to a housekeeper," she says. "You can't imagine how much water it takes to do the day's work on a farm, especially a dairy farm like ours, with all the milk cans and pails and strainers to care for. We used to have a jar which held twenty-five gallons, and was filled from the windmill, but many a day we emptied this and had to have more water. Now just to turn a tap and have all the water you want to run out seems to me a greater labor-saver than even the electric washing-machine, though I wouldn't want to give that up now, either."

The question of cost is always an important one to be considered when the idea of installing light and water systems is entertained. The Bairds found out that the cost of installing was greater than the cost of the generator and pump, but this might not be true of all who wish to put in these improvements, as in this case it was necessary to build the cellar under the kitchen for the equipment. The light system and pump cost \$845. But the cost of fixtures, wiring, plumbers, masons, etc., was around a thousand dollars. Wages paid to labor have gone down since this work was done, and there might also be a difference in the price paid for fixtures.

The septic tank was built under the supervision of Mr. Robey, of the Michigan Agricultural College extension

Our Boys' and Girls' Page

Club Activities in Michigan

THE way the Michigan boys and girls are going at club work proves that there is considerable satisfaction in accomplishing the things that are worthwhile. Both aimless play and work get tiresome. Such work becomes drudgery and such play produces restlessness and often bad habits. But when there is an object to accomplish, interest becomes enlivened and enthusiasm is put into the things to be done, even though they may be disagreeable at times. Work becomes play and brings happiness and contentment.

The reports show that the Michigan boys and girls are active in club work. For instance, in Branch county, one hundred and thirty-two girls recently finished their garment-making project with a profit of \$678.97. The boys, in handicraft work, did not do quite as well, but seventy-nine who were in the project made a total profit of \$245.55.

In Genesee county the clubs got good support for their Achievement Day. The board of supervisors voted \$200 and the Flint city council \$100 for Achievement Day purposes. The Chamber of Commerce of Flint appointed a committee to help formulate plans for the Achievement Day celebration which was held May 7. About seven hundred people attended the afternoon meeting and four hundred boys and girls were given dinner at noon.

When the boys and girls get through with one project they are anxious for another, is the experience of the Saginaw County Club leader. In nearly every case where they have had winter clubs there have been requests for summer project work.

Poultry work seems to be the most popular among the young folks of Washtenaw. They have been busy there this spring distributing chicks to six poultry clubs. About 2,500 chicks have been divided between the poultry club workers.

Howard McPherson, of Wayne county, state poultry champion, started on March 1 with 238 chicks and has marketed already some nice chickens as broilers.

In Cheboygan county the club leader borrowed from a local art store some children's dresses and rompers, simply made of good quality material, with fancy stitches to offset garments, to show the sewing club girls. This demonstration made the club members enthusiastic about making clothes for their younger relatives or for using the suggestions on their own clothes. It led the girls to the selection of more simple styles and more desirable materials.

The County Fair Board of Calhoun County has authorized a boys' and girls' department in connection with the fair this year and will give a bank account of \$1.00 to each club member making an exhibit in this department.

The Taymouth Fair, Saginaw county, which has not been very successful the past few years, has turned over the entire premium list to the boys and girls in the hope that this may arouse new interest in the fair. This fair is also planning to send a boy to the International Stock Show at Chicago. Saginaw county is fortunate in having four fairs that are pushing boys' and girls' club work.

There are prospects for at least twenty-five canning clubs, eight pig clubs and two calf clubs in Saginaw county. Three poultry clubs and four crop clubs are now in full swing. One

canning club which had seven members last year, has twenty-eight this year. These facts show that club work in this county is in a healthy and active condition.

The Granges are backing the canning clubs in Eaton county. "This will undoubtedly prove a good means of getting leaders during the summer, while the teachers are away."

At Beulah, last winter's hot-lunch club has developed into a community canning club. The girls will get together this summer and can on a community basis, products which will be donated for next winter's hot-lunch work.

There are undoubtedly many other projects and accomplishments in club work that show even to a greater extent than those mentioned here, the scope of this work in our state. The editors of the Michigan Farmer would be glad to receive from club leaders, boys and girls, and others, short items telling of what the boys and girls are doing in their club, and other rural activities. Little stories of unusual accomplishments by individual boys and girls would also be welcome.

THE GRASSHOPPER.

HAVE you ever tried to catch a grasshopper? If so you will know it is not easy. Just as you think you have him, you will find he is quite a distance away, chirping merrily, as if to say, "You are not nearly clever enough to catch a fellow who has six long legs, four wings, and a body as light as air."

If you do catch one, put him under a glass and examine him. You will see that his body is ringed, that his shoulders are covered by a shield, and that he has a large mouth, in which, could you see them, he has two pairs of strong jaws, one for holding and cutting his food, and the other for chewing it. He gives them plenty of work, for he eats all that comes his way.

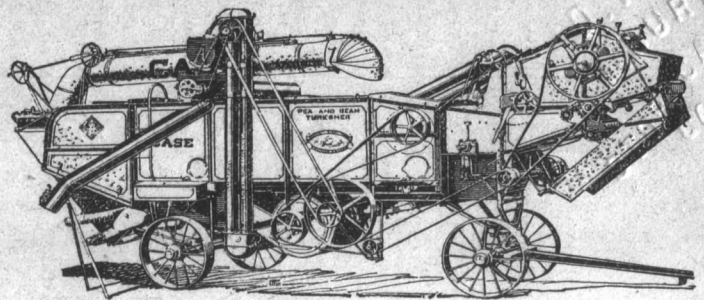
The chest is formed of three rings, each of which bears a pair of legs, and the two hinder ones two pairs of wings. The abdomen is also ringed, and on the side of each ring you will see a dark spot. These spots are the breathing holes.

How surprised you would be if you could see inside the grasshopper. From each breathing hole runs a tube which branches off into hundreds of tiny tubes that are kept in shape by a stiff thread which winds round and round. You will see the abdomen move up and down as it pumps air through the holes into the tubes.

So now you know the secret why Mr. Grasshopper can leap so quickly when he has spied you with his big-fixed eyes, which have hundreds of windows.—MARK MEREDITH.

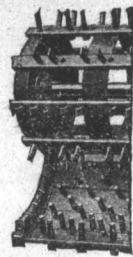
THE HABIT OF LEARNING.

THE most important thing in school is not the information you acquire but the habit of learning that you establish. Here is a man with no education. He has never learned how to solve problems. Some trouble comes up in his life—it may be a comparatively simple matter—but he is helpless, can't see any way out of his difficulties. The same situation confronts a man with an education—a trained mind—and he begins to put things together, and figure and scheme and and soon has a solution to the problem, because he has learned how to solve problems by going to school.—Boys' Life.



FULL VALUE For Your Pea or Bean Crop Depends on Proper Threshing

GETTING the ripe peas and beans out of their pods and into the sack is one thing; doing it without cracking or breaking the hard kernels is an entirely different matter.



Case 20x28 cylinder and concave. Teeth set for threshing peas and beans.

Protection Against Cracking of Kernels

Because of the absence of outer cylinder bands on the cylinders of Case Steel-built, Galvanized Pea and Bean Threshers, it is possible to make a close-threshing concave adjustment without danger of peas or beans being crushed between the ends of the concave teeth and the cylinder bands.

All Teeth One Size

In addition to eliminating chances for breakage of kernels, this feature permits the use of cylinder teeth of one size. These big, annealed-and-tempered teeth are interchangeable with the concave teeth, which is a decided economy and convenience. It is impossible to put a tooth in the wrong place. This also tends to keep the cylinder in balance.

Other Important Features

While this standardization of teeth and construction of Case cylinders are important details, there are many other Case features such as the Case cylinder speed reducing device. Case machines assure clean threshing, thorough separation, perfect cleaning, and complete saving of the threshed crop. Our catalog fully describes these threshers. Write for your copy.

P. S. CASE PEA and BEAN THRESHERS can be converted into regular grain or grass-seed threshers at a small additional cost. The change can be made by the owner without difficulty.

J. I. Case Threshing Machine Company
Dept. G16 Racine, Wisconsin

CASE
THRESHING MACHINES



H. Eikenhout & Sons
Berry Boxes
Baskets
Fruit Packages

ONE
or
CAR
LOAD

Grand Rapids,
Mich.

Barn Paint \$1.35 Per Gallon

Get factory prices on all paints. We guarantee quality. We pay the freight. FRANKLIN COLOR WORK, Dept. M, Franklin, Ind.

Saw Mill Machinery Portable Mills for Farm or's use. Make your own lumber. Send for new Catalog. HILL-CURTIS CO., 1506 No. Pitcher St., Kalamazoo, Mich.

BICKMORE'S
GALL CURE
Used by the Family
Used extensively to relieve bed sores, itching piles, cracked hands, etc. If a white ointment is desired ask for our XYZ Skin Ointment.
The Bickmore Co.
Box 157
Old Town, Me.

Homespun Tobacco Chewing, 10 lb., \$3; 20 lb., \$5. Smoking, 10 lb., \$2.50; 20 lb., \$4. FARMERS' UNION, Mayfield, Kentucky.
Mention The Michigan Farmer When Writing Advertisers

Royal Baby Chicks



S. C. White and Brown Leghorns \$9 per 100 Postpaid

Place your order now for some of these high-grade chicks from pure-bred stock that has been bred to lay for the past 10 years. Just the kind of stock you need on your farm to bring you a good profit. Our many years of hatching experience enable us to give you chicks that are started right and will grow right. Any size orders accepted. Safe arrival guaranteed. Order direct to save time, or send for catalog.

Royal Hatchery, R. 2, Zeeland, Mich.

CHICKS 7c and Up CHICKS

20,000 large, strong, well hatched chicks every Tuesday hatched from eggs laid by selected hens on free range insuring healthy, vigorous chicks that will live and grow into money for you.



Barron S. C. White Leghorn heavy weight and heavy layers American S. C. White Leghorns heavy laying strains S. C. Brown Leghorn the most beautiful Leghorn and a good layer. S. C. Anconas great layers.

PRICES FOR JUNE AND JULY	Per	Per	Per
S. C. White Leghorns	25	50	100
English W. Leghorns	\$2.25	\$4.00	\$8.00
S. C. Brown Leghorns	2.25	4.00	8.00
S. C. Anconas	2.50	5.00	9.00
Broiler Chix	2.00	3.50	7.00

We Ship By Parcels Post and Pay the Postage to Your Door.

We guarantee the chicks to reach you in good condition. Catalogue free.

WYNGARDEN HATCHERY, Box M, Zeeland, Mich.

Day Old Chicks \$9 per 100

FROM

Standard Bred Brown Leghorns and Standard Bred White Leghorns

The stock has been bred to lay for the past twelve years, and are now good laying strains. We also have English type White Leghorns which are a little heavier, and have very large combs and lay a large white egg. Those looking for the English type and a heavy laying strain, make no mistake when ordering from us. 100% safe arrival guaranteed by parcel post. Write for our catalog.

Order Direct from Ad. and Save Time.

Wolverine Hatchery, R. 2, Zeeland, Mich.

H. P. Wiersma, Owner and Manager

Baby Chicks Pure Bred 800,000 in 1921

To your door Prepaid by us. Guaranteed live delivery. All our stock is of the Standard and free range and of heavy egg production at the price to meet times. And they are all No. 1 only



S. C. White Leg. } Barred Rocks } B. Orpington.
S. C. Brown Leg. } White Rocks } W. Orpingtons
S. C. Buff Leg. } S. C. & R. C. Reds } 13c each
Broilers } White Wyandottes } 18c each
Anconas }

Give us a trial order and you will always come back for more of our chicks get our big offer on chicks and brooders. Order direct from this ad and save delay. Circular Free.

WOLF HATCHING & BREEDING CO., Dept. M, Gibsonburg, Ohio.

Big Special Stock Sale

Yearling Hens and Male Birds. Pullets and Cockerels from 6 Weeks Old on Up.

We have several thousand to select from. Can furnish stock of Utility, Exhibition and Laying Quality, at reasonable prices. When you write us, plainly state just what you want. Now if you want stock that is bred for high egg production and quality don't fail to grasp this opportunity and don't wait too long to order. We can more than please you for the money, guarantee you satisfaction.

Huber's Reliable Hatchery, East High St., Fostoria, Ohio

POULTRY

Barred Rocks Hatching eggs from Parks 200-egg strain. Rich in the blood of Parks best pedigree pens. \$2 per 15, \$6 per 50, \$12 per 100. Prepaid by parcel post in nonbreakable containers. R. G. KIRBY, Route 1, East Lansing, Mich.

CHICKS English, Strain White Leghorns the heavy laying strain at only \$15 per 100; prepaid by mail safe arrival guaranteed send cash with order special rates on 500 or more. JAMESTOWN HATCHERY, Jamestown, Mich.

Baby Chicks Good big, healthy chicks of show room quality at utility prices. Catalogue free. Sycamore Hatchery, Sycamore, Ohio

CHICKS English, Strain White Leghorn. Bred to lay Brown Leghorn and Anconas. Bargain prices for our quality stock kept on free range. Order now for early deliveries. Hillside Grove Hatchery Farm, R. 1, Holland, Mich.

Fowler's Buff Rocks Egg prices cut one-half for balance of season. R. B. FOWLER, Hartford, Mich.

Why Pure-Breds Pay

By R. G. Kirby

IN travelling around the state the interested observer of poultry will note many flocks that are not pure-bred. Sometimes one breed predominates but many of the birds will be of mixed breeding. What is the reason that many farmers keep mongrel flocks of poultry? Usually they feel that they are producing birds fully as vigorous as the pure-bred flocks of neighbors and they claim to receive just as many eggs, although accurate records of scrub poultry flocks are difficult to find.

The owner of pure-bred poultry has the following advantages: The best birds that have been bred for either egg-production or exhibition are, of course, pure-breds. The farmer who wishes bred-to-lay foundation stock can only find it in some line of bred-to-lay pure-breds. If he wishes exhibition birds he must select a line bred pure, with emphasis placed on exhibition qualities.

New friends are made for the poultry business largely through the attraction of pure-bred stock. The owner of a scrub flock has absolutely no sale for hatching eggs and the sale of

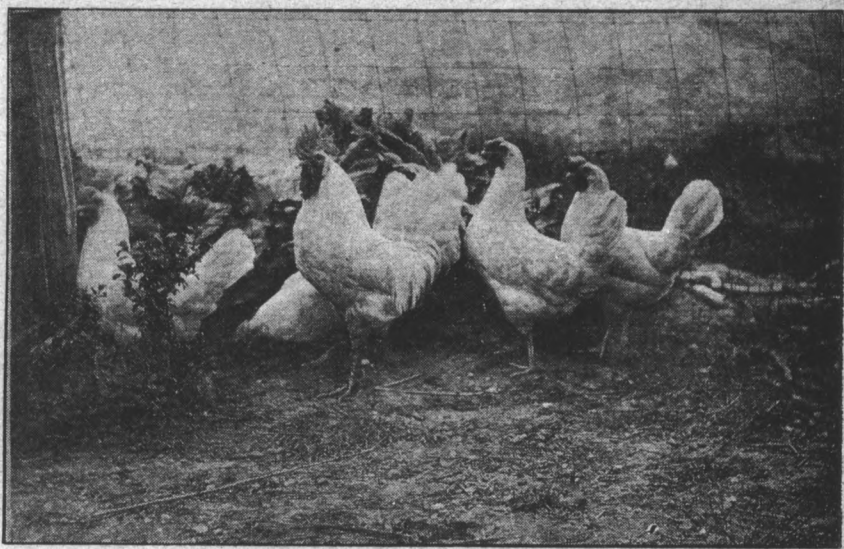
the pure-bred flocks and they are the birds that pay.

HENS DROOP AND DIE.

We have been having trouble with our hens for the last year. Quite a number have died, symptoms being the same. The hens begin to droop, drooping wings and tail, combs get colorless and in two weeks or more the hen is found dead. It seems to attack some of the young thrifty hens as well as the older ones. O. F. F.

When hens become light and unthrifty and soon droop and die the trouble is very apt to be tuberculosis. Make a post-mortem examination of the carcass and see if there are small hard grayish-white nodules on the liver. This is the point where the tubercular infection is most apt to occur.

Hens that die of this trouble should be burned as the disease is contagious. Then thoroughly disinfect the house. It may pay to have a veterinarian inspect the flock. Any hens that show signs of weakness can be killed and the veterinarian can pass upon them as to their value for market. A flock that is constantly suffering from loss-



Raising Pure-breds Results in Pride as well as Profit from the Work.

hatching eggs in the spring is one of the most profitable features of any kind of poultry business.

Surplus breeders are easily sold if they are quality pure-breds. It is not necessary to dispose of them at ordinary market prices for they honestly are worth more money to any man desiring to establish himself in the poultry business. The farmer with mature breeding stock or surplus cockerels can practically always figure on making more money on his stock if they are pure-bred. It is because there is a demand for such stock and according to the present outlook, it would seem as if this demand would grow better each year.

The cost of establishing a pure-bred flock is not large and it is not necessary to dispose of all of the scrubs the first year if they are of a good laying type. A trio of pure-bred breeders will show a wonderful increase in three or four years if they are properly managed. The mongrels can then be sold as pure-breds are produced to fill their places and soon the farmer will own a flock of several hundred fine birds without a scrub in the flock. Several years ago many farmers criticized pure-bred poultry and considered it only a fad. The laying contests have proven the value of the pure-bred flock which has been bred over a period of years for one distinct purpose. The demand for hatching eggs from beginners has also proven the loss that occurs to the farmer raising scrubs. The pure-bred flock on the farm is going to be a more common sight in the future because it has been proven that the best producers are coming from

es caused by tuberculosis cannot be a profitable flock. It is necessary in some cases to kill all the birds and begin over again with healthy foundation stock. Then the best of management can be used to keep the birds healthy and vigorous. Care should be used in buying poultry from other breeders to obtain only fine vigorous specimens. The disease might be introduced into a good flock by one weak bird.

This has probably been a very hard winter on some poultry flocks and the best of management has been needed to keep the birds in a healthy laying condition. The losses in flocks from tuberculosis seem to be increasing, judging from the inquiries and prevention is the only remedy.

CONTROLLING MITES.

How can I get rid of bugs in my poultry house? They look like bed bugs. I. S.

Red mites can be killed by painting the roosts with kerosene oil or one of the commercial coal tar compounds. The old cylinder oil drained from an engine is excellent as a preventive of mites. Paint the under sides of the roosts and allow the oil to seep into all cracks and crevices where mites can hide during the day. If the poultry house is thoroughly infested with mites it will be difficult to eradicate them with one spraying. If the applications are made once each week for several weeks the mites will be destroyed and then the application can be repeated at least once a month to prevent their return.—R. G. K.

Horticulture

GRAPE LEAFHOPPERS TO BE SERIOUS IN GRAPE DISTRICTS.

THE season of 1921 promises to be one notable for harmful insects, especially those that spend the winter as adults. Among those that seem to have come through the winter in great quantities are the grape leafhopper, in the grape region of Paw Paw, Lawton, etc.

Grape growers should be on the lookout for the first appearance of the leafhopper nymphs (the young) working on the undersides of the leaves. A timely spray of "Black-leaf 40"—one pint to eight hundred pints of water, and four or five pounds of soap put on at this time will help control them and is the best remedy at this time of year. There is no use trying to spray for the adults, as they cannot be controlled in that way. It may be necessary to use more than one spray during the season.

FIRE BLIGHT SERIOUS.

BLIGHT has attacked many apple, pear and quince trees. The ends of the twigs and leaves turn black as if scorched by fire. For this reason the trouble is commonly called fire blight, although it is also known as twig blight, pear blight, and blossom blight. It is a highly contagious, bacterial disease and spraying is not effective.

Blight in young trees can be cut out, making the cut six inches or more below the lowest point where the effect of the blight can be seen on branch. After each cut the knife and the wound should both be disinfected immediately with water solution of corrosive sublimate, one to 1,000. Corrosive sublimate is very poisonous. Prunings should be collected as made and burned at once.

Large trees showing a quantity of twig blight make pruning out impractical. Water sprouts and new shoots should be cut off the trunk and lowest parts of main limbs of susceptible trees during a blight epidemic.

GREEN MANURE FOR ORCHARDS.

THE two principal functions of green manuring are the use of cover crops in the orchard and as a blanket for the land during winter. The plants best suited for this purpose are unquestionably the legume crops.

For fruit trees of all kinds the most important fertilizing element is nitrogen. Through their nodule forming bacteria the leguminous plants draw into the ground and make quickly available for the trees, large quantities of the free nitrogen of the air.

And not only do the legumes increase the amount of nitrogen in the soil; they are as good humus formers as can be planted. It should also be noted that practically all legumes are deep-rooted plants and hence bring up mineral food from the sub-soil. While the soy-bean, the field bean, the field pea, the crimson clover, the cowpea and the lupines, all give good results in the orchard, the best of all legumes for this purpose is the red clover.

The value of green manure has long been recognized by American fruit-growers. Nevertheless, there is quite generally throughout the United States a dearth of cover crops. Fortunately there is at hand an immediate and economical remedy for this situation.

Within recent years there have been countless experiments by various state experiment stations and practical fruit growers as to the best method of

increasing the growth of legumes. Almost without exception these experiments have demonstrated that the best legume food known to man is agricultural gypsum. Indeed, its systematic use has time and again increased leguminous growth as much as five hundred per cent and even more.

Soils in which legumes are grown are nearly always deficient in sulphur. Legumes, of course, must have sulphur, tremendous quantities of it. Unless they get it in easily available form they simply starve to death.

Agricultural gypsum, which is an untreated, ground, natural rock fertilizer, furnishes sulphur in an immediately available and neutral form—in exactly the form that sulphur is supplied to nature.

SUGAR KEEPS BORDEAUX.

THAT granulated sugar will keep Bordeaux spray mixture from deteriorating is the discovery of the Oregon Agricultural Experiment Station. It is well known by orchardists that Bordeaux become almost worthless unless used shortly after being mixed. This trouble can be overcome by adding one-eighth ounce of granulated sugar dissolved in water for each pound of copper sulphate (blue vitriol or bluestone) used. When sugar is used in the proportion mentioned the spray mixture will not spoil on account of a breakdown or delay on account of rain.

For a two-hundred-gallon tank of 6-650 Bordeaux, which will require twentyfour pounds of bluestone, dissolve three ounces (seven heaping teaspoons) of sugar in a little water and add slowly to the tank of spray, agitating until thoroughly mixed. Too much sugar must not be used. For small amounts of spray, dissolve one well-rounded, but not heaping, teaspoon of sugar in one quart of water, then use at the rate of one-half pint of this solution for each pound of bluestone going into the amount of Bordeaux required.

TRANSPLANTING HOUSE FERNS.

Can you tell me if house ferns should be transplanted and if slips should be taken out? Or should they not be molested in any way? When is the best time to transplant if so?—Mrs. M. A. S.

After house ferns get so they fill the pot quite full with roots; they should be transplanted into larger pots. Occasionally, when this is neglected the roots so fill the pot that there is little room for soil.

If you wish to have the fern large do not take any of the slips out. If you wish to start new plants take out those slips which can be taken out without disturbing the roots much.

The transplanting can be done any time but it is probably best done in spring. In transplanting put some fresh earth in the bottom of the larger pot and then place the ball of roots and earth taken out of the old pot in the new one. Fill in with fresh earth.

One important precaution to be observed is to see that there are no air pockets left. Firm the new earth firmly around the ball of roots. Have the fern set lower than it set in the old pot as the usual tendency of a fern being to grow out of the soil. The less the ball of roots and earth are disturbed in transplanting the better the results will be.

A good sprayer is almost a necessity in the garden. One of the knapsack type will be found convenient and of sufficient capacity to do all the necessary spraying in a large garden.



Me-o-my,
how you'll take to
a pipe—and P.A.!

Before you're a day older you want to let the idea slip under your hat that this is the open season to start something with a joy'us jimmy pipe—and some Prince Albert!

Because, a pipe packed with Prince Albert satisfies a man as he was never satisfied before—and keeps him satisfied! And, you can prove it! Why—P. A.'s flavor and fragrance and coolness and its freedom from bite and parch (cut out by our exclusive patented process) are a revelation to the man who never could get acquainted with a pipe! P. A. has made a pipe a thing of joy to four men where one was smoked before! And, you'll say so as soon as you start to cash-in on this smokehunch!



Copyright 1921 by
R. J. Reynolds
Tobacco Co.
Winston-Salem, N. C.

the
national
joy
smoke

Prince Albert is sold in toppy red bags, tidy red tins, handsome pound and half pound tin humidors and in the pound crystal glass humidor with sponge moistener top.

PRINCE
ALBERT

POULTRY

Special Sale on Pullets

We will have a special sale on our Bred-to-lay April hatched Single Comb White Leghorn pullets at 75 cts. each. Sale starts now and ends July 4th.

This stock is No. one quality produced on our own farm, from high quality stock and is fully guaranteed. Take advantage of this opportunity to secure good stock at a reasonable price. This offer will not be repeated this season as we are selling our own stock only. Order direct from this ad. and save time.

Macatawa White Leghorn Co.
R. 1, Holland, Mich.

CHICKS AT REDUCED PRICES

after June 15th and during July S. C. W. Leghorns \$10.00 per 100; Barred Rocks \$12.00 per 100. Parcels Post paid 100% safe arrival. Circular.

Sunnybrook Poultry Farm, Hillsdale, Mich.

Winter Laying Pullets

now eight weeks old. Anconas and White Leghorns; Brown Leghorns, Buff Leghorns, Rocks, R. I. Reds, Wyandottes, Black Minorcas. Dollar and up as they grow older.

Crescent Egg Company

Allegan, Michigan

DAY-OLD CHICKS

\$16.00 per 100 and up. Hatching eggs, \$2.00 to \$15.00 per setting and \$9.00 to \$15.00 per 100, from 25 varieties of pure bred, farm raised fowls: Chickens, Geese, Ducks, Turkeys and Guinea. Price list and circular free. Plenty of nice breeding stock. Book now for early spring delivery. WILMINGTON HATCHERY & POULTRY CO. Wilmington, Ohio.

S. C. WHITE LEGHORN CHICKS
Send for Catalog SNOWFLAKE POULTRY
FARM, Route 1, Grand Rapids, Michigan

Barred Rocks egg contest winners eggs from strain with records to 280 a year. \$2.00 per setting prepaid by P. E. Circular free. FRED ASTLING, Constantine, Mich.

ChicksChicks

Great price cut for June and July deliveries to lower than pre-war prices. Better chicks at a real bargain price. LOOK

Pure S. C. W. Leghorns	\$9.00 a 100, \$4.50 for 50
Pure Barron Eng. Leg.	11.00 a 100, 5.50 for 50
Pure S. C. Anconas	11.00 a 100, 5.50 for 50
Pure B. P. Rocks	14.00 a 100, 7.00 for 50

Hatch every Tuesday, order direct. Prompt shipment on all varieties by Parcel Post mail. Full count strong lively chicks on arrival. For quick service and an entirely satisfactory deal send us your order. 13 years reliable dealings. Fine instructive catalog and price list free.

W. Van Appledorn
R. 7, Holland, Mich.

John's Big Beautiful Barred Rocks are hen hatched, develop quick, good layers, fine show quality. 30 eggs \$3.50, 50 \$5. Postage paid. Photos, circulars. JOHN NORTON, Clare, Mich.

Barred Rocks 8 to 12 week pullets, cockerels, hens and cock birds. Leading pen at M. A. C. for December averaging 22 eggs each. 1 pullet laid 27 eggs in both Dec. and January. 1 pullet laid 30 eggs in 31 days, winners at largest shows in state. Write for price list. G. Caball, R. 4, Hudsonville, Mich.

LOOK. BABY CHICKS

at 8 cents and up. Announcing our summer prices for 1921.

W. Leg.	10 cents	Buff Leg.	11 cents
Br. Leg.	11 cents	Anconas	12 cents
Barred Rocks	13 1/2 cents	Reds	13 1/2 cents
Buff Rocks	13 1/2 cents	W. Wyandottes	15 cents
Broilers	8 cents		

Deduct 5% for orders of 500 or more, 10% for orders of 1000 or more. We prepay parcel post charges and guarantee live delivery. Send for free catalogue and earliest delivery date.

Ohls Poultry Yards & Hatchery, Marion, Ohio

BABY CHICKS of Superior Quality

Hot from the Hatchery, right to your door safely, by prepaid parcel post. BIG Strong, fluffy fellows hatched from eggs of selected flocks, and under our own supervision. ROCKS, LEGHORN, ANCONAS, REDS and MINORCAS. Chicks that live and grow into money. Bred for EGG PRODUCTION and the SHOW ROOM. Save money by sending for our catalogue NOW. THE SUPERIOR CHICK HATCHERY, Lock Box 197, Prairie Depot, Ohio.

Additional Poultry Ads. on Page 23

BREEDERS' DIRECTORY

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

THE HOME OF

Imp. Edgar of Dalmeny

Probably
The World's Greatest
Breeding Bull

Blue Bell, Supreme Champion at the Smith-
field Show 1919, and the Birmingham Show
1920, is a daughter of Edgar of Dalmeny.

The Junior Champion Bull, Junior Cham-
pion Female, Champion Calf Herd and First
Prize Junior Heifer Calf, Michigan State Fair,
1920, were also the get of Edgar of Dalmeny.

A very choice lot of young bulls—sired by
Edgar of Dalmeny are, at this time, offered
for sale.

Send for Illustrated Catalogue.

WILDWOOD FARMS

ORION, MICHIGAN

W. E. SCRIPPS, Prop. Sidney Smith, Supt.

CLOVERLY ANGUS

Cows and Heifers Bred to
Blackcap Brandon of Woodcote 2nd
For Sale
GEO. HATHAWAY & SON, Ovid, Mich.

REGISTERED Aberdeen-Angus. Ten heifers, six
bulls from eight to fourteen months. Best of
breeding, the growthy kind that make good. Reason-
able. Inquire F. J. WILBER, Clio, Mich.

Reg. Aberdeen Angus

bulls and heifers of the very best of breeding, from
12 to 15 months of age. For next 30 days will price
bulls at \$100.00. Real bargains. Inspection invited.
RUSSELL BROS., Merrill, Mich.

GUERNSEYS

Bull calves for sale. Sired by Anton's May King that
sold for \$7,000. Farmers prices and guaranteed to
please. GILMORE BROTHERS, Camden, Mich.

REGISTERED Guernseys. Bull calf ready for light
service—out of our old Foundation Cow—Primrose
Bessie—and one of the best May Rose Bulls in the
state, \$100 buys him. Never had a reactor—no abortion.
Herd Fed. Tested. J. M. Williams, No. Adams, Mich.

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

Guernsey Bulls of May Rose Breeding
420 to 650 lbs. fat also a few cows and heifers are
offered. H. W. Wigman, Lansing, Mich.

Guernsey bulls, grandsons of Carrie of Hillhurst
3rd A. A. Class Leader, and out of cows on test.
Also a 2 yr. old out of a 3 1/2 yr. old with a 500 lb. record.
Priced to sell. Federal tested. Satisfaction guaran-
teed. G. W. and H. G. RAY, Albion, Mich.

For Sale, Registered Guernseys bull calves
for \$50 each. Sired by May Rose
Bull, his 5 nearest dams average 725 lbs. fat.
E. A. BLACK, Howard City, Mich.

Guernsey Females of superior breeding, at reduced
prices. Tuberculin tested. Send for
sale list to day. G. A. Wigent, Watervliet, Mich.

Guernsey Bull grandson of Langwater King of May
3 yrs. old, quiet and sure, price right.
Apply The Jennings Farms, Bailey, Mich.

WinnWood Herd

Registered
Holstein-Friesian Cattle

We breed them to sell. If you
are looking for seed stock, we
have it.

John H. Winn, [Inc.]
Rochester, Mich.

USE PURE-BRED SIRE!

Estimates furnished by the Dairy Division of the
United States Department of Agriculture show
that the dairy cows of the country average only
4,500 lbs. of milk per year.

A good Holstein bull will increase the production
of the ordinary herd 0 per cent in the first gener-
ation.

Let us help you find a good one to use on your
herd. You cannot make a better investment.

The Michigan Holstein-Friesian Association

H. W. NORTON, Jr., Field Secretary,
Old State Block, Lansing, Michigan

MY! OH, MY!

WHAT AN OPPORTUNITY

We are now offering a beautiful calf born Aug. 2nd,
1920. His sire a 35.68 lb. bull. Dam's sire has three
sisters each with yearly records of over 1200 lbs. two of
them former World's champions. Write for pedigrees.
HILLOREST FARM, Kalamazoo, Mich.

Holstein heifer and bull calves, purebred
registered and high-grade. Price \$20 up.
Splendid individuals and breeding. Write us your re-
quirements. Browncoff Farms, McGraw, N. Y.

Reg. Holsteins for sale at all times either
sex. Bulls or heifers, prices
reasonable. Write or come and see them.
HENRY S. ROHLFS, R. 1, Akron, Mich.

Blythefield Farms

Grade up your herd with a pure-bred Holstein bull
from a high record cow. Write for information to,
JOSEPH H. BREWER, Grand Rapids, Mich.

"Top Notch" Holsteins

Buy a "milk" Bull of Quality from the Breeders
of the world's only cow to produce 800 lbs. milk in 7
days, having an 800 lb. daughter.

Our herd is rich in the blood of Colantha 4th Jo-
hanna, the only cow that ever held all world's records
in every division from one day to one year at the same
time. She produced 651.70 lbs. milk in 7 days. We are
offering for sale a bull, whose dam exceeds this record
by over 7 1/2 lbs. in 7 days.

His dam's records are:
Milk 1 Day 1001 lbs.
Milk 7 Days 659.3 lbs.
Butter 7 Days 26.31 lbs.

His name is
KING VALE CORNUCOPIA WAYNE, No. 312599
Born February 6, 1920

His dam and sire's two nearest dams average
Butter 7 Days 33.02 lbs.

Milk 7 Days 607.3 lbs.

Handsomely marked about one third white.
\$250.00 f. o. b. Howell.

McPHERSON FARMS CO., Howell, Mich.

All herds under U. S. Supervision.

A Proven Blood Line

KING SEGIS transmitted to his sons the power to
transmit to their daughters the greatest of produc-
tion over long periods. It is his offspring that has
recently made the greatest yearly production ever
dreamed of 37,381.4 pounds of milk in a year.
We have for sale at moderate prices,
Beautiful individuals of show type KING SEGIS
BULLS.

GRAND RIVER STOCK FARM,
315 N. East Ave., Jackson, Mich. C. J. Spencer, Owner,
Under State and Federal Supervision

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

The Traverse Herd

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

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

Cluny Stock Farm

Offers!
Cluny Konigen Colantha Silver 326205
Born May 29, 1920

A white bull with a few black spots.
His sire a 30 lb. son of King Segis Pontiac Konigen.
Sire's 7 nearest dams average 32.301 lbs. butter 624.1
lbs. milk in 7 days.

His dam has a Jr. 3 year old record of 17,683 lbs.
butter from 418.7 lb. milk and is a granddaughter of Colan-
tha Johanna Lad.

2nd dam—a 21 lb. cow that our barn records show milk-
over 145,000 lbs. in 14 milking periods producing 15
calves.

Pedigree on application.
Price \$250.00. Federal Accredited Herd.

R. Bruce McPherson, Howell, Mich.

7 Yearling Bull Bargains

Sired by Segis Korndyke De Nijlander a 32 lb. son of
a twice Michigan ribbon winner, her dam, 29 1/2 lbs.
Dams are daughters of King Segis Pontiac, a 37 lb.
son of King Segis. Records 16 lbs. to 20 lbs. Priced
at half value, \$100 up. Federally tested June 10. Write
for list. ALBERT G. WADE, White Pigeon, Mich.

Reg. Holsteins and Berkshires, most any age, either
sex, priced according to other commodities. Write
or come. B. B. REAVEY, Akron, Mich.

HEREFORDS

Cows with calves at side, open or bred
heifers of popular breeding for sale. Also
bulls not related.

Allen Bros. Paw Paw, Mich.

616 So. Westnadge Ave.,
Kalamazoo, Michigan

Thumb Hereford Breeders Association
now offering some excellent young males and fe-
males of choice breeding. Can furnish one or a
carload. Priced right. Your inspection solicited.
Jas. R. Campbell, Secretary, Bad Axe, Mich.

FOR SALE: Full-blooded high-class Hol-
stein Bull.
Black & White Farm, Fremont, Mich.

Registered Jersey bulls, some ready for
service, sired by Ox-
ford's Champion Fox 189881, out of Oxford Daisy's
Princess. Register of Merit record 831 lbs. milk; 468
lbs. butter with first calf, milked 50 lbs. per day with
second calf. Sister to Sadie Crown Princess 16578 lbs.
milk, 1681 lbs. butter in one year. The dams of these
bulls are high producers, many of them are prize
winners. Prices very low, quality considered.
C. E. BASSETT, Kalamazoo, Mich.

BUTTER BRED JERSEY BULLS
CRYSTAL SPRING STOCK FARM,
Silver Creek, Allegan County, Michigan.

The Wildwood Farm
Jersey Cattle, Majesty strain, Herd on State accred-
ited list. R. of M. testing constantly done. Bulls for
sale. ALVIN BALDEN, Phone 143-5, Capac, Mich.

Thorobred Jersey Bull Calves Hood Farm
breeding State
and Federal accredited list, \$25.00 each. Also one
yearling bull ready for service. Pedigrees on request.
I. W. JAYNE & BEN BRAWT, Fenton, Mich.

JERSEY BULLS Ready for Service.
High blood—Oxford
and—Majesty breeding. Meadowland Farm, Water-
man & Waterman, Packard Rd., Ann Arbor, Mich.

Lillie Farmstead Jerseys Bull calves from
R. of M. cows.
COLON C. LILLIE, Coopersville, Mich.

Registered Jersey Bulls ready for service from
high producing dams.
R. B. FOWLER, Hartford, Mich.

Jersey Bulls For Sale ready for service from R. of
M. dams. T. B. tested. Will give time.
SMITH & PARKER, R. 4, Howell, Mich.

Milking Shorthorns Young bulls with excellent
pedigrees from best milk-
ers. O. M. YORK, Millington, Mich.

BIDWELL SHORTHORNS

BUY A BULL

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

BIDWELL STOCK FARM,
Box D, Tecumseh, Michigan

Shorthorns. Bull calves for sale from the
best milking blood obtainable.
ROSEMARY FARMS, Williamston, Mich.

Richland Shorthorns

We offer a few choice Scotch heifers with calves
at foot. This is good foundation stock and the
calves are all from top sires. Prices reasonable.
Write your wants and see the cattle.

C. H. PRESCOTT & SONS,
Office at Tawas City, Mich., Herd at Prescott, Mich.

The Maple's Shorthorns

Kirklevington Lad, by Imp. Hartford
Welfare, in service. Stock for sale.

J. V. WISE, Gobleville, Mich.

Huron County Shorthorn Breeders Ass'n.
offer for sale Scotch and Scotch topped males and
females of all ages. 300 head to select from. For
information address Jas. R. Campbell, Secretary,
Bad Axe, Michigan.

BUY SHORTHORNS of Central Mich-
igan Shorthorn
Breeders' Association at farmers' prices. Write for
sale list to M. E. Miller, Sec'y, Greenville, Mich.

Shorthorn Bull For sale. Fames Pride
724792. Two yrs. old nice
roan with star in forehead. Very gentle and a fine
specimen of the breed. Price \$225.00.
W. E. BARTLEY, Alma, Mich.

FIVE BRED HEIFERS

We now have
that we will sell cheap if taken at once. Inquire
about them or better come and see them.
CARR BROS. & CO., Bad Axe, Mich.

Francisco Farm Shorthorns

and BIG TYPE POLAND CHINAS. Now offering 3
heifers, 2 bulls, all Scotch. Sows to farrow in Aug.
and Sept. Spring pigs. 60 head to choose from.
POPE BROS. CO., Mt. Pleasant, Mich.

Shorthorns Imp. Royal Pioneer in ser-
vice. Bred by J. Durno.
J. A. BARNUM, Union City, Mich.

Reg. Red Polled cattle, herd headed by Famous
Rcharmer 75 1/2 same blood as Chamer 1919 Int. Gd.
Champion. Herd State and Fed. tested. No cattle for
sale at present. Westbrook Bros., Ionia, Mich.

Polled Shorthorns 3 extra good bulls, calved last
Nov. Also some good heifers.
Price reasonable. Edw. Gunden, Pigeon, Mich.

HOGS

Place Orders NOW

for BERKSHIRE boars or sows 6 to 8 weeks old Reg.
and Trans. and delivered any where in Mich. for \$15.
or a fine large bred sow at \$40.00. I also have an ex-
ceptionally fine 400 lb. boar for sale at \$40.00. He is a
dandy and anybody in the market for him should
never pass this up. He is a good one.
C. H. WHITNEY, Merrill, Mich.

Berkshire spring pigs, either sex, \$10, \$12 and \$15
according to age. Also fall gilts and yearling sows.
CHASE STOCK FARM, Marlette, Mich.

Brookwater Duroc Jerseys

FALL BOARS OPEN GILTS

All of the right type and the best of breeding.
Prices reasonable.

Mail orders a Specialty. Satisfaction guaranteed.
BROOKWATER FARM, Ann Arbor, Mich.
H. W. Mumford, Owner J. B. Andrews, Mgr.

DUROC JERSEYS: A few choice
bred gilts for
sale. CAREY U. EDMONDS, Hastings, Mich.

DUROC JERSEYS
Bred gilts, service boars and fall boar pigs at Bargain
prices. Your correspondence or personal inspection
is cordially invited.
RUSH BROS., Oakwood Farm, Romeo, Mich.

Write Me at once I have just what you want
heavy bone registered Duroc Jer-
sey boars ready for service.
W. H. MAYES, L. B. 505, Durand, Mich.

DUROC Jerseys. Boars for spring service, heavy
boned type, from the most popular blood lines at
reasonable prices. Partridge Rock eggs from best lay-
ing strain \$2 per lb. Drott & Berns, Monroe, Mich.

DUROCS WITH QUALITY

Spring pigs by Walt's
Orion, First Sr. Yearling
Detroit, Jackson, Gd. Rapids and Saginaw 1919
Phillips Bros, Riga, Mich.

Collinsdale Duroc Jerseys
Lyons, Mich. R. 1, L. A. Burhans, Owner

Herd Boars
Wolverine Pathfinder by Pathfinder
Wolverine Sensation by Great Orion Sensation.
Wolverine Renown Wonder by Great Wonder IAM
Fall boar and gilts by the Sensation boar.
100 spring pigs from these boars.

Herd Sows breeding
C. O. K., Pathfinder and Big Bone Giant.

Maplewood Duroc Jersey Pigs
10 weeks, \$10.00. Sired by PROMOTION
MAPLE FARM, Ypsilanti, Michigan.
Howard Moore, Owner Willis L. Moore, Mgr.

Woodlawn Farm Duroc hogs are from select breed-
ing stock, well mated for size, type and color.
Herd boars, sows and pigs, will ship C.O.D. and fur-
nish Reg. certificate. W. E. Bartley, Alma, Mich.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscrib-
ers. Letters should state fully the history and symptoms of
each case and give name and address of the writer. Initials
only are published. When a reply by mail is requested the
service becomes private practice and \$1 must be enclosed.

Tumor Abscess.—Last spring a hard
bunch commenced to grow in groin of
my twenty-year-old mare. It has grad-
ually increased in size until it is now
the size of a cow's udder. Our local
veterinarian calls it a tumor, but his
remedy failed to reduce it. What had
I better do for her? H. D. P., Bruns-
wick, Mich.—Apply one part of red
iodide of mercury and eight parts of
fresh lard once a week, or paint bunch
with tincture of iodine three times a
week.

Seed Warts.—Our twelve-year old
black mare is troubled with flat seed
warts. D. P. Reading, Mich.—Apply
pine tar by means of a hard brush, or
apply castor oil.

Bog Spavin—Thoroughpin.—I would
like to know what can be done for a
colt that has thoroughpin and bog
spavin, which will permanently cure
him. V. H. DeC., Stockbridge, Mich.—
Apply equal parts of tincture of iodine
and spirits of camphor to hock daily.

Fungus Tissue.—Horse has a malig-
nant sore on pastern which will not
heal, and I might add, it seems full of
proud flesh. C. R. L., Rushton, Mich.
—Dissolve one ounce of permanganate
of potash in half a pint of water, brush
some on to sore twice daily. Burning
off a bunch of this kind is considered
good practice, unless you cut it off
with a sharp knife.

Abortion—Retained Placenta.—Just
about a month ago my three-year-old
cow had a bad attack of scours; on
January 4 she lost her calf. It came
thirty days too soon; afterbirth came
away the fourth day, but she only
gives a pint of milk at a milking. She
seems to be in good health. A. O. W.,
Fenton, Mich.—Good care and plenty
of feed is the remedy.

Warts on Udder.—I have a cow that
has numerous warts on her udder and
teats. O. G., Puckett, Mich.—After
milking her apply olive oil freely twice
or three times a day. In my practice
I usually clip or cut off those with
neck.

Suppurating Lymphatic Glands.—I
have two calves with bunches on jaw
or throat; one bunch opened, but an-
other bunch came on other side of
jaw. Have the calves got tuberculo-
sis? R. W., Dexter, Mich.—No, they
do not show symptoms of tuberculosis.
Paint bunches with tincture of iodine
daily and they will get well.

Shy Breeder.—My two and a half
year old Shorthorn heifer comes in
heat regularly, been bred for a long
time, but without result. She ran with
bull last summer. Had I better breed
her to another bull? G. C., Marlette,
Mich.—Dissolve a yeast cake in one
quart of warm water, let it stand in a
warm room for three hours, then flush
vagina of cow daily for one week, and
be sure to treat her two or three hours
before she is mated. In my practice
I usually flush vagina with clean tepid
water before using the yeast mixture.
Let us know the result.

Dehorning Cattle.—What is proper
time to dehorn young cattle? Is it apt
to seriously affect heifers that are with
calf? W. E. B., Lachine, Mich.—This
is the best season. If properly done
it should not affect your pregnant
heifers.

Two Openings in One Quarter.—My
heifer gives milk from two openings
in one quarter; what can be done? F.
W. A., Vassar, Mich.—When she goes
dry, have one section of quarter de-
stroyed; this is work for veterinarian.

White Scours.—Within twenty-four
hours after my lambs are born they
scour and die. F. T., Springport,
Mich.—Give each sick lamb one drop
of formalin in a little milk, or sulpho-
carbolsates. If your stock are valuable
immunize with bacterins. Clean and
disinfect pen.

E. O.—Your cow that has two par-
tially developed quarters of udder, will
doubtless improve, if the quarters are
gently hand-rubbed; and besides, she
should be well fed. This being the
first time fresh, you may safely look
for her to steadily improve each year,
but now is the time to do plenty of
gentle hand-rubbing of both fore-
quarters. Give her a tablespoonful of pow-
dered gentian at a dose in feed twice
a day.

SERVICE DEPARTMENT.

(Continued from page 10).

wheat and also again on the rye this fall. This will make your seeding next spring very much surer and will benefit all the crops. The buckwheat ground will need very little preparation for wheat, as buckwheat stubble land is left loose and mellow and the buckwheat has shaded the ground so much that there will be no weeds or anything of that sort and all you will have to do is to disk or harrow the ground before sowing the rye.—C. C. L.

BUTTERMILK FOR PIGS.

I have a chance to buy buttermilk for my spring pigs. What can I afford to pay for it and how should it be fed and in what quantities? This buttermilk will be delivered at the farm every other day. Will there be any danger of the buttermilk becoming too acid?

Barry Co.

F. C.

There is very little difference in the feeding value of buttermilk and skim-milk. If the cream is carefully churned, all the butter-fat removed, all that is left is skim-milk, called buttermilk. After churning that sour milk is better than sweet milk, but I think that the principal reason is because the sour milk is sour all the time, and when people are feeding sweet milk many times it is sour, so the pigs eat one meal of sweet milk and one meal of sour milk and do not seem to do as well. They do not relish the ration as well, and if the milk cannot be fed sweet every time I would prefer to let it stand till it sours, then the pigs will get the same milk every day and I am of the opinion that they will do better.

With regard to prices. It is difficult to say what one could afford to pay. The old rule is that when corn meal is worth \$1.00 per hundred pounds, skim-milk if properly combined with corn meal or some other food is worth forty cents per hundred as a food and, of course, if corn meal is more valuable, then you could afford to pay in proportion for skim-milk or buttermilk. I would not consider buttermilk worth more than skim-milk.—C. C. L.

TABLE CREAM VS. BUTTER.

Which of the two following propositions are the best, selling cream at fifty cents per quart, twenty-six per cent test, or selling cream to creamery at the present price of butter? If you have any tables on the weight of cream at different tests, you could do me a favor by sending me the table. If you have no tables, could you tell me what twenty-six per cent cream will weigh to the quart?

Calhoun Co.

E. G. S.

A quart of your cream will weigh about two pounds. This is not exact, but is close enough to determine which is the best bargain. If you sell two pounds of cream testing twenty-six per cent, there should be .52 pounds of butter-fat and at fifty cents a quart it would be nearly \$1.00 per pound for the butter-fat. The present price of butter-fat for butter-making purposes is only about one-half of that. So if it does not cost too much to produce and handle your table cream and get it to market, it would be a better bargain than making your cream into butter.

I have no access to tables giving the price of cream at different tests, but you can easily figure this out yourself by actually weighing it, if you know how much the cream tests. You can find the number of pounds of butter-fat and, of course, knowing the value you can determine what you will receive for butter-fat.—C. C. L.

A fertilized egg will start incubating at sixty-eight degrees. Then, if the temperature is not raised to and maintained near one hundred degrees, the germ in the egg dies, and decay or rotting starts. A clean, infertile egg kept in a dry place will never rot.



This Trademark is Your Protection

How Do You Stand?

Farm fires are serious, sad events—unless the owner is fully protected AGAINST this ravager of property.

What a simple, logical thing this property protection is, and yet, how often remorseful farmers have been heard to say: "Why didn't I fully insure my buildings?"

How do YOU stand? Would unexpected fire cripple you? Or are you one of the far-sighted farmers who have seen to it that all your buildings ARE fully covered?

When Peninsular Protects You.

Peninsular Policies positively protect property on a liberal common-sense basis. Your farm is thoroughly appraised before any policy is written, and when you secure PENINSULAR PROTECTION you automatically forget to worry about the safety of your hard-earned house, house-hold goods, barns and other buildings. You get the city man's considerations; your holdings being rated according to location, condition and general improvement.

If you are not FULLY INSURED, don't wait and take a risky chance. Get in touch with our Farm Department today and, without obligation, learn all about THE PENINSULAR WAY.

Expert advice on "HOW TO PROTECT YOUR CROPS AGAINST WIND and HAIL" will also be included in our answer.

PENINSULAR
Fire Insurance Company
of America

Capital \$1,000,000.00

GRAND RAPIDS, MICHIGAN

COLON C. LILLIE,
President.

J. FLOYD IRISH,
Sec'y and Managing Underwriter

O. I. C. HOGS

all ages sired by Callaway Edd 1918 world's grand champ. boar and C. C. Schoolmaster 1919 world's grand champion also Wonder Big Type and Giant Buster. Write your wants, all stock shipped on approval.
CRANDELL'S PRIZE HOGS, Cass City, Mich.

HOGS

Duroc Jersey Boars of all ages, big, heavy boned smooth kind, real herd boars and priced to sell. First check for \$50 gets a 400 lb. April yearling, a grandson of Panama Special. Write for pedigree or come and see. Visitors always welcome. Satisfaction guaranteed. Thos. Underhill & Son, Salem, Mich.

DUROC SOWS and gilts bred to Jacks Cherry Orion King No. 169259 Son of the \$10,000 boar owned by Longview Farm, Le Summit, Mo. also young boars ready for service out of good sows. Apply to THE JENNINGS FARM, Bailey, Mich.

Reg. Duroc Boars wt. 125 lbs. \$30.00. Fine stock exp. paid. J. R. HICKS, St. Johns, Mich.

Duroc Bred Gilts

for Sept. farrow from prize winning stock, at \$25 and \$35. Spring boar and sow pigs of Orion Cherry King, Col., and Pathfinder breeding.

W. C. Taylor, Milan, Mich.

Buy good hogs now, from one of the largest herds of registered Durocs in the state. Open fall gilts at \$25. Sows and gilts bred for summer and fall farrow. Booking orders for spring pigs. Will accept a few sows to be bred to good sons of Great Orion Sensation and Duration. Michigan Farm, Pavilion, Mich.

Duroc Jerseys Am booking orders for spring pigs. Few fall gilts. E. D. HEYDENBERG, Wayland, Mich.

DUROCS A few choice, ready for service, boars for sale. HARRY FOWLER, Sturgis, Mich.



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. A. BENJAMIN, R. F. D. 10, Portland, Michigan.

Chester Whites. Bred gilts 250 lbs. \$40. Sept. farrow. Spring pigs for sale. MILO H. PETERSON, Ionia, R. 2, Mich., Elmhurst Farm.

O. I. C's. Last fall gilts bred to farrow in Aug. boars for service, also spring pigs for sale. MILO H. PETERSON, Ionia, R. 2, Mich., Elmhurst Farm.

O. I. C's Choice gilts for April and May farrow, also fall pigs. Booking orders for spring pigs. A. J. BARKER & SON, Belmont, Mich.

O. I. C. Swine Strictly Big Type with quality. A few gilts bred for last of April, and May farrow. A few Sept. and Oct. fall pigs either sex. Extra good ones. Of our State Fair prize winning blood lines. Will ship C. O. D. and record them free. NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

Write for Prices on O. I. C. pigs of March and April farrow. Both sexes, Sire C. C. Callaway Boy. Good long ones the kind that fills the Pork bbls. Some good Jersey bull calves of the Albertas Jubilee kind. All stock reg. in buyer's name. VILLAGE STOCK FARM, Jeddo, Mich.

Central Mich. O. I. C. Swine Breeders Ass'n.

Hogs of all ages of popular blood lines. Every sale guaranteed by association.

DR. H. W. NOBLES, Sales Mgr. Coral, Mich.

O. I. C's. one yearling boar, last fall gilts bred for next fall farrow; this spring pigs not akin, big growthy stock, reg. free. City's phone. 1/2 mile west of Depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C's. Special prices on spring pigs from prize winning stock. Must be sold to make room. WEBER BROS. Phone R. O. 408, 10 mile Rd. W., Royal Oak, Mich.

O. I. C's. Special prices on choice pigs of March and May farrow by C. C. Big Callaway. C. J. Thompson, Rockford, Mich.

O. I. C. Big type serviceable boars, weigh from 150 to 250 lbs. Gilts bred for May and June farrow. Write for prices. G. P. Andrews, Mason, Mich.

O. I. C's choice boars and spring pigs at farmers prices. CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C. GILTS Bred for June and July farrow. H. W. MANN, Dansville, Mich.

L.T.P.C. \$15, \$20 & \$25 Our top notch stretchy boar pigs are weaned and ready to ship. They are sired by such boars as Hart's Block Price Cline's Big Bob, Right Kind Clan and Leonard's Big Bob. HART, FULCHER AND OLIVE, Address F. T. Hart, St. Louis, Mich.

Spotted Poland Chinas

The hog with more outcrosses than any other breed. Which insures vitality and prolificacy. Why breed and feed grade hogs when you can buy registered hogs at special low prices. Write me your wants in bred gilts, boars or spring pigs. Cholera immuned. Satisfaction guaranteed.

SAMUEL GERBER

R. 4, Bluffton, Ind.

Big Type Poland Chinas, Choice spring boar pigs \$15 each when 8 weeks, sired by Clansman Buster and their dam being a prize winner at the State Fair. Also gilts bred for Sept. farrow for \$40 and up. Guarantee Satisfaction. DORUS HOVER, Akron, Mich.

L. S. P. C. a few choice boars at farmers prices, bred gilts all sold. Also a grandson of The Clansman and Harrison Big Bob. H. O. SWARTZ, Schoolcraft, Mich.

Big Type Poland Chinas. A great litter by Checkers, dam a grand-daughter of Giant Buster, are for sale now. They were farrowed Mar. 11, and were purchased of Jim Bloemendaal, Alton, Ia. in dam. Do you want the best the breed produces? Come over and see them. Wesley Hile, Ionia, Mich.

Leonard Farm BIG TYPE P. C. boar pigs at weaning time, \$25 from Mich. Champion herd. Satisfaction guaranteed. Call or write. E. R. LEONARD, R. 3, St. Louis, Mich.

Big Type P. C. some very choice boars double immune, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Big Type Poland Chinas at lowest prices. Both sex, all ages, and bred sows and gilts. G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Sows bred for spring litters all sold. Have some choice gilts bred for Aug. litters, also some Sept. boars for sale. Clyde Fisher, R. 3, St. Louis, Mich.

L. T. P. C. few choice bred gilts sired by T's Clansman L. Mich's 1920 Gd. Cham. bred to Smooth Buster 1st Jr. yearling 1920 A. A. Feldkamp, Manchester, Mich.

For Sale: Poland China Pigs, Both Sex. Fred Jewson, Walnut Ridge Farm, Allegan, Mich.

L. T. P. C. Nothing for sale at present. W. J. HAGELSHAW, Augusta, Mich.

Hampshire bred gilts now ready for Aug. and Sept. farrow. spring and fall boars at a bargain. JOHN W. SNYDER, R. 4, St. Johns, Mich.

Hampshires

1914 A few choice boars of this spring farrow that sure will improve your herd if used for herd boars. They are bred right and are right, and will produce right. Write for description and prices. We are glad to answer inquiries.
Steuben's Hampshire Farm, Angola, R. 3, Ind.

Pine Grove Hampshires

Bred sows all sold. We are offering 100 spring pigs of excellent breeding and quality. Either sex, order early. GEO. COUPAR & SONS, Marlette, Mich.

POULTRY

Barron White Leghorn Pullets. The greatest egg producers known. Large free range birds from 75c up. Robt. Christophel, R. 4, Holland, Mich.

Baby Chicks all sold. Will hatch Rocks and other standard varieties next season. H. H. PIERCE, Jerome, Mich.

LOOK [Best Graded] CHICKS Our Hi-Grade profit paying Bred-to-Lay, M. A. C. tested and exhibition chicks, at reasonable prices. Hatching eggs, 8 varieties, Circular FREE. Lawrence Poultry Farm, R. 7, Grand Rapids, Mich.

Chicks, Pullets and cockerels. Thorough-bred Barron Leghorns \$5.00; Rocks \$11.00; S. C. R. I. Reds \$13.00 per hundred. Eight week old pullets and cockerels White Leghorns, Rocks and Reds at bargain prices. Write me your wants. Catalogue. Brummer's Poultry Farm, Holland, Mich.

Barron S. C. W. Leghorn 8 and 10 week old low prices. A pleased customer or no sale. Hudsonville S. C. W. Leghorn Ranch, Hudsonville, Mich.

Chicks, for May and later delivery. Leghorns 13 1/2 S. C. Reds 15 dollars hun. Circular FREEPORT HATCHERY, Box 12, Freeport, Mich.

Baby Chicks \$10 a 100 and up. Postage PAID, 95% live arrival guaranteed. FREE feed with each order. 40 breeds chicks, 4 breeds ducklings. Select and Exhibition grades. A hatch every week all year. Catalogue free. Stamps appreciated. NABOB HATCHERIES, Gambier, Ohio.

100,000 CHIX 11c UP. Best selected utility trapped exhibition stock ever produced. Always 2,000 chix on hand 5 to 15 days old. 18 varieties. Hatching eggs. Hens, ducks. Early bookings, avoids disappointment. Catalog. Beckman Hatchery, 26 E. Lyon, Grand Rapids, Mich.

PULLETS

4,500 White and Brown Leghorn and Ancona 8 weeks old pullets; also 10,000 yearling Leghorn and Ancona hens. Send for prices and description of stock.
STATE FARMS ASSOCIATION, Kalamazoo, Mich.

USEFUL ANCONAS June and July chicks lay before cold weather. Eggs half price \$6.50 per 100, \$3.50 per fifty. Hogan tested, beauty and utility combined. Specialty breeder S. C. Mottled Anconas. Send for booklet. (Useful facts about Useful Anconas). It is free. College View Farm, R. 3, Hillsdale, Mich.

WHITTAKER'S R. I. REDS Both Combs. Michigan's Greatest Color and Egg Strain. We are offering some unusual bargains in Chicks and Hatching eggs for June and early July. Write for Free Catalog. INTERLAKES FARM, Box 39, Lawrence, Mich.

Baby Chix—12,000 Standard Quality every Tues. at greatly reduced prices: Mottled Anconas, English and American White Leghorns, Brown Leghorns and Barred Rocks; all single comb. Parcel Post paid, safe arrival guar. Knoll's Hatchery, R. 3, Holland, Mich.

HEASLEY S. C. Buff Leghorns, eight-week-old pullets and cockerels and breeding hens at bargain prices. Bred from officially certified egg bred winners, original Dr. Heasley flock. Chicks at special prices. Henry DeFree, R. 8, Box 137, Holland, Michigan

Additional Poultry Ads. on Pages 19 and 23

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, June 28.

Wheat.

Detroit.—Cash No. 2 red \$1.30; July \$1.26; No. 2 white \$1.25; No. 2 mixed \$1.25.

Chicago.—No. 2 red \$1.32½; No. 1 hard \$1.42@1.43½; July \$1.19½; September \$1.17.

Corn

Detroit.—Cash No. 2 yellow 62c; No. 3 yellow 61c; No. 4, 58c.

Chicago.—No. 2 mixed 57½@59¼c; No. 2 yellow 57½@59¼c.

Oats.

Detroit.—Cash No. 2 white 40c; No. 3 white 37½c; No. 4 white 34½c.

Chicago.—No. 2 white 36¼@37c; No. 3 white 35@35½c.

Beans.

Detroit.—Immediate and prompt shipment are higher at \$3.60.

Chicago.—Market is slow and demand easy. Hand-picked Michigan beans choice to fancy at \$4@4.25; red kidney beans \$9@9.25.

New York.—The market is quiet. Choice pea \$4.60; do medium at \$4.75; red kidney \$11.75.

Rye.

Detroit.—Cash No. 2 rye is lower at \$1.20.

Seeds.

Detroit.—Prime red clover \$13.50; October \$11.75; alsike \$14; timothy at \$3.15.

Hay.

No. 1 timothy \$19@20; standard and light mixed \$18@19; No. 2 timothy \$16@18; No. 1 clover mixed \$13@14; No. 1 clover \$13@14; rye straw \$13.50@14; wheat and oat straw \$12.50@13 per ton in carlots at Detroit.

WHEAT

Hot and dry weather in many sections has caused premature ripening of winter wheat while in parts of Kansas and Oklahoma rains have been excessive and have delayed the harvest. The markets have failed to respond freely to reports of crop damage during the past week because of unfavorable economic conditions and the arrival of new wheat at southwestern markets along with large receipts of old wheat. Export demand for wheat has not been brisk recently, although Germany purchased about 2,000,000 bushels on ninety days' credit arranged through British and Holland banks. Japan also continues to buy wheat from the Pacific Coast. Present conditions point to a wheat crop of 830,000,000 to 850,000,000 bushels in the United States. This is larger than the average pre-war crop but world conditions indicate that it will be needed. The International Institute of Agriculture has estimated the world's surplus of old wheat above the normal carry-over on July 1 as 52,000,000 bushels, while Broomhall's figures seem to show about 120,000,000 bushels.

CORN

Up to the present time corn crop reports have been unusually favorable. Hot weather with sufficient moisture, has forced rapid growth. The crop is farther advanced than usual and the general condition is above the average. The movement of old corn to market continues at a surprising rate. Stocks at terminals are accumulating with the export demand decreasing and domestic buying rather light.

OATS

The oats market is making a poor response to dry weather damage reports. Stocks are large and consumptive demand is rather dull, although there is an occasional spurt of activity. Stocks in consuming sections are not large and there is a prospect of a good rally in the market if the crop deteriorates much further. Prices for the September delivery which apply, of course, to the new crop, are about two cents higher than the present cash market.

FEEDS

Feed markets are rather irregular but the price trend especially on mill feeds, remains downward. Production has increased slightly while demand continues extremely light. Still lower prices may be seen in the next month or two but declines from these levels are likely to be moderate unless corn and oat prices also are revised down-

ward. Detroit prices are: Bran \$24; standard middlings \$24; coarse corn meal \$27@28; cracked corn \$30; chop \$28 per ton.

HAY

Receipts of hay are unusually light for this season of the year. This is especially true in the southwest where new alfalfa is usually abundant by this time. Low prices fail to attract shipments. Prices show little change as demand is decidedly limited.

BEANS

This market shows no excitement with the demand for peas and mediums slow and supplies ample. Michigan prices at country elevators are around \$3.55 per cwt.

BUTTER

Butter markets during the past week were a routine affair for the most part. Net changes in prices were small. Some trade interests were disposed to look for lower prices at first but continued hot weather with reports of drouth in some sections caused fear of reduced production. Reports indicate that production reached the peak of the season during the preceding week. Prices are likely to advance, especially on finer grades, the percentage of which will be reduced by hot weather while under-grades will be increased. Receipts are large enough to maintain a broad movement into storage. Prices for 92-score fresh butter on June 25 were as follows: Chicago 33½c; New York 34½c; Boston 35c; Philadelphia 35½c.

CHEESE

Cheese markets were firm during most of the past week but toward the close a setback in country markets caused a slight weakness in the distributing centers. Storage demand for fine cheese was fairly satisfactory. Twins, longhorns, and square prints were in demand while single daisies were neglected as southern demand for them is limited and they are not desirable for storage.

EGGS AND POULTRY

Prices for both eggs and poultry advanced during the past week due

largely to lighter receipts. The heavy production of eggs early in the season is gradually being offset by lighter production at the present time. Cold storage holdings of case eggs on June 1 were 6,840,000 cases, an increase of 1,900,000 cases during May, whereas a year ago holdings increased over 3,000,000 cases during May. Frozen egg holdings continue to pile up. Stocks on June 1 were 26,449,000 pounds, an increase of nearly 5,000,000 pounds during the preceding month. Receipts of dressed poultry are running rather large but cold storage holdings of frozen poultry on June 1 were 12,000,000 pounds less than on May 1. They were larger, however, than on June 1 a year ago. Detroit.—Eggs, fresh candled at 26½c. Live poultry, hens at 28@30c; roosters 15c; geese 15c; ducks 25c; turkeys 25c; broilers 40@42c.

WOOL

Wool markets have been more active during the past week and prices remain rather firm. Buying in the west continues on about the same basis but Texas wools have been bought at prices one to two cents higher than a few weeks ago. Government owned wools, mostly South American, sold at auction during the week at prices slightly lower than at the auction a month ago and over one-fourth of the offerings were withdrawn. Reports of mill activity continue gratifying and the consumption of wool is practically up to the pre-war rate. During the summer months there is usually some curtailment but there is no reason to anticipate a marked decrease in the rate of wool manufacture. It appears that conditions are slowly shaping up for a moderate advance in the price of wool but it is likely to be many months in reaching its maximum.

APPLES

Storage holdings of apples remain large and new apples are already arriving. Old stock is not moving freely but dealers are not forcing the market and are trying to unload with as little loss as possible. Ganos and Ben Davis are quoted at \$4.75@5 per barrel and northwestern Wine Saps at \$2@2.25 per box with the exception of extra large sizes.

POTATOES

Potato markets continue to slide down hill. Shipments are heavy although not so large as a year ago. No material upturn can be expected as the market supply will remain heavy. The outlook is for rather low prices right along. Virginia barreled potatoes are quoted at \$3.25@3.65 in earloads and Carolinas at \$2.75@3.15. Some old potatoes are selling at 50@60c per hundred pounds. This pays little more than shipping expenses.

CHEAPER STOCKERS AND FEEDERS EXPECTED.

ALTHOUGH some trade interests contend that stocker and feeder cattle are on rock bottom, this view does not seem correct. Demand is slack and is likely to grow more so during the harvest period in July and August. Not infrequently drouth develops in range states which speeds thin cattle to market. While nothing of this kind is taking place now, the movement of range cattle will not reach its height for another sixty days and much can occur in the way of changed weather conditions in that length of time. Drouth is reported in parts of the Dakotas and pastures are drying up but thus far cattle have not been shipped out as a result of it.

Shipments of stocker and feeder cattle from public stockyards during the first five months of 1921 were 24.2 per cent less than during the corresponding period of 1920. This fact does not point to a beef shortage although it gives assurance that the supply of cattle still on feed is not unusually large.

HORSE MARKETS FACE FURTHER DULLNESS.

HORSE values continue extremely draggy and the markets are facing a period which is invariably dull. Harvest demands and purchases made by coal and ice concerns may prevent prices from declining much further, but there is a factor in sight capable of bringing about a big advance.

The lightest run of the year appeared at Chicago last week while buyers were more numerous. Prices were strong on the best heavy horses but were unchanged on the rank and file. St. Louis market was stagnant and most sales were of a forced character. The range season at the latter market starts early in July.

NEWS OF THE WEEK.

(Continued from page 2).

stroyed by fire, entailing a loss of \$35,000.—Prosecutor Boyd, of Kalkaska county, is urging a closed season on fire setting during the dry period.—The American committee for the Chinese famine fund announces a total of \$7,250,000 collected to aid the stricken Chinese.—A clash is reported between Italian and Polish troops in upper Silesia.

Monday, June 27.

STATISTICS gathered in the Kalamazoo public schools show girls to be far superior to boys in penmanship.—A German-Russian transport company has been organized to carry on business between the two countries.—Representatives of the English miners and of the government are in conference on terms of the coal strike settlement.—General Motors Company is distributing a bonus of 123,884 shares of stock as a reward to loyal employees.

COMING LIVE STOCK SALES.

Guernseys.—October 19, Michigan State Sale, Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.

Aberdeen-Angus.—September 23, Eastern Aberdeen-Angus Breeders' Association Sale, Eastern States Exposition, Springfield, Mass. F. W. Burnham, Greenfield, Mass., Secretary.

Aberdeen-Angus.—October 12, Indiana Aberdeen-Angus Breeders' Association Sale, Indianapolis, Ind. Prof. C. F. Gobble, Lafayette, Indiana.

Holsteins.—October 21, Howell Sales Co., Eighth Annual Sale at Howell, Mich. Wm. Griffin, Secretary.

Live Stock Market Service

Wednesday, June 29.

DETROIT

Cattle.

Receipts 482. Market steady.

Best heavy steers	7.00@7.25
Best handy wt bu steers	7.00@7.25
Mixed steers and heifers	5.50@6.00
Handy light butchers	4.50@5.25
Light butchers	3.00@4.00
Best cows	4.50@5.00
Butcher cows	3.50@4.25
Common cows	2.50@3.00
Canners	2.00@2.25
Best light weight bulls	4.75@5.00
Bologna bulls	3.50@4.50
Stock bulls	3.50@4.75
Feeders	4.50@6.00
Stockers	3.50@4.50
Milkers and springers	4.00@7.00

Veal Calves.

Receipts 631. Market opened slow and closed dull at 50c lower.

Best	10.00@10.50
Others	4.00@8.50

Hogs.

Receipts 1,236. Market 10c higher.

Mixed hogs	8.90@9.00
Pigs	9.00@9.25
Heavy	8.50

Sheep and Lambs.

Receipts 513. Market steady.

Best lambs	10.00@10.50
Fair lambs	8.00@9.50
Light to common	5.00@6.50
Culls and common	1.00@2.00
Fair to good sheep	3.00@4.00

CHICAGO

Hogs.

Estimated receipts today are 24,000; holdover 6,734. Market slow, mostly 10@15c higher. Bulk of sales \$8.50@9; tops \$9.15 for one load; heavy 250 lbs up medium, good and choice \$8.65@8.90; medium 200 to 250 lbs medium, good and choice \$8.80@9; light 150 to 200 lbs common, medium, good and choice \$8.90@9.05; light lights 180 to

150 lbs common, medium, good and choice \$8.65@9; heavy packing sows 250 lbs up smooth \$7@8.45; packing sows 200 lbs up rough at \$7.65@7.90; pigs 130 lbs down medium, good and choice \$8.25@9.

Cattle.

Estimated receipts today are 8,000. Market steady. Beef steers medium and heavyweight 1100 lbs up choice and prime \$8.25@8.75; do medium and good \$7@8.25; do common at \$6@7; light weight 1100 lbs down good and choice \$7.90@8.65; do common and medium at \$5.25@7.90; butcher cattle, heifers, common, medium, good and choice at \$4.25@8; cows common, medium, good and choice \$3.75@6; bulls bologna and beef \$3.50@5.75; canners and cutters cows and heifers \$1.50@3.75; do canner steers \$2.25@3; veal calves light and handyweight medium, good and choice at \$7.50@9.25; feeder steers common, medium, good and choice \$5.75@7.50; stocker steers, common, medium, good and choice \$4@7.10; stocker cows and heifers common, medium, good and choice at \$2.75@5.50.

Sheep and Lambs.

Estimated receipts today are 14,000. Sheep steady; lambs 25c lower. Lambs 84 lbs down medium, good, choice and prime \$8@10.60; do culls and common \$5@7.75; spring lambs medium, good, choice and prime \$5.50@8; ewes medium, good and choice at \$2.25@4.85; ewes cull and common \$1@2; breeding ewes full mouths to yearlings \$2.50@5.50; yearling wethers medium, good and choice \$5.75@6.85.

BUFFALO

On this market today heavy hogs sold at \$9@9.25; others \$9.65; lambs \$11; calves \$10; cattle were extremely dull.

GUERNSEY BREEDERS MEET.

THE Michigan Guernsey Breeders' Association held their annual summer meeting at the farm of Mr. John Endicott, of Birmingham, Michigan. The forenoon was spent in viewing the splendid herd owned by Mr. Endicott, and in a general social time. All gathered in a beautiful grove on the banks of a small lake for dinner.

Immediately afterward, the meeting was called to order by the president, Mr. F. H. Ormston, of St. Johns. A splendid program included the following speakers:

Mr. George J. Hicks, of Saginaw, who spoke on "How to Make the Association Mean More to Guernsey Breeders."

Professor Reed, the new head of the dairy department of the Michigan Agricultural College, who represented the college, and spoke in behalf of the dairy industry of the state.

Mr. Carl B. Musser, field representative of the American Guernsey Cattle Club, who gave information along varied lines, of interest and value to the Guernsey breeders.

Mr. H. W. Wigman, of Lansing, gave a splendid cow demonstration, pointing out the points of merit and demerit, to be considered in looking for a cow of the dairy type. The talk was extremely practical and valuable in view of the fact that Mr. Wigman is a very experienced breeder, and one of the best judges of Guernsey cattle in the state.

The activities planned for the following year, include the selection of a herd to represent the breed to be entered as an exhibit at the State Fair at Detroit, and possibly at the National Dairy Show.

A committee was appointed to select stationery and a slogan, to be adopted as far as possible by the breeders of the state. It was also left to this committee to select contributions of animals to be sold at public auction, the proceeds to be given for the benefit of the association.

The meeting was considered highly interesting and beneficial. The hearty welcome and splendid entertainment given by Mr. Endicott was rewarded by a deep appreciation of those present, and the association wishes to thank him through the press for the kind invitation to his farm.—G.

HOG MARKETS SHARPLY HIGHER.

THE hog markets advanced sharply during the past week and most of the advance was retained at the close. Eastern shippers were active buyers and some of the large packers purchased freely but others fought the advance. Unlike the cattle market which is facing a period of increased receipts, hog market supply is certain to dwindle during the next few weeks.

In view of the high average weight of most of the receipts, the small discount at which packing sows are selling, is quite a surprise. They are not yet numerous although they were more conspicuous during the past week and will increase in numbers right along. Although conditions point to a further advance on butcher and bacon grades of hogs during the summer, packing grades cannot be expected to advance much, if any, above the present level.

Combined stocks of frozen pork, dry salt pork, pickled pork, both cured and in process of cure, on June 1 were a shade smaller than on May 1 but were about sixteen per cent lighter than on June 1 last year.

GENERAL CROP SUMMARY.

CROP conditions for the week ending June 18, 1921, are covered in reports just received by the Bureau of Crop Estimates, United States Department of Agriculture, from its field statisticians in the different states.

Corn.—The corn crop has generally been making good growth throughout the central or leading corn-producing states and has been well cultivated. Cool nights and lack of sufficient moisture have checked growth somewhat in the eastern section of the country. The crop is up to a good stand in the northern section and cultivation has begun. Chinch bug damage is reported in Illinois and Indiana, but in Oklahoma is being checked by the heavy rains.

Wheat.—Harvesting of the winter wheat crop is in progress as far north as the central sections of Indiana and

Illinois. Considerable complaint is reported of poorly filled heads and of damage from rust. Rain is delaying the harvest in Oklahoma and causing some damage to uncut fields and grain in the shock.

Spring wheat is making good growth and early fields are beginning to head. There is some danger of too rank growth of straw in Minnesota.

Oats.—The condition of the oat crop throughout the northern tier of states is generally good and early fields are heading out. In the central states the crop is rapidly commencing to mature and considerable complaint is reported of thin stands and short straw. Harvesting is in progress as far north as the central portion of Missouri.

Potatoes.—The stand and growth of Irish potatoes are generally good throughout the northern and central states, although rain is needed in some portions of the central section. Some damage from bugs is reported. Cultivation is general and some planting of late potatoes is still in progress. Some blight is reported in Pennsylvania, Maryland and Delaware.

Fruit in General.—The June drop of apples throughout the eastern and central portions of the country is quite heavy, thereby lessening the previous small crop prospects. The prospect for all stone fruits throughout these sections is very unfavorable, and the strawberry crop is being cut somewhat by drought. The early cherry crop is being picked in Washington.

Live Stock, Hay and Pastures.—All classes of live stock are in good condition and no epidemics of disease are reported. Flies are annoying dairy cattle earlier than usual in Wisconsin.

Meadows and pastures generally need rain throughout the eastern and central states and hay crops are maturing short. The cutting of alfalfa is becoming general throughout the north and northwest and a good yield is reported.

In building silt-basins in the tile drain have the bottom of the basin at least a foot below the level of the tile.

Cream Calves and Pigs



A Missouri farmer writes:

"I bought a De Laval Separator and in 12 months I sold \$400 worth of cream, and received \$150 for calves and \$270 for pigs which I raised on the skim-milk. I can truthfully say the De Laval Separator is the most profitable investment I have made for some time."

This is not an unusual instance of what a De Laval Separator will do, and thousands of farmers have done even better.

The De Laval Separator saves the most cream and gives you the greatest cash income. It provides skim-milk in the best condition for feeding calves, pigs and poultry. And it gives this excellent service over the longest period of time. That's why there are more than 2,500,000 in use the world over. It is the best and in the long run the cheapest.

Easy terms can be arranged so that it will pay for itself. See your De Laval agent or write us.

THE DE LAVAL SEPARATOR COMPANY
NEW YORK 165 Broadway CHICAGO 29 E. Madison Street SAN FRANCISCO 61 Beale Street



Sooner or later you will buy a

De Laval
Cream Separator or Milker



NINETY per cent of all railroads entering Chicago use MULE-HIDE — "because it's stronger and lasts longer."

Ask your dealer.

The Lehon Company
MANUFACTURERS
44th to 45th St. on Oakley Ave., Chicago

McCaffrey's Hay Manager
Now With

Geo. E. Rogers & Co.

We solicit your consignments. Liberal advances on all shipments.
Geo. E. Rogers & Co., 601 Wabash Bldg., Pittsburgh, Pa.

Eggs

Our trade on fancy poultry farm eggs is increasing daily. Therefore we are in a position to pay liberal premiums above the Chicago market for fine new laid stock.

Special premium for whites. We solicit your shipments. Ship via Express.
AMERICAN BUTTER & CHEESE COMPANY, Detroit, Mich.
2034 Howard St.

HAY Ship E. L. RICHMOND CO., Detroit. ESTABLISHED 1893. Highest Prices—Prompt Returns

DARN-EZ absolutely eliminates darn-ing stockings and mending clothes. Send 35c in money (our risk) for a sample tube and our proposition to exclusive agents. The best hard time seller in America. \$200 to \$500 a month easily made. Intersales Company, 203 Old Whitney Building, Detroit, Michigan.

POULTRY

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

R. C. Br. Leghorn C'kls. \$1.50 each. Pekin ducks \$2.00 each.
MRS. CLAUDIA BETTS, Hillsdale, Mich.

S. C. Black Minorcas Eggs from No 1 pen will be \$1.50 per setting of 15, for the bal. of the season. R. W. Mills, Saline, Mich.

Single Comb Buff Leghorn
hens and early hatched pullets and cockerels. Good laying strain. Willard Webster, Bath, Mich.

Quality Chicks Black Minorca, Light Brahma. 25c each. Barred Rock, R. 1 Red. 18c each. Tyrone Poultry Farm, Fenton, Mich.

White Wyandottes: 207 egg average. Hatching eggs, \$2.00 per 15. Baby chicks 23 cents each. Cockerels, hens and pullets.
FRANK DeLONG, R. 3, Three Rivers, Mich.

White Leghorns English and American strains. Choice cock-orels, hens and 8-week pullets \$1.40 each for 10 or more; special prices in 100 lots. Will ship C. O. D.
FRANK HEINZ, Box 6, Comstock Park, Mich.

White Wyandotte and Barred Rock eggs, half price balance of season. HOWARD GRANT, Marshall, Mich.

Pullets S. C. W. Leghorns for June, July and August 8 to 10 weeks old \$1 each.
HENRY WATERWAY, R. 4, Holland, Mich.

OFFER No. 322.

Michigan Farmer, one year.....\$1.00
People's Home Journal, one year 1.25
Woman's Home Companion, 1 yr 2.00

Total value\$4.25

All for \$3.30.

**Many
Insulators!**

**A Few
are Porous!**

**One
is Durable!**

What different kinds of materials make good electrical insulators? Rubber, glass, porcelain, wood and *numberless* others! There are in fact dozens of such insulators found in nature that meet all the *usual* requirements. But—

In a storage battery the insulators must be *porous* to let the battery solution circulate freely. How many materials that are good *insulators* are also sufficiently porous? Of these, how many also are *durable* enough so that the battery will never have to be *re-insulated* during its life? Not one such *natural product* is known. But—

Why not take one of the materials that is a good insulator and is durable—and *make it porous*? It has been done! The result is Willard Threaded Rubber Insulation. Willard started with RUBBER and *made it porous*, by piercing it with thousands of threads. The Willard Threaded Rubber Battery does not have to be re-insulated during its lifetime.

You can buy the Willard Threaded Rubber Battery of any of the dealers in your territory listed below. They all give authorized Willard Service:

MICHIGAN

Adrian..... Union Garage
Albion..... Central Sto. Batt. Co.
Alma..... Alma Elect. & Batt. Co.
Alpena..... Alpena Batt. Serv. Corp.
Ann Arbor..... A. P. Sriver
Battle Creek..... Central Storage
Battery Co.
Bad Axe..... Huron Sto. Batt. Co.
Bay City..... Thorne Elect. Co.
Benton Harbor... H. L. Draper & Co.
Big Rapids... Automotive Elect. Co.
Blissfield..... H. D. Bailey
Cadillac..... Cadillac Batt. Co.
Calumet... Calumet Sto. Batt. Co.
Charlotte... Charlotte Sto. Batt. Co.
Cheboygan..... J. A. Garrow
Chesaning..... Perrot & Stuart Co.
Coldwater... Coldwater Garage Inc.
Dearborn..... Lindsay Batt. Serv.
Detroit..... Mrs. M. W. Carpenter
Clements Batt. Service
Duncan Bros.
Fred's Tire & Batt. Service
J. Hergenroeder & Sons, Inc.
Long Batt. Service Co. (2sta's)
Mart. J. Schneider
Western Batt. Service
Willard Storage Battery Co.
Dowagiac, Walworth Batt. Serv.
Eaton Rapids... Smith Tire &
Batt. Service
Escanaba... Home Electric Co.
Flint..... Flint Sto. Batt. Co.
Fremont, John J. Hansel & Co.

Grand Haven..... Kooiman Tire &
Batt. Serv. Co.
Grand Rapids, Wolverine Sto. Batt.
Co.
Greenville..... E. H. Sharpe
Hamtrank..... David Berger
Hastings..... Universal Garage Co.
Highland Park, Dewar Sto. Batt. Co.
Hillsdale..... Simpson & Simpson
Holland..... Lievens Batt. Co.
Houghton, Superior Sto. Batt. Co.
Howell..... Donald Maycock
Ionia..... E. W. Thomas
Iron Mountain, Iron Mt. Batt. Co.
Iron River, Mitchell's Service Station

**Willard Storage Battery Co.
Cleveland, Ohio**

Made in Canada by the
Willard Storage Battery Company of Canada,
Limited, Toronto, Ontario

This trade-mark tells you that the plates in your battery are insulated—not merely separated. Willard Threaded Rubber Batteries are selected by the best brains in the automobile business as standard equipment for 185 makes of cars and trucks.

Ironwood, Julius Bentzen Elect. Co.
Jackson.... Jackson Sto. Batt. Co.
Kalamazoo, Thompson's Sto. Batt. Co.
Lansing..... H. F. Heath
Lapeer..... Lapeer Sto. Batt. Co.
Ludington..... Harry Trepanier
Manistee..... Lloyd & Smith
Manistique... Manistique Batt. Sta.
Marquette... Battery Serv. Sta.
Menominee, Johnson Tire and Repair
Works
Midland... Kaufman & Revenaugh
Monroe... Monroe Sto. Batt. Co.
Morenci..... Green & Rorick
Mt. Clemens, Mt. Clemens Sto. Batt.
Co.
Muskegon..... Electric Serv. Co.
Niles..... Niles Batt. Serv.
Owosso..... Blair & Gaylord
Petoskey... Petoskey Sto. Batt. Co.
Plymouth... Plymouth Sto. Batt. Co.
Pontiac... Storage Batt. Serv. Co.
Port Huron... Storage Batt. Serv. Co.
Saginaw... The Trombley Elect. Co.
St. Johns..... F. H. McClintock
Sandusky..... Davidson & Mossey
Sault Ste. Marie, Northern El. Co.
Sebewaing..... Howell Bros.
South Haven... H. A. Parker
Sturgis... Battery & Elect. Co.
Three Rivers... Batt. & El. Co.
Traverse City... Traverse City
Battery Co.
Wyandotte... J. T. McWade
Batt. Service
Ypsilanti..... A. P. Sriver



Willard