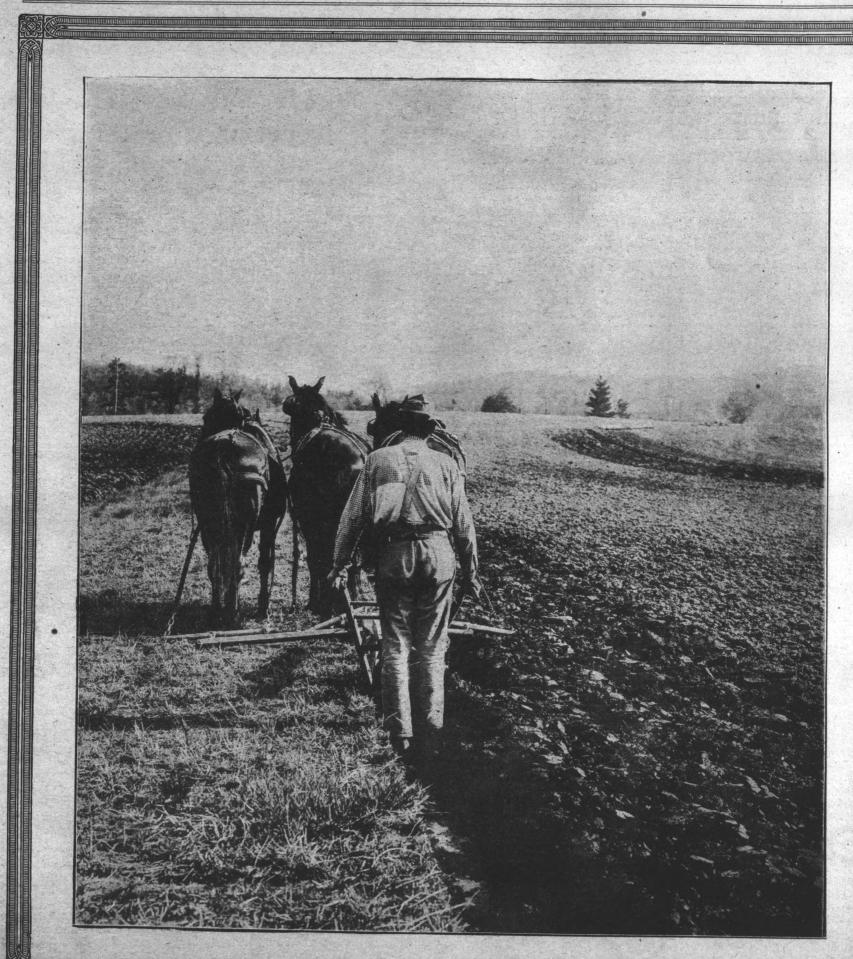


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### DETROIT, MARCH 18, 1922

### CURRENT COMMENT THE MICHIGAN FARMER SAYS:

A little laugh now and then Will take some kinks from the worst of men.

Life is too serious to take it too seriously.

It is often better to get acquainted with the man whom you do not understand than it is to hit him.

He is a wise dairyman who sets a trap to catch the first well-informed cow-tester that comes his way.

### Eradicating Tuberculosis

THE wide extent to which public interest in the eradication of bovine tuberculosis in Michigan has increased in re-

cent years is evidenced by the county campaigns now in progress for its complete eradication. This work is now under way in half a score of Michigan counties, in which the county boards of supervisors are appropriating funds for cooperation with the State Department of Agriculture and the Bureau of Animal Industry of the United States Department of Agriculture. Of these counties Hillsdale has already been cleaned of the disease and the work is nearing completion in Jackson county, while a number of other counties are making rapid progress, toward this desired end.

The significant thing about this work now in progress is that the people of both city and country are equally interested in the movement. Even in Wayne county the local board is cooperating in the work with apparently as much interest shown by the city members as the country members of that body, and this is typical of the interest being shown in other sections of the state. In a talk before the Detroit City Farmers' Club last week, oner of Agriculture Ha expressed the hope that with this kind of local cooperation and with the state administrative board backing the work with the necessary funds there is a very good prospect that this destructive and dangerous disease which science has demonstrated to be transmitted to humans, may soon be eradicated from our state.

This work merits the enthusiastic cooperation of every citizen, and particularly every farmer in the state. Once this disease is gotten under coneradication is costly, but it is less cost- concerned.

ly now than it will be at any time in the future, and it will be a profitable business investment from the standpoint of future profits from live stock, to say nothing of its importance in relation to public health, which is the paramount if not the primary consideration.

### Unscrambling the Egg

La very difficult proposition to undertake. Figuratively it seems to be almost as difficult when applied

to our very much mixed transportation situation. Last year the railroads of this country lost nearly one-quarter of their business. The ton-miles of freight carried by our railroads in 1921 totaled 104,390,000,000 tons less than in 1920, and yet the railroads made money under the so-called guarantee provision of the Esch-Cummins transportation act.

Small wonder that the railroads and other interests allied with them are making a strenuous fight for the maintenance of the present status, under which the United States Supreme Court has ruled that the Interstate Commerce Commission has jurisdiction over intrastate as well as interstate rates. Senate Bill 1150, known as the Capper Bill, would change this status by removing the so-called guarantee in the Esch-Cummins act, and by restoring to every state the power to adjust rates within the state when its territory is being discriminated against. This bill is now before the senate committee on interstate commerce, where it is being vigorously opposed by the railroad and Wall Street interests

The passage of this bill would go a long way toward the unscrambling of the transportation egg, which is in bad odor with the public generally. And this last mentioned fact is pretty sure to bring about its passage sooner or later and thus start the unscrambling process. Nobody wants to see the railroads crippled. They are necessary to our business life. So are lower transportation rates, which would tend to help the volume of railroad business as well as all other business. We must begin somewhere in this necessary readjustment. The best place to begin would seem to be where the results would be most certain and most quickly achieved.

### Farm Implement Prices

DURING the past year farmers have not purchased new equipment and goods in normal volume. Manufacturers a n d

distributors frequently referred to this situation as a "buyers' strike" during the early months of its manifestation. Later they very generally recognized the fact that with the extreme deflation of prices for farm products as compared with the range of commodity prices plus high transportation charges, the slackening of farm buying was merely a matter of business necessity.

The reaction has come in the form of increased prices for farm products and a downward trend of commodity prices in the leveling up process necessary to the regaining of an economic leveling process has afforded less immediate relief to business, either agricultural or otherwise, than some expected, for the reason that a large percentage of farmers were obliged to sell expounds. their products before the favorable refacturers and distributors suffered a measure of the same heavy inventory and operating loss to which the farmers had been previously subjected. But the progress of the leveling up process trol it can be efficiently and cheaply is an indication that the worst is over kept in subjection. True, the work of and that better times are ahead for all

in a further advance in prices for farm them. products or in a further shrinkage in commodity values and the costs which enter into their production. Farm implement manufacturers maintain that recent cuts in prices have placed them on a lower price range as compared with the cost of materials than before the war. In proof of the claim that present prices are as low as they can possibly be made under present conditions they point to the annual statements of well-known implement manufacturers, which show losses last year ranging from \$3,000,000 to \$9,000,000, of which in the extreme cases something like two-thirds was inventory loss and one-third operating loss.

On the other hand, farmers point to exceptional cases in which prices for manufactured commodities containing similar materials have been reduced to or below pre-war prices. In most of these cases, however, the commodities have fairly constant, rather than seasonal demand, which favors a quick turnover, while agricultural implements must be manufactured far ahead of a comparatively short selling season, and the amount manufactured must be gauged in accordance with the probable demand.

While it is probable that the volume of trade in this line will not attain fully normal proportions until conditions are further stabilized, it would not seem to be the part of wisdom for forehanded farmers to go without needed equipment for economic production in the meantime, since present price comparisons are not greatly out of line as compared with the pre-war period. Also there is a strong possibility that when conditions favor an abnormal demand, as is likely to be the case when conditions are fully stabilized, the demand may be greater than the supply.

### Talking and Thinking

JUST a few evenings ago the writer took some waste paper into the garden and burnt it. The paper blazed up lustily for

a few moments and then died out. But during the brief time that the fire was going everyone within range had their eyes turned toward it. The stars lost their charm; surrounding buildings were forgotten; the soil on which the fire blazed was unnoticed. That little blaze simply eclipsed anything in and about the yard and captured the full attention of the onlookers. The following morning nothing could be found but a handful of burnt embers.

In nearly every community there are persons who may be likened to this little fire. Through a well-developed imagination and skill with language, a little reading and much talk in public places they have gathered a list of opinions on a wide variety of local and general problems. These opinions they express with much orating in public places both in or out of season. In committee sessions modest members have little opportunity for the expression of their views. At sales, the corner grocery, the blacksmith shop and wherever men do congregate, this man is the center of interest and his opinthe community, so much so that often those who have had little time for study wonder if there is another posi- truth-in-advertisin' campaign. tion on the matters he so courageously

We have seen this man often with action in prices occurred, while manu- his pessimistic views on everything that is and with his plans for the remodeling and rebuilding of practically inst. the Volstead liquor law. every institution along entirely new sunshine only to find scarcely a burnt idea is that we should be careful in it, there ain't none there. accepting the views of those who talk

The main subject for concern at much and think little, but rather present is the future trend of this should study our problems in the very process, i. e., whether it will be mainly best light with which we can surround

### Keep the Sight Good

W E gain knowl-edge of the outer world entirely through our senses. The greatest gateway through which knowl-

edge may enter the mind is the sense of sight. We learn more quickly through the eye than by any other means.

Often we see a young scholar stammer through his lessons and we lay the cause of the trouble to plain dumbness when, in reality, poor eyesight is at the bottom of the difficulty.

An examination of thousands of school children showed that sixty-six per cent of them had defective eyesight. Another examination in the industrial field held among mature people showed that the same percentage had defective sight, but they were able to correct the trouble in thirteen per cent, leaving fifty-three per cent defective.

With such a large percentage affected, we should look to our own children to find if their sight is defective or not. To in any way allow this great gateway of knowledge to be obstructed would be most unfortunate. Good health will help conserve good sight. but also poor eyes frequently cause poor health, for seeing through imperfect eyes is a strain to the nervous system.

It makes a lot of difference how we see things. Be sure to keep the vision

### Syckle Sayin's

THERE'S famous men like Ben Franklin and Mister Dooley what has given the world rules for the conduct of life and axims without any axes to grind. Seems like I gota keep in accordance with the custom, so I'm givin' the following for the benefit of those that ain't born yet:

The man what gets up early and



knows the good spots ketches the fish. The other man has got to buy them.

You can't tell by the size of a man's waist what is in his head. All the suckers

ain't fish-we've

all been suckers some time. It helps your credit to pay today what's due tomorrow.

We're all prodigious spenders of time, but none of us know how big our drawin' account is.

There's lots of difference between a rooster and a hen. The rooster crows about prospects, but the hen tells the world about accomplishments.

A man what loves hisself ain't got

The love of a fast lover don't last. To grow big you first gota dig deep to get a good foundation.

What's put in your mouth has got lots to do with what comes out of it.

Good suspender buttons relieves a balance. The earlier stages of this ions are the best advertised of any in man of bein' scared of embarrassment. For girls to paint and powder their faces is agin the principles of the

> The prettiest lookin' apple ain't always the best tastin' one.

> Take care of your feet and they won't bother your head.

Some dry subjects is beneficial; for

Like all famous sayin's, the above lines and then have gone out in the has got to be studied to get their hidden meanin'. If you read one fifteen ember of his opinions remaining. The times and don't get no meanin' out of

HY SYCKLE.

## Fruit Growers Discuss Problems

The Future Development of the Industry as Well as Cultural Methods

are Considered at Spring Meeting



Bob Anderson Knows Peaches.

NE phase of agriculture in which Michigan can lead all the other states in the middle west is horticulture. This was brought out most forcefully March 1-3 at Coloma, Berrien county, at one of the most successful pre-spring sessions of the Michigan State Horticultural Society ever held in the history of this great organiza-

After weeks of debating among themselves, the fruit growers during this convention came out in the open and made a stand for the expansion and development of the horticulture department at the college with a view to providing the fruit industry with the kind of leadership to which it is entitled. It adopted resolutions asking the State Board of Agriculture to create a separate division of horticulture at the college and the speakers suggested that a dean be placed at its head. Some of the other departments of the institution, of minor importance compared with horticulture and \$26,-000,000 worth of products produced annually, have at their heads deans of recognized ability.

But the tables are beginning to turn, judging from the action taken at the Coloma meeting. When the state

members of the executive and horticul- this season but owing to the lack of of water, and one-half this amount on tural committees of the society appear sufficient seed so all might grow the cloudy days. Others still clung to the before it with their requests, but there also will be a special delegation of growers. They were named at the of Benton Harbor, chairman; James Covert; H. Blakeslee Crane, Fenn-upon but W. C. Eckard, of Paw Paw, yard manure on his vineyards, thus ville, and A. J. Rogers, Beulah.

Van Buren county farm agent, argued maintaining the fertility of the soil. In

While action on this matter was perhaps the outstanding feature of the convention, the program was very educational and much good for the large and small growers was disseminated. The first day's program was given over to a discussion of melon and grape culture. Growing of melons, because of the long season last year and the large returns received per acre, has become far more attractive and the coming season, it was indicated, would see the acreage in southern Michigan doubled. From \$300 to \$400 an acre was realized on many of the commercial farms in Berrien county while in a few instances the returns even exceeded these figures.

In Berrien county there are three cooperative marketing associations handling melons, but none of them has sufficient volume to develop a carlot trade. John Hocker told of the great success of the Benton Center Association and before he closed his talk he expressed the hope that all three assoto federate, grow the same varieties. pack and use the same brands, and develop a carlot trade. Such a feder-

will not be attempted before next year. less dangerous.

There was much difference of opin-

reported wonderful success with this poison, stating that he had used it successfully on bright days as strong as board convenes again, not only will ation probably would have resulted one-half pound to one hundred gallons same varieties, the merger probably arsenate of lead which they considered

T. B. Woodman, of Paw Paw, told convention as follows: F. L. Granger, ion among growers and specialists re- how he raised eight tons of grapes per garding sprays for grapes. A nicotine acre last season. The key to his suc-Nicol, South Haven; Robert Anderson, solution for leaf hoppers was agreed cess was in the extensive use of barn-



County Agent Walker Finds that Strawberries do well in Upper Peninsula.

that many growers were not as thor- pruning he recommended leaving four ough as they should be in spraying. to six arms per vine with from forty He suggested using a long hand rod, a coarse spray, and moving slowly along the rows so that the under sides of the leaves are thoroughly drenched.

The Kedzie formula, sodium arseciations in another year might be able nate, appears to be gaining in favor as the soil. a spray for berry moth, although opinvariance. M. D. Buskirk, of Paw Paw.

to eighty buds. N. L. Partridge, research specialist from the college, also discussed pruning subjects and explained the relationship of the number of buds to leave to the fertility of

Purchase of fertilizers containing ion on this subject was decidedly at only one per cent nitrogen, twenty per cent phosphorus and eight per cent potash was declared uneconomical, in the opinion of Mr. Partridge, who pointed out that one-half pound of nitrogen per vine could be used safely and profitably. Mr. Partridge conducted a number of experiments last year on J. Pomeroy Munson's farm near Grand Rapids, and other vineyards near Paw Paw.

The need of federating the marketing associations in years of heavy production was emphasized by Hale Tennant, who explained the purposes of (Continued on page 331).



H. A. Keister's Four-year-old Jonathan Orchard Near Bangor.

## Robust Beans Make Good

An Important Factor in Boosting Bean Profits

By R. C. Rather

THE rapid advance in the bean market has awakened a lively interest in the Robust variety, a white pea or navy bean developed at the Michigan Agricultural College and now being grown and certified by the Michigan Crop Improvement Association.

Wherever it has been tried this Robust bean has fully lived up to its name. Professor A. C. Army, of the Farm Crops Department of the University of Minnesota, during his recent visit to Michigan, stated that in trials in his State Robust beans had not as yet met their equal.

In New York they are looked upon with great favor because of their resistance to the Mosaic disease and Wilbur Brotherton, of the U.S. Department of Agriculture, who has been conducting numerous tests with beans, and worked in Michigan last summer, stated that the Robust variety had proven less susceptible to other diseases than any variety tested.

come to look upon seed certified by of E. C. McCarty, of Bad Axe, the times. It has been the object of the lege. d still erage grower. An increased yield of one-half bushel per acre would just offwhen three pecks per acre are used, while an increase of one bushel per acre would mean a return of \$2.00 worth of beans for every extra dollar paid for certified seed.

It is a matter of fact that Robust beans have outyielded competitors by While there is an added interest in much more than a bushel per acre.

the Michigan Crop Improvement Asso- tests being conducted under superviciation as a good investment at all sion of the Michigan Agricultural Col-

the same rate per bushel as common Early Wonder.....24.6 bus. per acre beans were per hundred on the average local market. This gives added Common seed......24.1 bus. per acre
els per acre; all of this when the Tests at Minden City, Bellaire and makes cheap seed available to the av- Battle Creek, all support the data shown here and give the Robust variety a splendid margin of profit over set the additional cost of certified seed its competitors. The five-bushel increase of Robusts over the common beans in the test mentioned would give, on the present market, a net profit of \$16.20 per acre over the extra cost of seed.

Field results which farmers have ing, still Michigan bean growers have two years variety testing on the farm ported better than 30 bushels per acre greater demand in 1923.

in 1920. A. Schuknecht, Owosso, and Mr. Wm. R. Smith, of St. Johns, each had yields of 30 bushels per acre in 1921. Mr. Smith stated that he knew of no yields near his farm which came within fifteen bushels of what Robust had yielded for him. E. C. McCarty, of Bad Axe, is one of the earliest growers and his yields have 17 bushels per acre, the State 11 bushels, and anything over 20 bushels has been considered quite exceptional.

Robust beans mature slightly later than some other varieties. To be safe they should be planted sometime between the 1st and 10th of June. Under such conditions they will mature in any of the usual bean growing districts of Michigan.

For two seasons now growers have had give further evidence of the splen- fallen short of fulfilling the big dedid yielding ability of this variety. mand for certified Robust beans for quality seed with bean prices advanc- Following are the average yields from Different farmers in Eaton County re- seed. Indications point to an even

## LATE AGRICULTURAL NEWS

FOR TRANSFER OF PUBLIC LANDS million Dollar Tune," are among other previous session, and while the mem- ods of farm management and farm TO DEPARTMENT OF AG-RICULTURE.

BILL introduced by Congressman Tincher, of Kansas, transfers to the department of agriculture the administration of all public lands and reservations, including the national parks, national monuments, abandoned military reservations, lands withdrawn for reclamation purposes, Indian reservations, fishing stations, now vested in the department of the interior, the general land office, director of national parks, the reclamation service and Indian affairs. Representative Tincher says his plan is to have all the government functions affecting agriculture, forestry and food and government owned lands centered in the department of agriculture. Hearings on this bill have been postponed to a future date.

### CANADA WANTS RECIPROCITY.

MOVEMENT is on foot in Canada A hovement is a looking toward reciprocity with the United States. William S. Fielding, minister of finance in the Canadian cabinet, has been in Washington conferring with the state department, it is said, regarding the possibilities of a reciprocal trade agreement between the two countries. The party now in power in Canada is said to be favorable to reciprocity and the farmers of the dominion are inclined to favor free trade with the United States, which will enable them to send their farm products into this country free of duty in exchange for farming implements, automobiles, and other American manufactures to be admitted into Canada duty free.

Several years ago a reciprocal trade agreement was offered the Canadians by this country, but was turned down. It is now believed that such a proposition will be just as unpopular among American farmers as it was with the Canadians in 1911.

### FARM WOMEN WANT PRICES STABILIZED.

FARMER'S wife, Mrs. Mels P. A Radick, from Minnesota, told the senate agricultural committee that she was the vanguard of farm women coming to Washington to urge that the government stabilize the price of staple farm products, and create a government farm products export corporation to finance the purchase and sale abroad of surplus farm products.

### AGRICULTURAL MOTION PIC-TURES.

THE work of the United States Department of Agriculture in developing motion pictures as a means of education and entertainment is attend- stead of chloroform to gas stray dogs. ed with remarkable success. Among the more recent films is one showing how bees live and work, giving an opportunity to study bees at close quarters. Another one-reel picture shows how early and late potatoes are grown and harvested in leading potato sections. The European corn borer is pictured in a new film, under the title, ed 2,166.—President Harding bars a "An Undesirable Alien." Close-up views of life history of the pest, the weapons of fighting employed by the bureau of entomology, and a warning to corn growers are given in the film. One very interesting film shows methods of road building under the authority of the bureau of public roads. "Anne's Aigrette," a federal bird refuge scene; "Fighting Western Pine

instructive and entertaining films. The bers seemed disposed to report this department now has 150 subjects for bill out favorably, they believe that distribution.

These motion picture films primarily were intended for the use of extension workers, but they are now available to any rural community church, grange or other organization desiring to use the motion picture as a means of mak- small, it is claimed will have the efing the community a more attractive place in which to live by providing available funds for the building of Fedwholesome educational entertainment. The only cost to the one using the film is for transportation.

A very satisfactory serviceable projector can be purchased for \$225 to it is a case of whether good roads \$275, which, in case electric current is or larger appropriations for experinot available, can be operated by means of a storage battery system. A lar activities are most needed by the Chicago firm makes a projector and farmers. generator attached to an automobile, for \$450. Another company makes a portable outfit for \$350. For a permanent building it would require a heating system, where wire current is lacking.

### OPPOSES PURNELL BILL.

THE Purnell Bill, authorizing the complete endowment of agricul-prevent such a scheme. Senator Capby Congressman Mondell, majority floor leader, on the grounds of economy, the greater need of the farmers at this time, in his opinion, being lower taxation, rather than an enlargement of the appropriations for experiment stations. Mr. Mondell said he was opposed to any increase in appropriations except in cases of emerof the last April Congress has passed more legislation calling for larger ap-

be compelled by necessity to shut down on legislation calling for appropriations from the Federal Treasury.

All these thousand and one demands fect of seriously cutting down the eral aid highways, and are daily reducing the chances of getting adequate appropriations for highway improvement. As Congressman Mondell says ment station research work and simi-

#### AGRICULTURAL DEPARTMENT APPROPRIATION.

THE annual appropriation bill for the United States Department of Agriculture for the fiscal year beginning next July, as reported to the house, carries a total appropriation of \$34,978,033. This is \$3,710,\$26 less than the total of the 1922 appropriations and \$1,554,835 less than the amount requested in the estimates. The States Relations Service, which gives aid to the county agent work, is severely hit as it will have \$561,340 less to spend than during the present year, if the bill remains unchanged.

The new bureau of agricultural economics will receive \$84,309 in excess of the office of farm management and gency. It was stated by a member farm economics and the bureau of of the committee that since the first markets and crop estimates, which it succeeds. An appropriation of \$291,-707 is recommended for the encouragepropriations for agriculture than any ment and adoption of improved meth-

practice of which sum \$150,000 may be used in ascertaining the cost of prothe time is about here when they will duction of the principal staple agricultural products.

An appropriation of \$410,500 is allowed for the enforcement of the packers' and stockyards act, and \$103.600 for increased appropriations, great and for the enforcement of the future trading act. For the eradication of tuberculosis in animals the committee recommends an appropriation of \$2,578,-800, which is the amount appropriated for the present year.

### MUSCLE SHOALS AGAIN.

HEARINGS on the offer to lease the dam at Muscle Shoals, Alabama, and operate or lease the nitrate plants continue before the House Military Affairs Committee. They closed last week with the committee listening to a discussion of the bid of F. E. Engstrum. It is the opinion of many of those who have followed the testimony that the only real offer is Mr. Ford's.

Before the committee decides upon its recommendation to congress it will visit the dam site for the purpose of familiarizing itself with the physical property. About forty-five senators, including the committee on agriculture also will visit the dam.

#### SOLDIERS' BONUS.

THE House Ways and Means Committee has agreed upon a compromise soldiers' bonus bill, which eliminates the cash feature where the former service man would be entitled to more than \$50 adjusted service pay, and substitutes a certificate which would enable the holder to obtain immediately from the banks a loan equal to one-half of the adjusted service pay to which he would be entitled on the basis of \$1 a day for domestic service and \$1.25 for overseas service. The \$60 deduction would be made as provided in the former proposal. The service certificate would mature in twenty years and would then be worth approximately three times the adjusted service credit of the veteran. It is claimed that President Harding is maintaining the same position as when he wrote the committee in February, that the bonus either would be paid by a sales tax or the legislation must be postponed.

Wednesday, March 8.

THE United States prohibition commissioner will use submarines against rum runners along the Atlantic doctor fell dead in the country treas-Coast.—A report of the United States Employment Service says that Detroit leads in aiding jobless.—Four Chinese with \$10,000 worth of opium were seized in a recent raid in Detroit .-Disguised as a farmer, Post Office In-National Bank of Mondogia, Wis.

Thursday, March 9.

BERT WILLIAMS, the famous negro comedian, died in New York of pneumonia.-Patchogue, Long Island, uses the exhaust of an automobile in-The U. S. Grain Growers' Inc., announced the incorporation of the United States Grain Growers' Sales Company, which will be the largest grainselling firm in the world.

Friday, March 10.

E SSEX, ONT., stages a rat contest in which the contesting teams killshipment of arms to China because of unsettled conditions there.-A Chicago judge ruled that a thumb print was a legal signature.—An increase of 6.41 per cent in the February post office receipts over those fo last year indicates better trade conditions.

Saturday, March 11.

THE Illinois Constitutional Convention adopts a provision permitting Beetles," and "The Ox-Warble, a Fifty- the reading of the bible in the public

schools.-More stock brokerage firms have been closed because of being financially involved .- A Davenport, Ia., urer's office shortly after he was told the amount of his taxes.

Sunday, March 12.

HE world famous magicion, Harry Title world ramous and The Kellar, died in California.—The spector Fraser traps robbers of First crew of the schooner Eillen were rescued after being tossed about on a life boat for eighty hours.—Open warfare which is raging in the Rand in South Africa between striking miners and the commerce department has aroused the soldiers, cause the death of 115 and the wounding of 700.

Monday, March 13.

HE arrest by Great Britain of Maist India leader, is causing great dis- a new plan for the development of among the natives.-Many railway chiefs admit that freight rates will be reduced as a result of the hearings at Washington.—The allies ignore claims of the United States in signing reparation agreement with Germany.

### Tuesday, March 14.

FRIENDS of Ex-President Wilson deny that he is using his influence with the democrats in congress against the peace pact.—Strikers in the South Africa gold fields attempted to assassinate General Jan C. Smuts, premier .-Five convicts escape from the Marquette, Michigan, prison by smashing a hole through the corridor roof.

### FORESTRY SERVICE CHANGE FOUGHT.

HE proposal to transfer the forestry service from the department of agriculture to the department of interior and the bureau of markets to a storm of protest, and is meeting the opposition of the American Farm Bureau federation and other farm organizations

Secretary Elbert B. Fall, of the inhatma Gandhi, the great national- terior department recently announced Alaska which involves the forestry service. The secretary proposes that congress set aside a revolving fund to be used by him in building sawmills, paper factories, smelters and railroads. These enterprises would be operated by the government until they become self-supporting, and then would be sold to private corporations.

The farm bloc will stand ready to prevent such a scheme. Senator Cap, per, chairman of the farm bloc in the senate, says he is personally opposed to this transfer of the forestry service to the interior department, and he believes every member of the farm bloc will oppose it.

## More Oil from the Mint Field

is formed in the leaves of the mint plant. With little experience the oil can be distinguished with the naked eye. It contains no nitrogen, no phosphorus, no potash. It is made of carbon, hydrogen and oxygen, materials in this difference. which abound in the air and water. ing up the factory which is to make

### N mint growing the essential substance, the oil, is a material which Peculiar Results Obtained from Field Tests the potash aids the machinery to prostance, the oil, is a material which

over, experienced growers looking at were applied in the rows. The results a heavy growth will not venture a indicated the yields as follows: guess as to oil content. Fertilization is probably the most important factor

The culture of the mint plant may Fertilization is concerned with build- be briefly reviewed. The roots are dug from an old field of mint early in the the oil. The leaves of the plant are spring and planted in rows three and the factory, the water of the soil and one-half feet apart. The roots are car-

Results of Fertilizer Tests.

Oil (Lbs.) 34 lbs. 8 ozs. 41 lbs. 12 ozs. No application.....4,755 Acid phosphate....7,400

Muriate of potash, acid phosphate...7,397
Sulphate of pot...7,150
Sulphate of potash, acid phosphate...7,397
Sulphate of potash, acid phosphate...7,534

The increase of sulphate of potash plots in oil yields as compared to the muriate of potash is of great importance. Especially significant, however, is the fact that the growth of vines, as indicated by the weights of each plat were not correlated with the oil content. It is true that the acid phos- . phate increased the oil yield when to anyone contemplating mint as a used alone. This would be expected considering the large vine growth resulting from its application.

But, a study of the figures will show that acid phosphate depressed the oil yield. That is, when used with both forms of potash it reduced the oil yield per acre. Furthermore, it acted to confuse the grower in that it actually resulted in an increased growth of vines per acre as compared with the growth of vines on both forms of potash used alone.

in the increase of oil, although the oil possible return for every dollar which contains no potash. In other words, he has invested.

increase the size of the factory at the expense of the oil. As is noted by an examination of the results, the phosphate always increased vine growth.

An important factor of fertilization which is worthy of study concerns the uses of the mint vines. After distilling, the vines which contain a large amount of potash should either be fed to stock and fertilizer bought equal to its feed value; the manure may be used; or the vines may be spread. There are practical difficulties in handling the "charges" (vines after dsitilling), but the feeding method should be given a thorough trial. There is no reason for mint hay not being a marketable hay in local markets. It is considered a good feed for horses.

A word of caution should be given crop. Mint is a special crop. Seventyfive per cent of the world supply of mint oil is produced in southwestern Michigan and northern Indiana. In recommending mint as a muck crop, it must be distinctly understood that the market can be easily booded, that the grower must take a chance on the quantity produced and the limited demand for this product.

On the other hand, the muck farmer who is growing mint wants to raise the greatest quantity of oil per acre. The potash exerted a specific effect He wants, as all of us do, the greatest



Marking and Planting Mint on Farm of Dr. Bope.

the carbon dioxide of the air are the ried in bags and "whipped" into the provides fuel to run the machinery.

that phosphoric acid was also valuable

The influence of these minerals on the mint crop is especially significant dealers who market the product. in that it throws light on what these weight of vines, but in terms of the special product desired.

may produce twice the yield. More- since been in timothy. The fertilizers

raw materials which contain carbon, shallow trenches and covered by shovhydrogen and oxygen, while the sun ing the muck with the foot, or with a cultivator. The mint is cut when the Growers have known for many years maximum content of oil has accumuthat potash is essential in producing lated in the leaves. It is harvested high oil yields. It has been thought with a mower, taken to stills and the oil distilled in steam. The oil and the on the high limed mucks of southwest- steam are carried over, condensed in ern Michigan, because phosphates and the coils, cooled by water flowing over potash have been found valuable for them. The steam is condensed to waother muck crops grown on these soils. ter and the oil collects on the surface of the water. It is then shipped to

The figures presented herewith are fertilizers accomplish, not in terms of the results of an experiment which the writer, while at M. A. C., conducted on the farm of Bope & Stiles, at Decatur. It is common experience to have a Mr. James Crum, of M. A. C., made the large growth of mint on one field yield measurements. Six one-half acre plots a disappointing small amount of oil, were used on a field which had not while another field of equal growth been fertilized in four years and had



The Fertilizer was Applied in the Rows.

## Putting Pep Into Sandy Soil

Some Unusual Conditions are Met by the Man on Light Land By I. J. Mathews

HERE are a great many problems that come up continually in the mind of the man who is entrusted with the management of a as much as ten bushels per acre. piece of sand.

clusion that the readers are not famil- them. iar with sandy farms and for this reason, the Michigan Farmer does not print much about the management of

such a piece of land. In reality, the questions that arise in the management of sandy soils are far more momentous than are the nothing else can compete until these questions arising in the management of strong land. It is far harder to demonstrate progressive methods to the man whose land will already grow 100 bushels of corn to the acre than corn spurry, scouring rush and both to him whose soil will scarcely grow kinds of sorrels.

How to Grow Legumes.

Usually the man who has charge of. One of the problems that confronts falfa and sweet clover seeds refuse to a sandy soil doesn't want to admit it the sand farmer is the matter of grow- do anything but sprout and expend the best. It will do fairly well in a for fear that some of his neighbors ing legumes. We will take it for the food in growing that it stored in moderately acid soil and give pretty will giggle, but that don't bother me; granted that the manager knows that the seed. Once in a while, a man is good returns. It will not yield quite the real point is that this is the rea- it is necessary to grow this class of found who fools himself into think- as high as June clover usually, but son this problem is seldom discussed crops in order to keep up the nitrogen ing that sweet clover will do well on the sand farmer in print. Without making this state- supply of the soil. The next question such sour soils. To persist in such the best chance of succeeding with ment, readers might jump to the con- is what crops to use and how to use thinking is to make a wanton flight the clovers.

My experience with this class of seil teaches me that it is invariably very crop of dewberry vines so thick that vines are crowded out. The dewberry vine is a sure sign of acidity superlative. Other signs that often make their appearance on virgin sands are

thrive in an extremely acid soil. Al- three mentioned. into the mighty bulwarks of experience. If I had a dollar for each pound of sweet clover seed that has been acid, especially where it has been sown on this sour sand, I would count cropped for some time. Even virgin my coin with a dollar sign and four sandy land is often covered with a figures, at least; if I had a dollar for each successful stand secured under these conditions, my purse would be as flat as it is now-which, of course, precludes further flatness.

the position as rejuvenator of these acid soils but this crop cannot qualify.

In sour soils, it seems about as sickly as the first two mentioned so, while the land remains sour, it must con-There are none of the clovers that tent itself with crops other than the

Of the clovers, alsike clover will do who uses it stands

Acid Tolerant Legumes.

I believe the hope of the sand farmer, in the line of legumes, lies in alsike clover, soy beans, cowpeas and Lairy vetch. Of the four mentioned, I like the soy beans best. Soy beans are good soil builders, they make fine hay if cut early enough or the soy bean makes a good stock feed if ground up and mixed with other feeds. Prob-Aside from alfalfa and sweet clover, ably this coming year, soy bean meal June clover might be an applicant for will be used extensively in the diet of humans as well as quadrupeds. Soy bean hay is practically as good as

usually cut just about the time that the equinoxal rains start in and having such a leafy stem at it has, some difficulty is experienced in getting it to cure properly. Soy beans should by all means be inoculated the first time they are sown in a field.

Hairy Vetch, when sown with rye is a good soil builder. Its nitrogen gatherers are in clumps. Furthermore, vetch makes good hay but of course must be planted with some erect plant so that the vine can get high enough to be cut if it is expected to use it as hay. On the sandy farm, for late fall and early spring pasture, there is nothing that beat the vetch and rye combination. There is a little complaint that vetch gets wild and roams at will -won't come out of the wheat when told to and thus makes poor flour. This criticism is not valid now due to the fact that a machine is now on market which will separate vetch seed from wheat kernels. Vetch also should be inoculated for the best results.

A practice that is calculated to get good results is to sow vetch and rye in the fall and then plow this down in the spring for corn. It is hard to tell needy folks that they should plow down anything that will make, even a part of the crop, but nevertheless, the way to permanent agriculture is along this line.

Cow peas are a crop of great potentiality on this type of land. The cow pea is capable of making quite a growth on such soil and it may be used for hay. If cut at the right stage of growth, the hay is palatable but is a little difficult to cure. If not inoculated, the first year the cow pea roots may not have many nodules on them but the second year, the roots will be covered with these valuable assets. By the way, where a crop of cow peas, soy beans or any of the others grow without nodule formation, the fertility is depleted as much as though a crop of rye had been grown.

It is a rather mistaken notion among sand farmers that the ordinary field bean (navy bean or soup bean) is a builder. Quite true, this is one of the legume family but it stays on the ground such a short time that only a few nodules are former. I have never found any nodules to speak of on this nothing more than weeds, by the time

clover but it is hard to cure. It is the genuine wild vetch-it is a legume the building up of the nitrogen supply. in the soil.

#### How Prevent Blowing.

thought possible to plow a sandy soil in the fall; a great deal of experience has proven that while it is possible to fall plow sand land, it is not practical. The winds of late autumn blow away the finest and most valuable parts of the soil and a great deal of washing and leaching usually takes place during the winter and spring. Sandy soil is so porous anyhow, that the soil water has a good chance to dissolve a maximum of crop residues and thereby entails considerable loss.

A crop rotation for the farm that with no nodules growing on its roots. will keep up the fertility, will keep The nodule is the important thing in the sand from blowing and that will supply the proper products for stock for market is a most vexatious topic for the man who has sandy land to There was a time when it was manage. On good, strong soil, the main standby among crop rotations is the corn, oats, clover combination and in a number of instances that have come to my attention, this combination is not maintaining the fertility even upon strong soil. It therefore follows that some other one must be tried out on the sand.

A rotation that is giving good results is one of corn, beans and clover and it is worked out something like this: When the corn is laid by, vetch and rye are sown. This affords the

I know of one man who has made a rather phenomenal success of wheat raising on this type of land. He sows vetch and rye in the summer after wheat has been taken off. This is allowed to grow undisturbed until the middle of the following June when it is replowed and worked over frequently until the wheat is sown again. In this way he has been raising wheat year after year for some time and seems to be getting away with the practice.

I have seen results from nitrogen fertiliber applied on light soils. The only way to maintain the nitrogen supply is to grow the legumes such as cow peas, soy beans, sand or hairy vetch and alsike clover-that is, as long as the soil is acid.

In lime, I see the key to productivity on this type of soil. Get lime onto the land. I prefer the ground limestone if it can be procured closely enough so that the hauling doesn't double the initial cost. The cost of the limestone may almost be ignoreda carload may be bought for a sum a great deal less than a hundred dollars. It is the freight and hauling that makes the applying of ground limestone prohibitive in most cases. If ground limestone can be applied at the rate of 4 tons per acre, the growth of sweet clover, alfalfa, June clover is made easier and a much ranker growth results with even the acid tolerant legumes. Some form of phosphate must be used.

#### Plan Ahead.

It is hard to say that crops must be plowed under but if the humus supply is to be maintained, this practice must be employed. The thing for the sand farmer to do is to get out a tablet and draw on each page a sketch of the farm and each page will represent a year. Mark down on the fields the crops that should be sown. Do this for the next ten years making sure that each field gets a taste of some leguminous crop at least three out of five years. He should also see to it that no field is left bare through the winter and arrangements should be made to keep the water courses intact. The next thing to do is to outline a plan whereby the fields will be covered with lime systematically and phosphate applications should be pro-



Under no conditions would I allow a sloping sandy field to be fall plowed; the level field isn't much better for nine times out of ten, there will be a great deal of blowing before the crop comes on in the spring.

If a sandy field is rather rolling, a pretty good scheme is to sow the water courses with blue grass and red top seed and when they are sodded over, leave them that way and when plowing, throw the plow out of the ground when it gets into these sodded water courses.

A field that has been in corn is sometimes a problem in this connection for the soil is loose, due to frequent workings. A practice that is giving most excellent results is to sow rye into the corn with a narrow wheat drill. This rye makes some fall pasture and in the spring the soil is turned over and planted to any crop that is desired. No sandy field should be allowed to stand bare all winter. The great loss of fertilizers and organic matter under this treatment makes it one to be avoided. Have something growing on the land, if

stock with some fall pasture, some spring pasture and the vetch fixes an appreciable amount of nitrogent during its stay in the soil. In the late spring, the vetch and rye are turned under and beans, soy beans and cowpeas are planted and when these are cultivated the last time, the clover seed is planted. It has proven a little difficult to get a stand of clover this way on account of the dense shade of the beans. It also makes a combination that is likely to give the farmer a superabundance of cultivating to do which will likely be a great handicap for it another year. This rotation assumes that the field has been limed, for June clover refuses to make any great growth on sandy soil until it has been limed.

This rotation may be varied some-The vetch and rye might be cut for hay and soy beans or cowpeas following, these to be cut for hay. Sandy soil, in the majority of cases, must be treated liberally with legumes. This provides for a legume being grown on the land every other year which seems about right so far as the maintenance of the nitrogent supply is

### type of bean. In this same class is the fall winds commence to blow. Peculiar Results from Sweet Clover

### Farmer Tells How This Plant Acted on His West Michigan Farm

and some experience with the plant may be instructive. About six years ago the writer had an apple orchard mower just as they were heading and Also a fine crop of rye and vetch was that showed unmistakable need of both nitrogen and humus, and a plan growth was about ten inches. There was hit upon to supply both in a single effort. This orchard was about forty years old, the soil a good stiff clay, and efforts at growing ordinary humus crops during the latter part of the season, with cultivation until midsummer had been somewhat disappointing, to the extent at least that this ground when the clover was blos- applied found its way to these plants, the humus content of the soil had grad ually grown less. So it was decided as it fell. The few sickly plants of to try a mixture of mammoth red clover and white sweet clover, allowing the entire season for its growth.

The scarified sweet clover seed was obtained, and it was inoculated with than fourteen inches. dirt taken from an old alfalfa field, using the glue treatment, and the seed was then mixed with the red clover seed in equal quantities. The ground was thoroughly worked with a disc of the sweet clover is that the few harrow, as it was comparatively free from grass, and a light seeding of oats harrowed in, the mixture of clover seed was then sowed, about six

about growing white sweet clover, the ground was dry enough to be worked.

> allowed to lie on the ground. The grown and turned down. But the botwas a good stand of the mammoth clover, but only an occasional plant of the sweet clover.

The original intention was to plow this clover under the next season, but help was so scarce and work so pressing that the mower was run over the sweet clover which had made out to live grew up and seeded during the remainder of the season, although the growth was probably not more

In part of this orchard there is a gentle slope, sufficient so that there has been some washing between a few rows of the trees, and a peculiar freak plants that made a stand were near the bottoms of these washes.

The third year this orchard was

stable manure and part of the trees seed to produce such a thick stand. The oats were clipped with the treated with sulphate of ammonia. toms of those runs was undisturbed, so further erosion should be guarded against, as much as possible, and there the volunteer sweet clover has come on quite thickly where the ground has been undisturbed, and a growth of two and a half feet has been made. Probably, however, some of the fertilizer soming and the mulch allowed to lie which might account for the increased growth.

A little of the seed remained after seeding this ground, and it was mixed with other clover seed that was applied to an open field sowed to oats a little later, with the idea of inoculating this ground with the bacteria preparatory to seeding it to alfalfa later. But, as in the orchard, hardly any of the sweet clover seed germinated, except in one low part of the field which, although tiled, was rather wet, and here there was such a stand that other grasses were smothered. plowed, rather, the plowing was done The sweet clover here grew as high or seven quarts per acre, and covered in December of the second year, and as the horses and so heavy that it was of nine hawks, 776 rats, 100 sparrows, with a light smoothing harrow. This during the spring it was worked with difficult to mow it cutting the whole and 2,235 mice, all in two weeks.

OCCASIONALLY some are inquiring was done as early in the spring as the disc harrow. The greater part of length of the mower knife. One would it has received a light application of not suppose there was enough of the

> While an application of lime might aid in securing a better stand of sweet clover in this soil, yet its tendency to make a growth in other ground of a similar texture but inclined to be wet would seem to indicate that the lack of lime is not here a limiting factor. Evidently, however, it is not wise to depend too largely on this plant without some experience with it .- Ed-

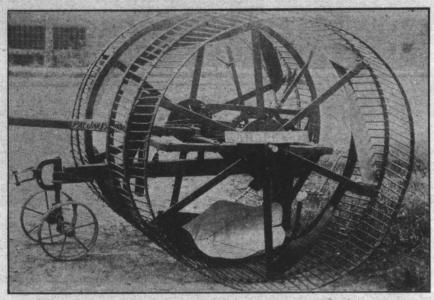
### WHY NOT HUNT MICE AS WELL AS FOXES?

P LANS to fight rats, mice, hawks, sparrows, thistles and flies are included in the township farm bureau programs now being received at the extension offices of the Ohio State University. Township-wide offensives against the most flagrant of the pests which combine to make country life not always Arcadian are popular this year. One township has already held its annual pest campaign, and celebrated with a township banquet the slaughter

### New Type Potato Digger

but yet light metallic wheels, six feet necessary to prove its value.-A. H. P.

A NEW idea in the construction of in diameter. Diagonal braces divert a potato digger has appeared in the tubers to the outer edge where New York State and brings out a new they are deposited in a continuous method not hitherto employed in the row, quite free of soil. The plow is harvest of the tuber crop. A reversi- adjustable in every wav and will opble plow does the work actuated by erate in any kind of soil that an orone team and a pair of heavy looking dinary plow will work. Field tests are



The Potatoes are Plowed Out and Thrown Into Revolving Drums.

### Making Drains Permanent

What to Watch For By Wm. Van Haitsma

no stronger than its weakest link," is more applicable than to a system of tile-drainage. The links in this chain are four in number. They are in sequence:

- 1. Planning the system.
- Selection of tile to be used.
- 3. Construction of the system.
- 4. Maintenance.

No drainage system will function long unless proper consideration is given to each. A failure in any system of drainage can always be traced to a. weakness in one or more of these links. In planning a drainage system it not infrequently happens that soil and subsoil conditions are not carefully studied when the depth and frequency of drains are being determined. As a result tile may be laid so deep, as has been done in several cases of which the writer has personal knowledge, that water cannot get down to them because of an impervious layer of sub-soil, above them. The result is little or no drainage. More frequently, however, tile are not placed deep enough, with the result that little or no drainage is obtained over a considerable area between drains.

No tile-drain is stronger than its weakest tile. A farmer in the eastern part of the state was obliged, last spring, to replace two carloads of soft clay tile which had broken down completely within a period of a few years after being installed. Numerous instances could be given of concrete tile having deteriorated to such an extent due indicated where they had been. It is poor economy to consider cost before quality when purchasing tile. The cheapest tile may be the most expensive in the end, and likewise the costliest tile, the least expensive. No one would think of building a good barn on a foundation made of material whose strength is questionable, and yet many farmers don't hesitate to use tile that show signs of being weak, in an equally expensive drainage system.

is frequently impaired or entirely de- where, "an ounce of prevention is stroyed because proper precautions worth a pound of cure."

most in a many and whose and 2.22. Safe, and in two weeks.

HERE is no farm improvement were not taken during its construction. to which the adage, "A chain is Often the tile are not laid to a true grade. Carelessness in grading results in humps and dips in the drains and a consequent reduction in their watercarrying capacity. If these faults are pronounced enough the tile will eventually become filled with silt. Allowing the walls of the trenches to cave in before covering or priming the tile often raises them above the required grade, and may cause gaps of an inch or more between adjoining tile through which soil can enter readily. Faultily constructed and poorly protected outlets are among the other sources of trouble that might be mentioned. The only way to insure against improper construction is to have the work done by a reliable, experienced contractor who places quality of work above quantity. A tile-drainage system should be a permanent improvement. Economy demands that every reasonable precaution be taken in its con-

> Proper maintenance and care are essential to the continued operation of a drainage system. It is hard to conceive of any neglect that is more costly than that of failing to periodically inspect and clean out catch-basins, and silt-wells; to replace broken tile, and to keep the outlet open and well protected against the entrance of rats, skunks, and woodchucks, who look upon them as homes built especially for their benefit. A case in which a skunk worked its way into a drain so far that it could neither go ahead nor back, was recently brought to our attention. This drain was completely clogged. Considerable labor and drainage to crops might have been avoided, had the outlet been given the proper attention.

Any farmer who contemplates installing a tile drainage system can insure its economy and efficiency by having the plan made by an experienced drainage engineer; by using none but tile of known strength and durability; by employing the most advanced methods of construction; and by giving it the attention it should The efficiency of a drainage system have, after completion. Here, as else-

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### Francisco Farm Notes

By P. P. Pope

Oh, it isn't any trouble just to s-m-i-l-e. It isn't any trouble just to s-m-i-l-e. If you get a little pig and grow him till

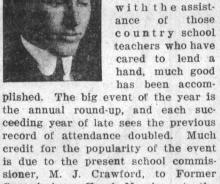
he's big, Then it isn't any trouble just to smile. spelling it). (Repeat, only just smiling instead of

spelling it).
(Tune: Glory, Glory Halleluiah).

RY this over on your sound-box. That is what nearly four hundred boys and girls did at the Round-up at Central State Normal last week, and it didn't hurt them a bit.

Boys' and Girls' Club day at the Normal School was the outstanding feature of the Farmers' Week program and such was the outpouring of the youth of the community that the event calls for special mention in these notes. Club work in the county has

been carried on for several years through the office of the county school commissioner, and with the assistance of those country school teachers who have cared to lend a hand, much good



the annual round-up, and each succeeding year of late sees the previous ed anywhere. The soil ceases to be record of attendance doubled. Much mud when we learn to look upon it as credit for the popularity of the event is due to the present school commissioner, M. J. Crawford, to Former share and treads upon," ceases to be a Commissioner Frank Morrison, to the Department of Agriculture of the Normal School, now in charge of George R. Wheeler, and to the Commercial Club of Mt. Pleasant, and the nearby subordinate granges for their assistance in feeding the gang. The annual dinner served free to the boys and girls is no doubt a strong drawing card, and the resources of the comin feeding the four hundred. The stor-

which extended to nearly double the looked for length, the cupboard closely resembled that of the venerable "Old Mother Hubbard."

The greatest attraction of the year, however, was the opportunity to meet again, their State Club Leaders, Mr. Turner and Miss Van Huelen, to learn from them more about club work, what they can do in it, and what it can do for them, to sing songs with them, to play games with them, to absorb from them some of their inspiration and enthusiasm that add interest and zest to the common everyday things, and make life on the farm a joyful, delightful experience, rather than a bare, humdrum existence. The greatest way in the world to take drudgery out of work is to put interest into it. Study it, think about it, learn all there is to know concerning it.

Farm animals cease to be brutes when we study their individual characteristics, their good and bad features, their habits of life, and really become acquainted with them, and it is a pleasure to watch their response to good care when we learn how to give it. Plants cease to be mere fodder when we learn the wonders of their miraculous growth and development, and a study of them will let us into a new world of absorbing interest not excella living thing, and "the sluggish clod which the rude swain turns with his clod when we consider it as a carrier of food for plants, as a host for living organisms, millions of them, upon which we daily depend for life itself. No one thing on the face of God's green earth is more fundamentally necessary to the welfare of future generations than a knowledge of the possibilities and limitations of our soil.

These are some of the things club missary were indeed taxed to the limit work teaches, but important as it may be that the boys and girls, through age capacity of those hungry country personal interest, and contact, and boys and girls was indeed marvelous, study, and practice, learn the how, and and when the long line was served the why of doing ordinary things well,

this is not the most important feature of club work. There is a psycological principal back of the whole program that is constantly held foremost. Boys and girls in their teens are bubbling over with energy, mental and physical. That energy is going to find expression in some form; encourage it, and it leads to healthy, normal development; curb it and it means mischief in some form. The club takes the boy or girl at this most impressionable period of their lives, and leads and directs that flow of energy into useful, wholesome, interesting channels. They are taught to play together, they are taught to work together, they are taught the spur of competition, and the power of cooperation. They are taught to be good losers as well as good winners. It centers its training around the health, the heart, the head, and the hand, and when the child properly completes the project and makes a satisfactory showing he is entitled to the 4-H emblem. Which is better, that your boy should belong to a club and be interested in learning how to raise the best pig or the best acre of corn in the county, along with good wholesome play, or that he should belong to the blind alley gang and be playing pirate? Would it be best for your girl to be learning the merits of canning or cooking or sewing or raising chickens, and experiencing the joys of work well done, or reading sensational stories?

There are clubs to spend your money,
There are clubs to join for fun,
There are clubs to chase along the cattle,

Or with clubs sometimes a game is won.

There are clubs we often swing for dumb-bells. There are clubs that father took to

me, But of all the clubs you here could mention, Are the Boys' and Girls' Clubs for me. (Tune: Smiles).

### SLEET STORM DAMAGE NOT SEVERE.

THE sleet storm which swept north-ern Michigan beginning on February 22, was very severe in Benzie County. Two and one-half inches of rain fell in twenty-four hours, and this at once froze as it hit the trees, causing a very thick coat of ice to form on every twig, limb, and branch.

The damage to orchards proved not to be as severe as was first feared. Following the storm the weather has been very clear and each day the sun has thawed the ice which came under its direct rays so that there has been a gradual dropping of the ice from the trees. This sunshine loosened the ice from around the buds so that when the ice was ready to fall, it fell with practically no damage to the limbs and left the fruit spurs intact on the trees. The buds were in an entirely dormant condition before the sleet formed on them, and hence have suffered practically no damage from this storm.

It is estimated that 2 per cent of broken limbs of the fruit trees will be a high average, if the peach trees are not counted. The most serious In passing along the highways we road there has been a continued fight damage occurred on peach trees which had been injured in the freeze of 4 years ago, but which have been trying to keep alive even though the wood may be dead. Thus we find that all Perhaps in a few years the June grass when it is in blossom or about a week of the varieties except Elbertas have been very badly broken down, but the Elbertas seem to have stood up better than any other peach.

Injury to apple trees is not very severe. Some few branches have been broken down on old trees which have not been cared for, whereas in the vigorous orchards which have been kept in shape by proper pruning and spraying, the damage is practically negligible.—James L. Kraker, County Agricultural Agent.

## Caring for the Roadside

How to Make It Pay

pleted these roads should have a niceroadside.

some suitable grass seed with a nurse later on in that season. crop to keep the weeds from getting the start of the grass. Whereas we moved into it that winter and for the new road to do this himself.

lected than cared for, consequently ble reward for labor expended. these neglected roadsides are growing weeds out and make a decent looking roadside, but at that think of the work without pay that we have been secured the three-fourths to a ton a doing keeping these weeds down and year extra of hay above what he otherif the weed seed that has been distributed about, also think of the poor advertising this carelessness has given pared to a great many stretches of

Seven years ago last fall such a road was built along the farm that now belongs to the writer of this article. The tiful.-M. G.

HE last two years and the next next spring the then owner of the THE last two years and the next next spring the few years will constitute an era of farm disced and dragged his side of road building. When properly com- the road into a very finely pulverized condition and sowed it to alfalfa, sowly graveled roadbed with a well-shaped ing with it a small amount of oats for a nurse crop. When the alfalfa had The laws of each state should see to 'a good start the oats was mowed down. it that these roadsides are seeded to The owner cut one cutting of alfalfa

The writer purchased the farm and have no such laws it would be a wise past five years has cut three cuttings thing for each farmer living along a of alfalfa a year along his side of the road while on the opposite side of the have noticed that this is oftener neg- against the weeds without any suita-

There is no other grass that makes up to ragweeds, docks, thistles, etc. as beautiful a roadside as the alfalfa will get a good start and crowd these after it has been cut when the next crop is just getting started.

The writer feels that if he had not wise would have had, that the looks of the roadsides along his farm comroadsides in his county would have been big pay for all the seed and time expended in making the roadside beau-

### News From Cloverland

#### CONSERVATION WORK APPRE-CIATED.

THE Calumet News expresses appreciation of the action of the State Department of Conservation in making the supply of fish fry for the upper peninsula five times this year the amount of former years. Favorable attention is also called to the successful establishment of the ring-neck pheasant in this region, and additional plantings are due to be made, it is stated.

#### SOME UPPER PENINSULA LIVE STOCK FIGURES.

THE annual live stock summary for Michigan of the United States and the State Departments of Agriculture cooperating, show that the estimated number of horses in the upper peninsula, on January 1, 1922, was 25,260; of dairy cows, 67,880; of other cattle, 29,510; of sheep; 24,890; of swine, 23,-120. Chippewa county led in the number of horses with a total of 4,630, folowed by Menominee county with 4,250, and Delta county with 3,150. In the

mite crews, two horse-power pullers, two or three hand-power pullers, as well as home-made pullers in operation. Stumps will be moved by teams and tractors. A gin-pole will be used to show the use of the Frost trip. All stumps will be cleaned up and piled. The tractors will operate several breaking-plows during the latter part of the day. A record of attendance and work will be kept and every man who completes the day's work will receive a certificate from the Michigan Agricultural College stating that he has completed the land-clearing shortcourse. Where possible a demonstration of ditch blasting in wet land will be given. A guarantee of at least thirty men as participants in the school is required. The farmers will do the work and hence learn by doing, with the assistance of the crew.

#### CLOVERLAND SUITABLE FOR BEES.

MR. T. R. SHANE, agricultural agent of Chippewa county, discusses the possibilities of bee-keeping in Cloverland, referring to the pres-



BOTH ekplosives and stump pullers are required to secure the maximum of efficiency in the removal of many types of stumps. The picture shows L. F. Livingston, who is in charge of the great Michigan Land Clearing campaign, standing beside a stump which has been split with a small charge of explosive. The fragments can now be removed by horse power.

and by Chippewa county with 8,020. In other cattle Menominee also led with 5,600 head. Houghton county led in number of sheep, 4,560, followed by Delta county with 3,680, and Dickinson county with 3,380. Menominee again led in the number of swine, which was 6,700, followed by Chippewa with 2,820, and by Delta county with 2,630.

### THE LAND-CLEARING DEMON-STRATIONS.

M R. L. F. LIVINGSTON, land-clearing specialist of the Michigan Agricultural College, has issued instructions for those in charge of the local arrangements for the farmers' short course in land-clearing that is to be put on in the upper peninsula this spring. The local committee, in cooperation with the agricultural agent of the county, is to have complete charge of these local arrangements. In selecting a field for operations, a typical field should be chosen. It should be free from brush and down stuff to avoid delay in its removal. Stumps, not brush, are the objective in these the road. The owner of the field is to

number of dairy cattle, Menominee led ence of wild clover and other wild with 15,290 head; this county was fol- flowers as favorable to this industry, lowed by Houghton county with 9,470, and he refers to the purpose of the state apiary department, cooperating with the agricultural college and the Upper Peninsula Development Bureau, to establish an extension service to assist farmers in learning correct methods of handling bees. It is planned, it is stated, to give assistance throughout one season to anyone who will undertake the keeping of a few colonies of bees and will make an effort to learn the principles of beekeeping through study and practice. An expert in bee-keeping will visit the bee-keepers frequently during the season, it is stated. It is thought that many farmers in the upper peninsula should be able to keep a few colonies and that it affords a special opportunity for an enterprising boy. The Chippewa agent expects that a number of his farmers will undertake this project in the coming year.

### GOGEBIC COUNTY TO GIVE TU-BERCULIN TEST.

THE Gogebic County Board of Superviosrs has authorized the employment of a veterinarian to give the tuberculin test to cattle. Operations schools. The field should be close to started March 1. Early in February, according to the Ironwood Daily Globe, furnish two teams, with double-trees twelve hundred head of cattle had and draught-chains, and he will pay been offered for the test. The county for the explosives used. It will help is financing this work which is under to have a community dinner locally the supervision of the agricultural provided. There will be several dyna- committee of the board of supervisors.

### Did you ever try Grape: Nuts with stewed prunes or peaches?

THERE isn't anything bet-L ter for breakfast or lunch than a dish of Grape-Nuts, with cream or milk, and stewed prunes or peaches.

This delicious combination gives you the elements of a well-balanced food. For it contains not only the material needed to build tissue and furnish energy, but it also supplies fruit acids, that help keep the system in good order.

Go to your grocer today and order a package of delicious Grape-Nuts. You will find that it will digest more readily than most other cereals, and it will "stay by" you longer—because it's so richly nourishing.

Grape: Nuts for Health 'There's a Reason'

> WELL-FED plant A resists disease.

Potatoes, Truck Crops, Tobacco, and Sugar Beets are often attacked by diseases that thrive on ill-fed plants.

The effects produced on these crops by Potash hunger have often been mistaken for a new disease.

Fertilizers for these crops should be well balanced and should contain from 7 to 10 per cent. of Potash.

You can get plenty of Potash if you insist on having it.

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POTASH

STRAWBERRY PLANTS

### OUR SERVICE DEPARTMENT

### TREE IN ROADSIDE.

My farm is on a state cement road and I have one large maple tree just outside of my roadline. Can I cut it, outside of my roadline. Can I cut it, or do I have to get permission from the highway commissioner?—Reader.

The owner of the adjoining land owns the tree and may do as he wishes with it. No permission from the highway commissioner is required .-J. R. R.

### BONA-FIDE PURCHASER.

A has a farm and puts up silo, giving a property note to the silo company. He sells the farm to B and does not tell him that the silo is not paid for. A's wife signs papers that every-thing is free from encumbrance. Can the silo company take the silo away from B, or can A be made to pay the note?—C. E. N.

A is liable on the note. B being a purchaser for value and without notice is entitled to hold the farm and the silo free from the claim of the manufacturer and seller of the silo. The company cannot take the silo away from B.-J. R. R.

#### LIME ESSENTIAL TO SUCCESS WITH ALFALFA.

I would like to seed six acres to al-falfa this spring. It is in wheat now. I plowed under the second crop of clo-ver last fall and put manure and 225 ver last fall and put manure and 225 pounds of acid phosphate on. I have no trouble to get a catch of clover. It is sand loam. Do you think I could grow alfalfa? I haven't any money to buy lime at present. There has been alfalfa grown in another field about fifteen years ago. I will inoculate the teen years ago. seed.—F. A. W.

It is seldom that alfalfa will catch under conditions such as you describe. In western Michigan where clover does not catch on sandy loams, lime or marl is almost invariably needed. It is usually necessary to apply two tons of finely ground limestone or several cubic yards of marl in order to put land in shape to receive alfalfa.

Where red clover fails a mixture of red and alsike clover (six pounds of red and three of alsike) will often give much better results.

Would suggest that you send a sample of your soil to the Soils Department of the Michigan Agricultural College, East Lansing, with request that a lime requirement test be made. If it proves acid it would not be advisable to seed alfalfa until the land is limed.—J. F. C.

### A DAIRY RATION.

Kindly tell me what would be a balanced ration for my cows. I am feeding about fifteen pounds of ensilage morning and night. Ensilage made of corn with some soy-beans. Also am corn with some soy-beans. Also am feeding alfalfa hay, but soon will have to feed red clover hay once a day, and shredded cornstalks once each, day. Have been feeding ground corn and oats, but will buy whatever grain is necessary to make balanced ration.—M. G. W.

hay and cornstalks; silage twice a day, clover hay and cornstalks each der will give a higher yield of total once daily.

ground oats, 300 lbs.; oil meal, 150 lbs.; cottonseed meal, 150 lbs.

oats, and a mixture of oil meal and cottonseed meal, one-half each. Feed this mixture at the rate of one pound to every two and one-half pounds of leguminous crop and has the ability to ture which makes it quite difficult for third and the children two-thirds.milk in the case of the Jersey; one make use of the nitrogen of the air, the young plants to get started. It is J. R. R.

case of the Holstein.-J. A. W.

#### HAS NO RIGHT.

A ate his meals at B's (his son) and in return B was allowed to use the team, produce from two cows, half of crop, and only furnishing half. A furnished half, of meat and flour, half of telephone rent and, being handy with tools, A kept everything in repair and drove the horses during haying. A has a will, but the children do not know what is in it. There are five children. B feels that he has made a home for A these thirteen years and thinks that he should have more than an equal share with the others. Two of the daughters cleaned A's house and did all A's washing. Should B have more than an equal share?—A. C. F.

He has no right as a matter of law. He should have whatever share A thinks he should .- J. R. R.

### LOST INSTRUMENT.

A and wife buy a farm, mortgages to B and wife. A assigns alone to C. The original mortgage and assignment is lost, but is duly recorded. C assigns to D. D discovers from copy of assignment that B's wife did not assign to C and demands that she do so, which she did. Does D lose any rights through the loss of mortgage and assignment, and would D have a perfect title without B's wife's signature?—R.

If A and wife own a farm subject to a mortgage they can convey their interest without the mortgagees or either of them joining in the conveyance but the purchaser would take it subject to the mortgage. If title to the land stands in the name of husband and wife, neither can convey without the other joining. The contents of an instrument can be proved from the public records as well as from the original.-J. R. R.

### LIABLE TO INDORSER.

I went security for a man for a team, wagon and harness. He sold them and paid the chattel mortgage of them and paid the chatter mortgage or \$100 that still left a mortgage on my property for \$104 which I had to pay. He gave a note signed by himself and wife for this last amount, but he said he would never pay it. I put it in the hands of a collector and he got a judgment on them and has collected about \$280. \$30. The amount of money I received lacks \$4 of paying interest up to last spring. What can I do to collect this?

The person whose note is indorsed is liable to the indorser for whatever the indorser paid on the note as soon recovered by suit against the maker. —J. R. R.

### VALUE OF SOY-BEANS.

shredded cornstalks once each, day. Have been feeding ground corn and oats, but will buy whatever grain is necessary to make balanced ration.—

M. G. W.

You may replace alfalfa hay in the ration by adding a little oil meal and cottonseed meal to your grain mixture. The following grain mixture should give good results with silage, clover these plants, a comparison of these plants with that of fodder corn for these purposes.—E. E. O.

Index seen several interesting articles treating on the subject of using soy-beans and winter-vetch as substitutes for hay and plowing under for fertilizer in places where clover fails to grow or seedings of that plant are lost. Would you kindly publish the experience of those who have tried these plants, a comparison of these plants with that of fodder corn for these purposes.—E. E. O. I have seen several interesting arti-

digestive nutrients than soy-beans. The mixture: Corn meal, 300 lbs.; However, soy-beans will contain a larger amount of digestible protein that As you will note, this is a mixture milk. In the southern half of the

pound to every three to three and one- while the corn plant secures all of its also usually necessary to remove some half pounds produced by the Durham nitrogen from the soil. Winter vetch condition that caused the first seeding cow, and one pound to every three and is also a leguminous plant and valu- to be poor, such as lack of drainage, one-half to four pounds of milk in the able for seed production, and as a crop an acid soil or soil low in fertility. to plow under. It is customary to sow vetch during August, drilling in a the old seeding, would suggest that bushel of rye and from fifteen to twen- you sow from four to six pounds of As a crop to plow under, rye and vetch drill, if one is available; if not, seed is valuable because it makes its growth broadcast and cover with a spike-tooth during the late fall and early spring harrow .- C. R. M. months when the land is not being utilized for other crops.-C. R. M.

#### ORAL CONTRACT PERFORMED ON ONE SIDE.

I have forty acres which was joined on west and north by another party. The other party and I had a verbal agreement that I fence the west side and he fence the north. I put up my part of the fence, but he never did his. In the meantime he sold the forty on the west and later died. His widow married again and now her husband refuses to fence the north end. Can I take one-half of my fence down on the west side? If I can take this fence down, can I pasture this forty on the west of me, and if they open the gates what can I do?—G. M.

The oral contract performed on one side is binding on both parties and though the other party sold to one who took without notice the division is just as effectual as if it had been in writing, signed and recorded. The subsequent purchaser is bound by it .-

#### RATION ALL RIGHT.

Please advise me as to feeding grain ration to dairy herd. I am feeding night and morning, on an average of ten pounds daily, a mixture composed of the following: Oat bi-products, 100 lbs.; ground oats, 100 lbs.; ground beans, 100 lbs. Would any of this feed prevent a cow getting with calf?—L. J.

The grain mixture you are feeding should not affect the reproductive functions of your dairy cows, provided, of course, the feeds are free from all detrimental material.-W.

### NEGOTIABLE INSTRUMENT.

A gave a note to B over three years ago, note to mature in one year. A gave the note as his own personal debt, but had his mother sign at the bottom of the note, with him as the indorser. If A does not pay the note, can B collect it from A's mother who owns property, Would B have to notify both A and his mother when the note became due? B has been told that note became due? B has been told that a note given by a son and endorsed by his mother is not collectable under the laws of Michigan.-C. M. F.

Notice of non-payment must be givas the payment is made. This can be en to the indorser unless on the face of the instrument or above the indorsement there is a waiver of protest and notice of non-payment. If notice of non-payment is properly given the indorser is liable unless some special reason exists why he should not be. For example, a married woman is not liable upon any instrument as an indorser unless for her own debts.-J. R.

### RENEWING OLD STAND.

I have about six acres of sand land Under Michigan conditions corn fod-er will give a higher yield of total last year, and on which I desire to last year, and on which I desire to last year, and of alsike, particularly. Would it be practical to reseed this field without replowing and refiter amount of digestible protein that ting the ground as for a new seed-will be of more value in producing ing?—W. E. R.

It is not usually profitable to try to of equal parts of corn meal, ground state, both corn and soy-beans are thicken an old stand while the seeding very dependable crops. Soy-beans still remains on the ground. The old would be more valuable to plow under plants tend to shade all the young

If you wish to attempt to thicken ty pounds of hairy vetch seed per acre. alsike seed, using a disc clover seed

#### ALFALFA ON WHEAT.

Two years ago I had a field pretty well seeded to sweet clover, then I plowed that under, sowed it to oats. Next it was plowed and sowed to wheat, using 100 pounds of fertilizer to the acre. Would there be any possibility of a catch if I sowed alfalfa on the wheat this spring?—I. S. T.

There is everlent convertunity for a

There is excellent opportunity for a catch of alfalfa sown on wheat on fairly fretile land which has been limed or naturally does not need lime. Native grown alfalfa seed from the northwest, preferably the Grimm, should be used. Would recommend seeding at the rate of eight or ten pounds of Grimm or from twelve to fifteen of common in April. If broadcasted, follow broadcasting with cultipacker or spike-tooth harrow with the teeth slightly slanting so as to cover seed .- J. F. C.

#### SUDAN GRASS.

I would like some information about Sudan grass. mended. Wil ass. Have heard it recom-Will it grow two crops in northern Michigan and how much seed would it require per acre?—H. B.

Sudan grass is proving valuable, both as a temporary hay and pasture crop. It may be sown from May 10 to June 15, the earlier day, however, is to be preferred. Sudan does best on good corn soil and should be sown at the rate of from twenty to twentyfive pounds of seed per acre. It is seldom that two crops of hay are secured during one season in northern Michigan.—C. R. M.

### FERTILIZER FOR POTATO GROUND.

I have a piece of ground about five acres, which is gravelly. Have used this for pasture the last four years. I wish to plant this ground to potatoes this coming season. Would like to fertilize. What time should I apply the fertilizer, What kind and how much? The ground is a few feet above muck land level.—T. E. S.

A fertilizer carrying two to three per cent of ammonia, ten per cent of phosphoric acid and four per cent of potash should give good returns on a potato crop on the land described. This fertilizer should be used at the rate of 300 to 400 pounds per acre, either broadcasted on the land and worked into the soil by means of a harrow, or put into the soil by means of a-grain drill. This material should be applied only a few days previous to the planting of the potatoes.-C. M. G.

### SECOND HUSBAND HAS NO

A marries a widow who has inherited a farm from her first husband by joint deed. Has one daughter. What interest has A in the farm, and what share, if any, can A hold at death of wife? What share can wife hold of personal property of first husband.-O. A. D.

A has no interest in the farm and can hold none at the death of the wife. Of the personal property of the due to the fact that the soy-bean is a ones and also use the available mois- first husband, the widow takes one-

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### New Spraying Suggestions

Prof. Halligan of M. A. C. Recommends Some Changes for Greater Efficiency

THE Michigan Agricultural College ture department have demonstrated is recommending a number of new sprays for the first time, Prof. C. P. 10 days to two weeks before harvest Halligan announced in his address. His address in part follows:

Spraying experiments the past few years have demonstrated the desirability of a prepink spray for the control of apple scah, especially on Duchess and all varieties suspectible to scab. This spray should be applied when the blossom buds are first showing pink but before they have separated in the cluster, using 11/4 gallons of lime sulphur solution to 50 gallons of water, or bordeau mixture. This spray is to control the primary or first infection of apple scab which we have ascertained sometimes takes place before the pink spray.

For the prepink and pink sprays

either lime-sulphur solution (11/4 to 50) or bordeaux may be used but for the calyx spray, which is recommended to be applied just after the petals fall, and for the succeeding spray two weeks later lime-sulphur solution (11/4 to 50) with 1 pound of arsenate of lead is recommended in preference to bordeaux, using nicotine sulphate if plant lice or red bug are present.

Peach trees should be inspected carefully for scale insects and if present, a strong lime-sulphur spray (61/2 to 50) should be applied just before the buds begin to swell and the bud scales loosen. This spray also will control peach curl. When no scale is present a spray of 21/2 to 50 strength may be used.

the efficiency of sulphur dust, applied as a means of preventing the development of the brown rot during the ripening period or directly afterwards while the peaches are in transit.

We are recommending for the first time that a dormant spray for pear psylla should be delayed until the blossom buds are showing white and are just beginning to separate in the cluster. While a strong sulphur spray (6¼ to 50) may cause some injury at this time, it will do much to destroy the eggs of the psylla and hence the foliage which may result will not be sufficient to offset the beneficial effects of this spray.

In pear orchards where psylla is not present a prepink spray as with apples is recommended as a means of controlling the scab. This should be applied just as the blossom buds are showing white but before they are separated in the cluster, using Bordeaux mixture or lime-sulphur (1 to 50) to which add 1 pound of arsenate of lead powder to every 50 gallons of water. Since the primary infection occurs before the succeeding spray the prepink spray is recommended in all orchards where the delayed dormant for psylla is not used.

The lime-sulphur dust compound of 90 per cent fine sulphur and 10 per cent hydrated lime applied 10 days to two weeks before harvest, has proved very effective in controlling brown rot Recent experiments by the horticul- in plums during harvest and shipping.

creasing many fold more rapidly than that of the rural communities. Now this can portend one thing only, continued high prices for the products of the farm, with a not long to be delayed struggle among the laboring people to keep their heads above water and make both ends meet.

The safest investment a young man can make is in land capable of producing crops of potatoes, corn, hay and fruits. The future great man of Ameriica is not the great steel manufacturer. the coal baron or the railway captain, but the tiller of good old mother earth, no longer designated with a sneer as "mossback," "sod-buster," or "country

Such absurdities and malicious remarks belong to the dead past. The agricultural class is coming into its own. An English country gentleman has always been honored and envied. In the near future the American country gentleman will be the peer of the aristocracy of any country on the

A prosperous and contented farming community makes for the stability of our republican institutions. It is to be regretted that so many look askance at the rising prosperity of our rural citizenry. Agriculture is undeniably the foundation as well as the backbone of our country. It was the sturdy patriotism of the farm workers coming to the rescue in the days of war that held the American lads in solid array on the fields of France and Belgium. The products of American farms saved the day at Chateau Thierry, Argonne Wood and along the historic Rhine.

There is no part of the agricultural field more enticing, less distasteful, than that of fruit growing.

It needs many new hands to carry on the work so as to give every American family their fill of juicy, healthgiving fruit from year's end to year's end. Fruit juices are the healing medicines of our land which, however much the use of the same cuts into the profits of the medical fraternity, gives health and strength to the generations yet to come.

The more fruit consumed by the people the better the health. Then is it not worth one's while to prosecute a business that, while bringing in the sheaves of prosperity, caters as well to the good health of all? More apples, and still more apples. This is the cry that is going up in this land, from the remotest cabin to the national White House at Washington.

As I said at the outset, the fruit industry of America is in its infancy. At one time even the wholesome apple was considered a luxury by a large majority of the inhabitants. The writer of this was grown to manhood ere he looked upon an apple tree in full fruiting. Reared in the wilderness, the only apples that found their way to the backwoods home came through the dubious channels of trade from far away orchards. That fruit, however, was regarded with rare appreciation. As a boy I once traded two large ripe watermelons for a single green, sour apple! You can well understand by this how we boys of the woods valued the fruit of the apple tree.

The man or boy who sets his mind to studying horticulture For the benefit of the rising genera- as worthy of the least consideration. getting into the swim while the swimming is good will surely make no mistake, and will thereby open the way to an enjoyable vocation which is as certain to make him well to do in this world's goods as the sun is sure to rise again in the east on the dawning of tomorrow.

> Says Sam: The fellow who makes good at farming has got to keep his mind and his body moving at the same time, and in the same direction.

Besides devouring 116 species of inapples, the man who did not neglect The urban population of the country sects, most of them harmful, quail eat



### Horticulture in Its Infancy

By J. M. Merrill

fant may be, he has scarcely cut his eye teeth, the future holding out very flattering prospects for those who enter this work with a love for it and a desire to make good.

Apples, once a leading farm product in the middle west, are becoming less abundant every year. The price alone indicates the depths to which this splendid feature of agriculture has fallen. Apple raising has been very much neglected, especially in the east and the middle west, once so famous for this delicious and healthful fruit.

Many of the orchards in Michigan have lost their vigor. Suffering from neglect most of them are not producing one-half what they ought; many more orchards are suffering from blight and scale, others dying, many dead.

tion, as well as for the good of the The. World War revolutionized the farmer himself, this state of things farming conditions of the whole world, ought not to be. The cause for much of this neglect of orchards has been brought about by the low prices in the last two decades before the World not in a generation at least, perhaps War. "It doesn't pay to raise apples never. in competition with the western big orchardists," declared one farmer in safety to the republic. We need not the hearing of the writer. And this look for starvation prices or starvation might possibly have been true in a wages within the next decade. Right measure, yet with the very closest now the most important and concerntimes, and the big crops of unsalable ing proposition is that of production.

N a business sense horticulture is in and sprayed his trees, there was alits infancy. However lusty the in- ways a fair profit which the neglectful one failed to receive.

Nothing that lies in the future can be more assured than the success of the painstaking fruit grower. I have labored through heat and storm in the days of low prices, and yet succeeded fairly well. The tomorrow of the husbandman is bright with the sunshine of the greatest promise ever vouchsafed to man. The one who sees the beckoning finger just ahead is the one who is, in the near future, to ride in his limousine, and stand among the successful men of the time.

Apples of fair appearance, many of them, however, of second grade, have retailed all winter for good prices. When I was on the farm not so many years ago, fifty cents to the farmer was considered a fair price. The then fair price would not today be accepted more especially those of the United States, and the low prices of ante bellum days are not likely to be repeated.

A well paid agricultural class lends his orchard, who cultivated, enriched as the next census will show, is in- sixty species of weed seeds.

### FARMERS AND RADIO SERVICE.

HE radio not only makes the isolation of the farm a thing of the past but brings quickly to the farmer the agricultural information needed in .the intelligent conduct of the farm business.

The broadcasting of weather, crop and market reports is the most important use to which the radio is now being put, in the opinion of various radio experts attending the radio conference now in session at Washington.

"There is no single use of radio, except for marine and aerial purposes, that should take precedence over its utilization for the benefit of agriculture," stated W. A. Wheeler, delegate representing the United States Department of Agriculture at the conference. "There are more than 32,000,000 people on farms, comprising nearly one-third of the total population of the United States. Most of these people are lo-



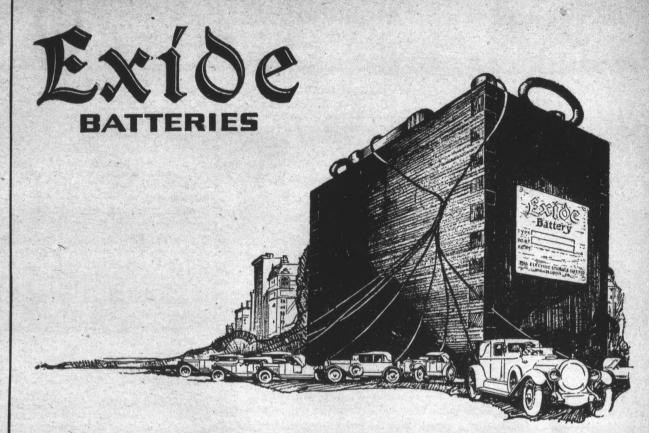
Boy of Nineteen Invents the Smallest Radio Set in World and Hopes to Further Reduce Size One-half More.

cated where they are practically cut off from immediate contact with the outside world. The radio is the only means of getting to them quickly at small cost the economic information necessary in the proper conduct of their business."

Daily market reports on the live stock, grain, hay, feed, fruits and vegetable markets are broadcast over virtually the entire United States by the radio stations of the post office department. Farmers located almost anywhere can receive them either direct or with the assistance of amateur operators.

Anything in the way of entertainment that will afford the farmer even a slight diversification from his daily labors will immeasurably redound to the benefit of the whole nation. In many instances the only entertainment the farmer has comes by radiophone.

The time element in dispatching eather, crop and market news big factor affecting the value of such reports, Mr. Wheeler said. In cutting hay or harvesting grain, for example, an hour's delay in the dispatch of weather reports may mean a loss of several thousand dollars. An early morning report on market conditions and the estimated receipts at the market that day is of great value to the live stock grower about to ship a carload of hogs to market. Prompt daily reports on the fruit and vegetable markets enables the farmer to determine when and where farm products are most needed and to arrange his ship-(Continued on page 331).



### The First Automobile **Starting Battery**

Not so long ago all automobiles were cranked by hand. The year 1911 saw the first car regularly furnished with electric starting and lighting equipment. It had an Exide Battery. Today more cars leave the factories equipped with the Exide than with any other battery.

Not so long ago farms were lighted by kerosene lamps; and farm work, like churning and pumping, was done by hand. Now, tens of thousands of farm homes have the modern comfort and economy of their own electric light and power plants—and a large majority of such plants get their current from sturdy, long-lasting Exide Batteries.

The entire history of storage batteries in all fields has been little else than a record of Exide accomplishments. Bear this in mind when it becomes necessary to replace the battery in your automobile. The experience built into the Exide, made for your car, means something to you. It means a long-life battery of always-dependable power.

That is more than a convenience; it is a genuine economy.

The Electric Storage Battery Co., Philadelphia

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Fits any car, Attach yourself. Fords make as high as 34 miles to gallon. Other cars show proportionate saving. Send make of car and take advantage of our special 30-day trial offer. Agents Wanted AIR FRICTION CARBURETOR CO. 8360 Medison Street Dayton, Ohlo



OATS—"Burt's Heavyweight" Test 38 lbs. per bu. Also Early SEED CORN. Get our low price, samples and catalogue. THEO. BURT & SONS, Melrose, Ohio

## Detroit's Fourth Annual Builders' Exhibition

Opens in the New Twenty Million Dollar Administration

### Building of the General **Motors Corporation** March 18th

and runs all the following week, up to and including Sunday, March 26th. Farmers generally can well afford to attend this Builders' Exhibition as it includes hun-

Gen'l Motors Bldg March 18th to 26th incl.

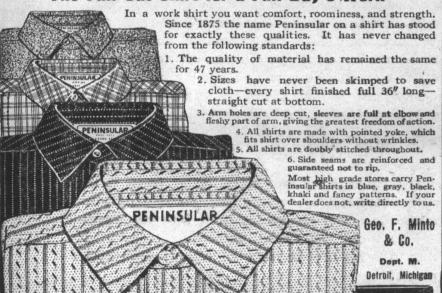
Detroit's Fourth

dreds of things that form a large part of the equipment and building materials that the farmer must use.

Why not take a run in? And besides you might become the owner of a City Home Free as the Exhibition Management will give away absolutely free to somebody attending on a Paid Ticket costing 25c; First, a Residence Lansing. In late April it is hoped to Lot in Glendale Gardens, value \$1500; second, \$300.00 in start the local grading, weighing and cash; third, \$200.00 in cash; fourth, \$100.00 in cash, and besides all this the educational features may prove to be invaluable to you. Come on in, the price of admission is only 25c. No other fee or charge whatever.

Detroit Builders' Exhibition, Inc.

'The Full Cut Shirt for a Full Day's .Work'





### "Orchards in Blossom Time

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### Farm Organization News

UPPER PENINSULA GRANGE MEM- be loaded direct to the central ware BERSHIP.

THERE are thirteen granges in Delta county, with 611 members, according to the 1921 report of the Michigan State Grange. Delta leads in the number of granges of the various counties of the upper peninsula. Chippewa's eleven granges give that county second rank, while Marquette is third with ten granges. Of the remaining counties Alger has three granges, Baraga six, Dickinson six, Houghton six, Iron four, Mackinac four, Menominee eight, Ontonagon five, Schoolcraft seven, while Gogebic and Luce have no granges at the date of the report, namely, June 30, 1921. The aggregate membership of the upper peninsula granges was 3,537.

#### WOOL POOL FOR 1922.

THE Michigan State Farm Bureau has opened its third, or 1922, wool pool by announcing that wool will be received at the central warehouse in cash-advance campaign which was a feature of the 1921 pool. In 1922 a cash advance of forty per cent will be made on the current estimated value of the graded wool.

The 1922 farm bureau wool pool is to be managed by Don Williams, formerly sheep and wool extension specialist for the Michigan Agricultural College. He was connected with the 1921 wool pool as educational and field man. Mr. Williams took charge of the 1922 pool March 1. "He is assisted by Mr. Walter Davies, who will supervise the wool grading and sell the 1922 pool, with the advice of the farm bureau administration. Mr. Davies was eastern sales representative for the 1921 pool and established direct-to-mill connections for the Michigan pool which largely eliminate the jobber from the Michigan pool. Both Mr. Williams and Mr. Davies have seen commercial wool service with big eastern wool houses.

The 1922 farm bureau wool pool is a strictly one hundred per cent farm bureau proposition, said Clark L. Brody, secretary-manager of the farm bureau. The bureau is financing the pool with the assistance of the banks; there is no financial connection between the 1921 and the 1922 pools. All men connected with the pool are farm bureau employes on a salary basis; no commissions are being paid this year. Heretofore the pool has required outside financing. Mr. A. J. Hankins, in charge of the first two pools, gave financial assistance required and piloted the wool pools through wool market conditions that were beset with difficulties. Mr. Hankins is now closing the books of the 1921 wool pool, preparatory to final settlement with the wool growers, and will retire at the close of the 1921 wool pool to devote himself to his own business interests.

State Farm Bureau wool pool represouthern Michigan to establish gradcent advance given in 1921, due to an strike is worthy of all commendation." improvement in wool values.

This year wool will not be stored locally as was done in 1921, but will Thomas Browne.

house for assembling in large lots and for sale. Experiences of 1921 proved that the local grading, weighing and cash advance plan was most satisfactory to the growers and that centralizing of the graded wool would effect savings to the pool. Big buyers prefer to have the wool assembled in one place. The 1922 wool pool advances to growers, based on prices prevailing

Value March 9.	40%	
Value March 9. Delains, 45c	18c 14c 16c 14c 15c	
Quarter clothing, 30c Low, 26c Braid, 24c Discounts, 24c	12c 10c	

### GRANGE NEWS.

AT a meeting of the National Grange executive committee in Washington, March 7, it was decided to hold the next annual session of the National Grange at Wichita, Kansas, beginning November 15.

Speaking of the activities of the grange while attending this meeting, Leslie R. Smith, of Massachusetts, said the Massachusetts State Grange loans \$150 a year for four years at two per cent to members of the grange attending college. There are forty young men and women availing themselves of this loan as an aid to securing an education.

Dr. T. C. Atkeson, Washington representative, said that the grange now has a larger membership than at any time since the early boom days of the year 1872.

### FARM BUREAU DUES LEGAL DEBT.

RARM bureau dues were held to be a legal debt in a test case February 27, heard in the Pontiac, Oakland county, courts, when the Oakland County Farm Bureau brought suit against a member for the collection of \$10 farm bureau membership dues. The suit was brought to determine whether the charge would stand in the law. Justice Fredenburg ruled that it The ruling is important in its bearing upon the collection of delinquent dues throughout the State Farm Bureau organization.

#### GRANGE OPPOSED TO COAL STRIKE.

EVERAL senators have given their hearty approval of the grange move to create public sentiment in opposition to a coal strike. Senator Mc-Nary says: "An aroused public conscience is the very best of remedies to meet situations of this kind and I wish God speed to the great movement set in motion by the National Gran

Senator Frank B. Willis, of Ohio, sentatives will soon be investigating endorsing the grange leader's position, "Unless in a great free governsays: ing stations at the most efficient ment like ours, a better method can points. The local grading campaign be found of settling our industrial difis planned for late April. As in 1921 ferences than by tying up the wheels farmers will see their wool graded, of industry and cutting off production, weighed and will receive their ware- it must be confessed the government house receipt and cash advance at is largely a failure. The effort to creonce. The forty per cent advance on ate a strong public opinion in favor of 1922 wool is several cents better on the settlement of disputes without the most grades than was the fifty per unfortunate depressing effect of a

"Nature is the art of God."-Sir

### OPPOSING SALES TAX.

THE aggressive fight in opposition to the proposition to raise the money with which to pay the soldier's bonus by a sales tax, made by the agricultural blocs, headed by Senator Arthur Capper, of Kansas, and Congressman Frear, of Wisconsin, and Dr. T. C. Atkeson, Washington representative of the National Grange, Gray Silver, Washington representative of the American Farm Bureau Federation, and other farm organization leaders, resulted in the rejection of the sales tax by the majority members of the Ways and Means Committee of the House by a vote of 7 to 2. Friends of the sales tax say they will continue their attempts to attach some sort of sales tax proposition to the bonus, nevertheless there is a slim chance of their succeeding in their efforts during this Congress.

### TILE DRAIN.

Has anyone the right to put tile across another man's farm to drain his own, if he is in the water shed of a county ditch? If he is not in the water shed? Also what percent would each pay if it helps to drain both farms?—M. S.

No man has a right to enter upon the land of another to dig a ditch unless by the other's consent or by virtue of the provisions of the statute concerning drains. Whether the ditch is an open one or tile, the statutory steps must be followed .- J. R. R.

### HOME-GROWN ALFALFA SEED.

Will you please give me any advice you can on alfalfa, if advisable to sow home-grown seed? Best seed for light soil. Would you sow timothy seed with alfalfa? Which is the best time to sow?—E. C. H.

Home-grown alfalfa seed that has been properly cleaned is excellent for Michigan. If this is not available (as usually there is only a small quantity in any locality), it would be advisable to use northern grown Grimm or common. The Grimm is to be preferred since it is hardier and gives a more enduring stand. It is best on either light or heavy soils.

It is sometimes a good practice to sow a pound or so of timothy per acre with alfalfa on soils that are variable in fertility and condition of drainage. The timothy will fill in many places where alfalfa does not start well. A slight planting of timothy disappears when the alfalfa stand is established several years.

From eight to ten pounds of Grimm seed or from 12 to 15 pounds of common alfalfa should be used. Seeding should be made on a firm, clean seed Ground which was in corn, beans, potatoes or beets last year can be fitted for alfalfa through discing.

Soil carrying considerable grass should be spring plowed and worked until mid-summer, seeding at that time on a rolled seed bed. Ordinarily, seedings made in April or early May give best results, since they get the most rainfall. The seed should be barely covered with soil, not more than one-half to three-fourths of an inch deep.

The majority of Michigan land needs lime and two tons of ground limestone or several cubic yards of marl are usually necessary in fitting for

Culture for inoculation may be secured from the Department of Bacteriology of the Michigan Agricultural College, East Langing. The price is 25c per bottle and one bottle contains sufficient material to inoculate a bushel of seed. Directions for application accompany the material.

Special Bulletin No. 97, which can be secured from the Michigan Agricultural College, gives further information in regard to alfalfa.-J. F. C.

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Gallons, \$84for carton of 50; Half gallons, \$11.25
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fied GRIMM is practically the same as common alfalfa, your returns much greater. returns much greater.

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acreage increased over last year. Prep- commonly practiced. arations are being made for early hands of farmers in North Dakota and drought. Wisconsin. A slight increase in price is reported.

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who succeeds at last.

a small orchard; plants peas and along the row at time of planting. pumpkins in a corn field, and raises Better seed and efficient spraying

ways in demand at some cash value, of potatoes were secured.-F. D. H. and hogs multiply faster than other farm animals if you use serum to protect them against hog cholera. Cattle and hogs are not perishable like vegrealize a fair price.

Stock on a farm furnish manure and save fertilizer bills. Plenty of animals and clover on a farm, with corn, grain, hay and vegetables to fatten them, and manure saved and used will fertilize the soil, grow better crops and increase the value of the land-W. E. McMullen.

### TO GET BIG POTATO CROPS.

M OST of the potato growers of the state, in making plans for the the wagon box is wide, are placed one sible cost per bushel. A certain out- the top board. put is required to pay the costs of producing the crop. The profits are in the surplus bushels, and the farmer who grows, say, 2,000 bushels of po-tatoes on from eight to ten acres of A FURTHER deterioration of the wheat crop is reported in the cenland will ordinarily make considerably tral and western counties of Kansas greater profits than the man who due to the drought and strong winds. grows the same crop on from fifteen The condition of the crop is only fair to twenty acres.

highly specialized crop and responds in southern Iowa. The early sown to proper care and cultural methods crop in Oklahoma is fair but much of better perhaps than most other field the late crop has not yet sprouted or crops. The following suggestions cov- is showing a poor stand. Some winter er briefly the chief factors in the pro- killing is reported in the north cenduction of a heavy, high-quality crop tral states except in the northern secand are readily applicable to prevail- tion where the crop has been protecting Michigan conditions:

any but the best seed obtainable.

Michigan Experiment Station has in North Dakota.

SOUTHERN POTATO CROP LARGE. found that rows three feet apart with the hills from 15 to 18 inches apart THE condition of the Irish potato in the rows, gives yields from 30 per crop in Florida is good and the cent greater than the "3 x 3" method

Frequent shallow cultivation during plantings in the southern states and the growing period largely prevents an increased acreage is indicated. Con- evaporation of the soil moisture and siderable surplus still remains in the helps tide the crop over the summer

> Spraying with a fungicide-insecticide solution at intervals keeps the vines green and healthy right up to

Adequate fertilization is necessary THERE is no get-rich-quick crop. A to produce a profitable crop. The poyoung farmer should consider this tato demands large quantities of nitrofact seriously. Any one-crop system is gen, phosphorous and potassium. Easta speculation and few men gain by ern growers, whose yields average such risks always. It is the careful nearly double our Michigan yields, use business man that avoids speculation, high-analysis fertilizers, carrying from 3 to 6 per cent ammonia, from 8 to The same principle is true in farm- 10 per cent phosphoric acid and from ing. The farmer who raises enough 4 to 6 per cent potash. On most corn and hay for his stock; keeps cows lands which have been cropped for for milk and butter; raises his own some years, at least 1,000 pounds of meat and work stock; grows potatoes high-analysis fertilizer per acre should and truck crops; helps his wife and be used, from one-third to one-half of children with the chickens, ducks and which may be broadcasted before turkeys; keeps a few hives of bees and planting, the remainder being applied

turnips, cabbage and beans before he materials and fertilizers may call for turns his attention to a money crop, an outlay of some additional money, may live and be able to buy school but investigations have shown them to books, school shoes, clothing and be worth while. A study of the use Christmas toys, and pay his taxes. of fertilizers on a number of Michigan Cattle and hogs pay better profits farms in 1920 showed that for each ton than grain crops. Fat cattle are al- of proper fertilizer used, 220 bushels

### HOME-MADE WAGON SEAT.

riding wagon seat may be built by and you may keep them until you the handy man. Four or five boards a foot wide, cut a little longer than



1922 crop, are giving special thought above the other, with sills alternating to the necessity, greater now, perhaps, between the centers and ends of the than ever before, of producing maxi- boards as pictured. The sides and mum acre yields at the lowest pos- back of the seat are constructed on

### 1922 WHEAT AND RYE CROPS.

in Nebraska; rain is needed in the The potato as it is grown today is a southwestern districts of the state and ed by snow. The condition in the east-Thorough preparation of the land be- ern section of the country is generally fore planting enables the plant to de- good and little damage reported. The velop a large root system, through condition in the far western states is which it can take from the soil suf- favorable. General rains and warmer ficient nutrients to produce a desirable weather have benefited the crop considerably in California.

Plenty of organic matter in the soil The condition of the winter rye crop insures moisture-holding capacity. Use generally continues good. Some damcertified seed, if possible. Never use age from alternate freezing and thawing is reported in Indiana. A consid-Proper spacing is important. The erable increase in acreage is reported

your insur-ance. Insurance companies recognize the value of our SECURITY SYSTEM of lightning protection by lower rates on SECURITY rodded buildings. Any purchaser of a SECURITY SYSTEM can have an official Okay on his installation free of charge by writing to us and describing it in detail. Proper installation is the paramount feature in the purchase of lightning rod protection. The SECURITY gives guaranteed protection by our plan of permanently Moist Grounding with the "SECURITY Water Ground." Our policy is to see that the property owner gets protection, and there is a strong distinction between getting guaranteed protection and merely buying lightning conductors. Such protection is obtainable from us. Begin to save now Delay may mean disaster. An investmentin a SECURITY SYSTEM calls for no risk on the part of the investor. His investment is held by us subject to demand if the SECURITY SYSTEM fails to work. Tell us your needs. WRITE TODAY. SYSTEM Security Lightning Rod Co. 607 Pine St., Burlington, Wis.

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П

### Fruit Growers' Problems

(Continued from page 317).

Fruit Growers, Inc.

The selling is as important as the heavy production the need for efficient cess in fruit growing. The purpose of market for Michigan fruit by federat- cold storage.-R. ing the cooperative associations in the state, adopting uniform grades and standards, and selling through the central organization. The constitution and by-laws adopted call for an exchange on the group and tonnage basis, tree fruit growers in one body, grape growers in another, and small fruit growers in another.

The summer tour of the horticultural society will probably take place during August and will be a swing through the orchards in the Fennville district in Allegan county and orchards and small fruits in the South Haven district in Van Buren county. The cara- Burns, agriculturist, of Blissfield, van of automobiles will leave from the Graham Experiment Station near of this work for the past two years. Grand Rapids and will spend the first night in Fennville, and the second in South Haven. H. Blakeslee Crane, of Fennville, and Robert Anderson, Cov-

Fruit prices will taper off during the coming season, George Friday, of Colcountry over be near normal. But even in the face of such a crop he stated the outlook for the future was bright for all branches of the industry. He they were rapidly approaching a stone wall and urged them to adopt an advertising campaign to increase consumption of table stocks.

Pasteurized cider is going to steal some of the popularity of grape juice, in the United States. Clark Allis, of Medina, New York, predicted. The apple juice industry needs only publicity to put it on its feet.

The horticultural committee of the society recommended spray experiments along various lines for the coming year and at the suggestion of will be made to determine whether it is safer to plant pears along the lake shore than in the interior. Pear blight is making the growing of this fruit very hazardous, and many growers are refusing to set new orchards because of the disease. Pomologists stated they did not believe there was any blue ments accordingly. A sudden frost may stem rust among berry bushes in Mich- kill an entire fruit crop. By radio, igan but to prevent an infection they recommended placing a quarantine on shipment of plants into the state.

The tractor has come to stay on fruit farms, President George Hawley, of Hart, E. J. VanDuyn, of Novi, and tion by impending storms or floods or agreed. In some instances, especially warnings are too slow." Mr. Wheeler in late springs and dry weather, they said. "Market news to be of greatest stated they more than pay for them-

000 each a year was reached, was boys and girls interested in prohibit prize fights in Michigan.

Among the many interesting men to ment news.

the state fruit exchange launched the address the convention were Clark L day before to be known as Michigan Brody, general manager of the Michigan State Farm Bureau; W. W. Farnsworth, of Waterville, Ohio; Prof. R. E. production, Mr. Tennant stated, em- Loree, of M. A. C.; R. M. Hain, extenphasizing the fact that in seasons of sion specialist from M. A. C.; Prof. C. P. Halligan and Prof. Roy E. Marmarketing was very essential to suc- shall, of M. A. C.; State Inspector of Orchards L. R. Taft, and J. R. Magthe exchange is to develop a carlot ness, of Canton, Pa., on precooling and

### TESTS WITH SOUTHERN-GROWN BEET SEED.

Success in producing sugar beet seed from beets planted in Florida has been so satisfactory under the direction of representatives of the United States Department of Agriculture that arrangements have been completed for the planting of the third crop at Oldsmar next October. The work from the beginning has been under the general direction of Dr. C. C. Townsend, pathologist, and Dr. W. H. Mich., who has had immediate charge They are Uncle Sam's experts in the scientific work in connection with sugar beet improvement.

The second crop is now being har ert, will be arrangements committee. vested at Oldsmar and will be shipped to the University of Michigan, Ann Arbor, Mich. After a period of rest oma, predicted, should production the in dormant condition the best roots will be replanted and will bear a crop of seed next fall. The experts expressed themselves as being pleased with the production of sugar beet seed warned grape growers, however, that in this manner and the work has progressed beyond the experimental stage The government experts are satisfied that this repeated demonstration of practical results may mean much for the future of the beet sugar industry

Dr. Townsend and Dr. Burns came here a few days ago and made a careful personal inspection of the beets which have been grown at Oldsmar under their direction by Albert H. Laycock, of Mason, Mich. There have been four other plantings of sugar beets in George Friday, of Coloma, an effort Florida by the Department of Agriculture, and for two years the Oldsmar beets have shown best results by a considerable margin.-W. E. B.

### RADIO AND FARM SERVICE.

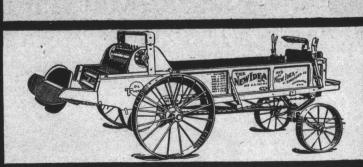
(Continued from page 327). warnings of severe temperature changes or storms can be instantly flashed to an entire district.

"When thousands of tons of food products is threatened with destruc-W. W. Farnsworth, of Waterville, Ohio, dinary methods of communicating value should be received the same day. selves in one season through speeding The prompt receipt of reports on the up the work and conserving moisture. condition of crops is also of great im-The Purnell bill before congress portance. The radio is the only means which would help finance experiment of quickly communicating these varistations at the rate of \$10,000 each the ous kinds of information to farmers."

first year, and gradually increasing it A rapid movement in the formation each year until the maximum of \$80,- of "Farm Radio Clubs" composed of unanimously indorsed as well as the taking place throughout the country, enforcement of the eighteenth amend- it was disclosed. Armstrong Perry, of ment, Ford's offer for the purchase of the Boy Scouts of America, stated that Muscle Shoals and the state fruit ex- the members of the scouts' organizachange. The legislature was asked to tion were ready to lend every assistance in the dissemination of govern-



Michigan Experiment Station has in North Bake a



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Peach, Cherry and Apple Trees

### Grains Nearly Marketed

Michigan's 1921 Crops Show Almost Normal Movement from Farms

than they were one year ago except compared with eighty-five last year. in the case of corn. The corn and wheat crops harvested last year were about equal to those of the previous year, but the production of oats and barley was much less. Of these four crops, wheat is the only one classed as a strictly cash crop in Michigan. When the yield of oats is normal or above, some eastern and southeastern counties market a portion of the crop. With this exception, very few localities produce an appreciable quantity of corn, oats or barley for shipment. This report is based upon the regular survey made by Herman H. Halladay, state commissioner of agriculture, and Verne H. Church, agricultural statistician, United States Bureau of Markets and Crop Estimates, through the regular correspondents of the joint State-Federal Crop Reporting Service.

Corn. It is estimated that one-third of the corn crop went into silos last fall. Of the two-thirds harvested as grain, about 16,383,000 bushels still remain on the farms of the state. This represents thirty-seven per cent of the crop, a higher percentage, with two exceptions, than in any year during the period for which records are available. While the crop has been fed liberally, not as much stock has been on feed this winter; there was a considerable carry-over from the previous 1,069,000 bushels, as compared with year; and nearly all of the crop was 1,872,000 bushels one year ago. Very ue. Very few sections of the state it is estimated that only twelve per produce more than is consumed local- cent will be shipped from the counties ly, and it is estimated that only five where produced.

THE stocks of leading grains on the per cent of the total crop has been or farms of Michigan, on March 1, will be shipped out of the county are somewhat above the average for where grown. The percentage of merthe same date in past years, but less chantable quality is eighty-four, as

The percentage of the wheat crop remaining on farms is estimated at twenty-three, five per cent less than last year, and equivalent to 3,237,000 bushels. The stocks are naturally less than usual owing to the necessity on the part of many farmers to sell their holdings to meet taxes, interest and other obligations. It is estimated that fifty-five per cent of the crop will be shipped out of the county where it was grown.

#### Oats.

The percentage of the crop still in farmers' granaries is thirty-eight, two per cent less than last year. However, owing to the very light crop harvested, this percentage represents only 10,-678,000 bushels, whereas the stocks one year ago were 27,086,000. The principal part of the present stocks are in the surplus producing counties, as most of the other sections are buying from outside sources. The large corn crop has greatly relieved the shortage of oats. Only sixteen per cent has been or will be shipped from the counties where grown, as compared with a ten-year average of twenty-three per cent.

### Barley.

The stocks of barley are placed at well matured and of high feeding val- little is ordinarily sold from farms and

### Put Thistles to Flight

Also Raise Four More Bushels of Wheat to the Acre While Doing It.

FIVE years ago when I purchased sulky plow turning up about nine inchit that looked almost worthless. There owing to the dust mulch retaining the were potatoes planted on this four moisture. acres two seasons before and I was informed only 25 bushels per acre were for wheat which I sowed the last week harvested. The field was lying idle in August. when I made the purchase. All there was growing on it was, as I called it, a little poverty grass, here and there in spots, and a good stand of Canada thistles.

I plowed it thoroughly the first home-made fertilizer. spring and sowed to oats, seeding to clover, producing a good stand of both, but the dry weather shortened the oats crop one-half and also the clover. However, I let the seeding stand, and the Canada thistles made a rapid growth the following season, along with the small amount of clover, so I clipped the field the last week of June, letting the stubble of the thistle dry a few days, then I sharpened a plow point and plowed the piece about four inches deep, being very careful to cut every thistle root at this depth.

Being a new man in the neighborhood I had all kinds of questions asked me why I plowed so shallow, and if this poverty stricken field I threshed that was the way I always done. I four bushels of wheat to the acre than that was the way I always done. I that was the way I always done. I any of my neighbors, and did not see only laughed and said, "in a case like a half dozen stalkes of Canada this-

some three or four weeks and I used erse County. the spring tooth harrow a couple of times, setting it the depth that the How small rural schools have manfield was plowed.

my farm there were four acres on es of soil. The piece plowed very easy

I immediately prepared a seed bed

Now, the field being in a run-down condition, it needed some nourishment to produce a crop of wheat. As I had no money to purchase a great amount of fertilizer I decided to make some

I collected all the wood ashes I could get handy, which was about 11/2 tons, also some fine manure and sifted it together so I could use it in a fertilizer drill. When ready to use I took a ton of the mixture and put in 200 lbs. of acid phosphate.

I opened the fertilizer part wide open and drilled 11/2 bushels of good clean seed wheat to the acre. During the winter I hauled the manure direct from the stable to the field covering it thoroughly.

It was a nice sight at harvest time to see what an even stand I had. From this, as this is only an experiment." a nan dozen stands the this, as this is only an experiment." The weather was dry and hot for on the land .- W. M. S., Grand Trav-

aged to run school lunches, with fine Being hot and dry by the middle of results, is told in "The School Lunch," Being hot and dry by the middle of results, is told in "The School Lunch,"
August the thistles were losing vi- a bulletin just out. It is free. Ask tality so I set in plowing with the the College of Agriculture for a copy.

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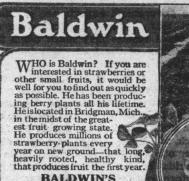
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## WORLD EVENTS IN PICTURES



The German finds that Austrian bank notes at least have some value as wall paper.



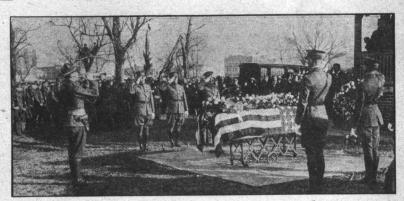
Searching for bodies in the ruins of the airship "Roma" at Hampton Roads, Virginia. This wreck caused the death of over thirty men and injury of several more.



Mrs. Charles Dillingham, wife of noted theatrical man, catches 128-pound tarpon in Florida,



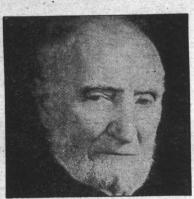
The striking Mexican automobile drivers get together at the beautiful Juarez Monument in Mexico City to listen to talks by enthusiastic strike leaders.



The funeral services of an unnamed soldier selected from the dead in the Roma airship disaster was held on the casino grounds at Newport News, Virginia.



Secretary of State Charles E. Hughes, accompanied by Mrs. Hughes, take short vacation in Bermuda after close of peace conference.



"Uncle Joe" Cannon, 85 years old, will retire from congress after 46 years of active service.



Miss Lydia Hutchinson was the only woman to enter the American dog derby, held in Yellowstone Park.



Over 150,000 people gathered outside of the great St. Peters Cathedral at Rome to receive the news of the coronation of Pope Pius XI.



Governor Channing H. Cox, of Massachusetts, gets back to child-hood's sports. He enjoys toboganning with friends among the hills of North Conway, New Hampshire.

## THE BLIND MAN'S EYES

<u>un comparte de la comparte del la comparte de la comparte del la comparte de la comparte del la comparte de la</u>

By William MacHarg and Edwin Balmer

Copyright by Little Brown & Company 

Upon so much, at least, Eaton's mind at once was clear; here was his enemy whom he must destroy if he himself were not first destroyed. Other thoughts, recasting of other relations altered or overturned in their bearing by the discovery of this man hereeverything else could and must wait upon the mighty demand of that moment upon Eaton to destroy this enemy now or be himself destroyed.

Eaton shook in his passion; yet cooly he now realized that his left shoulder, which had taken the shock of his fall, was numb. He shifted his pistol to cover a vague form which had seemed to move; but, if it had stirred, it was still again now. Eaton strained to listen.

It seemed certain that the noise of the shot, if not the sound of the struggle which preceded it, must have raised an alarm, though the room was in a wing and shut off by double doors from the main part of the house; it was possible that the noise had not gone that far; but it must have been heard in the room directly above and cennected with the study by a staircase at the head of which was a door. Basil Santoine, as Eaton knew, slept above; a nurse must be waiting on duty somewhere near. Eaton had seen the row of buttons which the blind man had within arm's-length with which he must be able to summon every servant in the house. So it could not last much longer now-this deadlock in the dark-the two facing one, and none of them daring to move. And one of the two, at least, seemed to have recognized that.

Eaton had moved, warily and carefully, but he had moved; a revolver flashed before him. Instantly and without consciousness that his finger had pulled the trigger, Eatons pistol flashed back. In front of him, the flame flashed again, and another spurt of fire spat at one side.

Eaton fired back at this-he was prostrate on the floor now, and whether he had been hit or not he did not yet know, or whether the blood flowing down his face was only from a splinter sprayed from the table behind which he had hid. He fired again, holding his pistol far out to one side to confuse the aim of the others; he thought that they too were doing the same and allowed for it in his aim. He pulled the trigger a ninth timehe had not counted his shots, but he the magazine and one in the barreland the pistol clicked without discharging. He rolled over further away from the spot where he had last fired and pulled an extra clip of cartridges

face. He made no effort to staunch it summoning his servants! or even to feel with his fingers to find exactly where or how badly he had been hit. He jerked the empty cartridge clip from his pistol butt and snapped in the other. He swept his sleeve over his face to clear the blood from his brows and eyes and stared through the dark with pistol at arm'slength loaded and ready. Blood spurted over his face again; another sweep of his sleeve cleared it; and he moved his pistol-point back and forth in the dark. The flash of the firing from the

Eaton listened; there was still no sound from the rest of the house. But overhead now, he heard an almost imperceptible pattering-the sound of a bare-footed man crossing the floor; and he knew that the blind man in the bedroom above was getting up.

> CHAPTER XVIII. Under Cover of Darkness.

ASIL SANTOINE was oversensib tive to sound, as are most of the blind; in the world of darkness in which he lived, sounds were by far the

nothing more followed did not make him doubt it; it made him think to explain it.

It was plain that no one else in the house had been stirred by it; for his windows were open and other windows in bedrooms in the main part of the house were open; no one had raised any cry of alarm. So the shot was where he alone had heard it; that meant indoors, in the room below.

Santoine pressed the bells quickly again and sat up straighter and more strained; no one breaking into the house for plate or jewelry would enter through that room; he would have to break through double doors to reach. any other part of the house; Santoine did not consider the possibility of robbery of that sort long enough to have been said to consider it at all; what he felt was that the threat which had been hanging vaguely over himself ever since Warden's murder was being fulfilled. But it was not Santoine himself that was being attacked; it was something Santoine possessed. There was only one sort of valuable article for which one might enter that room below. And those articles-

The blind man clinched his jaw and pressed the bells to call all the menservants in the house and Avery also. But still he got no response.

A shot in the room below meant, of course, that in addition to the intruder there must be a defender; the defender might have been the one who fired or the one who was killed. For it seemed likely, in the complete silence now, that whoever had fired had disposed of his adversary and was undisturbed. At that moment the second shot-the first fired at Eatonrang out below; Eaton's return fire followed nearly simultaneously, and then the shot of the third man. These explosions and the next three the blind man in bed above was able to disinguish; there were three men, at least, in the room below firing at each other; then, as the automatic revolvers roared on, he no longer could separate attack and reply; there might be three men, lade of the automatics overlapped; it was incessant. Then all at once the Santoine at once recognized the firing stopped; there was no sound or movement of any sort; everything seemed absolutely still below.

The blind man pressed and pressed the buttons on his bellboard. Any further alarm, after the firing below, seemed superfluous. But his wing of against sound in the main portion of the building; the house, therefore, was deadened to noise within the wing. Santoine, accustomed to considering the manner in which sounds came to himself, knew how these sounds would

(Continued on page 237).

### A Little Bit of Heaven,

By Mrs. Carl E. Dahlstrom

other two revolvers had stopped; the



There's a little bit of heaven In our home today, For a little bit of heaven Has come with us to stay; And a sweeter dearer lassie I know there could not be, O, she fills our souls with gladness And our hearts sing songs of glee.

There's a little bit of heaven
In her eyes of blue,
Just a little bit of heaven,
That thrills us thru and thru. She makes us want to love her, Just to see her tiny smile, And she seems to draw us nearer To the love of God the while.

She is a little bit of heaven With silky, goldspun hair, Yes, a little bit of heaven With lips, two rosebuds rare, Two little cheeks for loves caress, Two little hands so sweet O, little babe, remain our guest, And life shall be complete.

roar of the shots had ceased to deafen. most significant—and almost the only Eaton had not counted the shots at him any better than he had kept track of his own firing; but he knew now that the other two must have emptied their magazines as well as he. It was possible, of course, that he had killed one of them or wounded one mortally; but he had no way to know that. He could hear the click as one of the men snapped his revolver shut again after reloading; then another click came. Both the others had reloaded. "All right?" the voice which Eaton

knew questioned the other. "All right," came the reply.

no offer to fire first again. Nor yet knew he had had seven cartridges in did they dare to move. Eaton knew they lay on the floor like himself. They lay with fingers on trigger, as he also lay, waiting again for him to move so they could shoot at him. But surely now the sound of the firing in that in which the circumstances of his life

-means he had of telling what went on around him; he passed his life in listening for or determining the nature of sounds. So the struggle which ended in Eaton's crash to the floor would have waked him without the pistolshot immediately following. That roused him wide-awake immediately and there might be half a dozen; the fusilbrought him sitting up in bed, forgetful of his own condition.

sound as a shot; but in the instant of waking, he had not been able to place it more definitely than to know that it was close. His hand went at once But, if they were all right, they made to the bellboard, and he rang at the same time for the nurse outside his door and for the steward. But for a the house had been built for him proof few moments after that first shot, nothing followed; there was silence. Santoine was not one of those who doubt their hearing; that was the sense room must have reached the man in made him implicitly trust; he had The blood was flowing hot over his the room above; surely he must be heard a shot near by; the fact that

AL ACRES-Slim's Ouija Board Finds Water Alright.

-By Frank R. Lees



LESSONS IN HEALTH CULTURE. No. 6-Baths and Bathing.

BY RUTH SELBY.

BATHING serves a two-fold pur pose: it cleanses the body and opens the pores so that the skin may throw off impurities and absorb oxygen. Many diseases would be prevented if the skin of the whole body were thoroughly cleansed with due regular-

Both general and local baths are of value for various disorders. Probably the customary weekly soap-and-water bath is all that is absolutely essential for cleanliness, provided the other eliminating organs do their part toward purifying the body. Otherwise more frequent baths are required to insure cleanliness.

A daily morning bath, recommended in a previous article is very healthful and invigorating. It may be taken in a bath tub-just a plunge-followed by rapid friction with Turkish towel, or it may be taken from a wash-basin with sponge, wash-rag or just the The latter is especially good as the warmth of the hand, dipped in cold or cool water, prevents chilling of the body. No one should take a really cold water bath if reaction is The cool, or body-temperature bath is usually better. A cold bath is a strong stimulant to the entire circulatory system, provided one can recuperate quickly, and have a feeling of warmth immediately after. Salt added to the water will insure against taking cold. When the feet are warm the circulation is more easily maintained. So if you stand with your feet immersed in hot water while taking the hand or sponge bath, or while using a hand spray in the bath-tub, reaction will be easier and quicker. A cold bath should always be followed by friction, and one necessary caution is, a bath should not be taken immediately before or within two hours after a meal.

Hot water has a wonderful influence upon the elimination of wastes and impurities through the skin. In cases of kidney disease, where these organs fail to perform their work, frequent hot baths are of great help in making the skin do, or help to do, the work of the kidneys.

Those who have heart disease of any kind and those with seriously depleted vitality should be very careful about using the hot bath-not have it too hot. And then, if one feels a sense of over-heating while in the water, it is best to get out of it immediately. Of course, a bath-tub of some kind is necessary for a bath of this kind, and a hot bath should be followed by a quick sponging with cold or cool water. But do not cool off too quickly, and be careful not to become chilled after a bath of this kind. The hot bath takes fatigue out of the muscles and helps to promote sleep. For these purposes it should always be taken at bed-time.

Locally applied, the hot bath is excellent for sprains and hurts, where the skin is not broken, and wnen used in time will prevent bruises and swell-It also relieves local inflammaings. tions.

The hot foot-bath is sometimes effectively used to relieve nervous headand head colds. its effectiveness is augmented by the addition of salt or mustard. An alternate hot and cold foot-bath is a fine general tonic, and may be used as often as desired. Have two basins of water, one cold and the other hot, and kept hot. Begin by holding the feet in the hot water two or three minutes, then in the cold water a minute or less. Repeat three or four times in cach, ending with the cold bath. Taken at bed-time it will warm the feet for the night, as it draws the blood to them and sets it freely circulating.

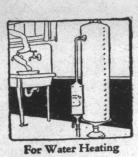




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have 'em both over some night and open their eyes.

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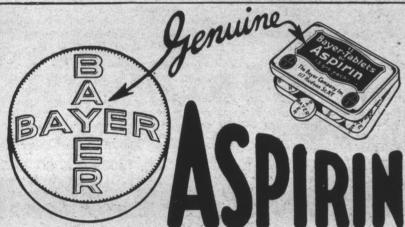
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THREE or four years ago I met day that Lot went out of Sodom it a doctor who had been in mis-rained fire and brimstone from heaven sionary service in China. He was telling of his first experiences as a medical missionary. The city he lived in is on one of the great rivers of China. One day a large steamship approached the landing but was not alto be a case or two of bubonic plague on board. The doctor who had been the newly-arrived American physician, "Want to go with me on board, and look for cases of the plague? They can't land 'til everyone has had a medical examination."

"Sure, I'll go. But how do you know

you can tell it all right." The new missionary wanted to accompany about as bad as to the gallows, but he went. That come for. This is but a tiny in-

stance of what the medical missionary, and missionaries of all kinds, are doing all the time. They are the bearers of life, they are the bringers of gifts to the people where they go.

It would take two life-times for one to acquaint himself with all the science that missionaries have mastered. The royal botanic gardens at Tokyo had for the assistant superintendent appeals. an authority on the botany of the orient. The first horticultural society in India, and one of the first in the world, was organized one hundred years ago, by William Carey. His botanic garden, containing hundreds of plants and shrubs, may still be seen. One missionary was asked by the government to prepare a report on the fishes of the rivers and lakes. Another wrote on reptiles. Do you like people? Folks beat all the subjects in the world for interest. A few years ago an American missionary wrote a book on "Village Life in China." It is as interesting as the comic supplement, in fact, more so, because it is true. Another wrote on "Hindu Tribes and Castes." Still another, a medical man, made an exhaustive study of demon possession. It seems that in China and other eastern lands, demon possession cities) had perished with all their inis found that corresponds exactly with all the symptoms and peculiarities as recorded in the New Testament. And cures are wrought in the same way, namely, by prayer and commanding the demon or demons to depart. Understand it? No, the workers do not understand it. But they get results, and that is what counts. But why should missionaries be studying snakes and fishes and flowers? Well, if you had lost a little boy from snake-bite you would be tickled to deth to have some man come along who made a study of it, and knew how to cure the ticulture and other subjects. The mis- that wa they live. That was Christ's way.

a success? Rockefeller, Morgan or Apostles Creed, and you will note how Ford would not call the venture a bus- short and simple that is. It represents iness success. Neither would you, nor the main teaching of the church in the I. Luke 17:29, says: 'But the same early days, before the year 200 A. D.

and destroyed them all.' This evidently was their captivity as mentioned in Ezekiel 16:53: 'When I shall bring again their captivity, the captivity of Sodom and her daughter, and the captivity of Samaria and her daughter, lowed to dock, as there was supposed then I will bring again the captivity of thy captives in the midst of them.' Does this mean a resuscitation, a resthere for a number of years said to toration to life? They went down, will they be brought up? I am not writing to criticize you, far from it. I am a minister, too. I preach to my denomination, you preach to all. These t how do you know Bible. My creed and my church the plague when haven't them incorporated within you see it?" "O, them. Yet just a little gests that there is something wrong in the creeds of orthodoxy so-called."

The belief that all men will eventually be saved is a strong one, and the older man has many supporters. There is but little support for it in the New Testahe wanted to go ment, however, as much as we would desire it. It is very possible that the entire mind of God has not been made is what he had known on this, and that it is the divine plan to receive all men into pardon and sonship in the end. It ought not to be forgotten, however, that God does not damn people. They do the damning. That is, they damn themselves, by self-will, refusal to become the sons of God, refusal to do His will in loving co-operation with Him. The conception of vast numbers of souls cut off from God throughout endless time is very terrible, an idea that

> It is something on which all people will never agree. The life of belief and service is worth all it costs in this life alone, and if it is followed, the future will take care of itself. As for God's flitting away to His Heaven, God is in heaven now, and all places else. God is everywhere. With respect to the references you quote: The sixteenth of Ezekiel is a picture of the history of Jerusalem, and the sins of the city. She is compared to Sodom and Samaria, two cities that had been destroyed. The hopelessness of her condition is compared to theirs. To quote an authority on Ezekiel, "This is not a promise of restoration to Israel, but is an expression of the utter hopelessness of their punishment in the strongest possible form. Sodom and her daughters (the surrounding habitants ages ago, leaving no descendants behind. Restoration was, therefore, obviously impossible; and by conditioning the restoration of Jerusalem on an impossible thing, it is meant to be most strongly denied.

To get at the teaching of any of the prophetic books, or of any other Bible books, for that matter, the best way is to go at it from the historical viewpoint, and find out the conditions under which the author wrote, when he wrote, and to what purpose. Try to put your feet into his shoes, as it were, and see just what he is driving at, snake bite, or still better, how to erad-icate the snakes. The same with hor-through his experience and life. In Will take on a sionary tries to find the people where wonderfully enlarged meaning, and many difficulties that would otherwise puzzle the reader, will disappear. That A READER writes: "Do you think, does not mean that no obscure pasmy dear brother, that after the in- sages will remain, for they will, and finite pains God has taken to redeem we will never be able to understand mankind. He will eventually flit off to them fully, in all cases. It would be heaven with a handful of earth's bil- impossible for the creed of any church lions and leave the rest of mankind to incorporate all the questions that either in death (eternal sleep) or in arise in the minds of believers. Probconscious misery and call His scheme ably the earliest Christian creed is the

### The Blind Man's Eyes

e<del>n marione de la composition della composition </del>

By William MacHarg and Edwin Balmer Copyright by Little, Brown & Company

(Continued from page 334).

come to others. Coming from the open almost steady in step and he had firm house at all; they would appear to come from some part of the grounds or from the beach.

Yet some one or more than one from his house must be below or have been there. Santoine pressed all the bells again and then got up. He had heard absolutely no sound outside, as must be made by any one escaping from the room below; but the battle seemed over. One side must have destroyed the other. From the character of the fighting, it was most probable that some one had secretly entered the room - Santoine thought of that one definitely now as the man he was entertaining as Eaton; a servant, or some one else from the house, had surprised him in the room and was shot; other servants, roused by the alarm, rushed in and were shot. Santoine counted that, if his servants had survived, one of them must be coming to tell him what had happened. But there was no noise now nor any movement at all below. His side had been beaten, or both sides had ceased to exist. Those alternatives alone occurred to the blind man; the number of shot fired within the confines of the room below precluded any other explanation. He did not imagine the fact that the battle had been fought in the dark; himself perpetually in the dark, he thought of others always in the light.

The blind man stood barefooted on the floor, his hands clasping in one of the bitterest moments of his rebellion against, and defiance of, his helplessness of blindness. Below him—as he believed-his servants had been sacrificing life for him; there in that room he held in trust that which affected the security, the faith, the honor of others; his guarding that trust involved his honor no less. And particularly, now, he knew he was bound, at whatever cost, to act; for he did not doubt now but that his half-prisoned guest, whom Santoine had not sufficiently guarded, was at the bottom of the attack. The blind man believed, therefore, that it was because of his own retention here of Eaton that the attack had been made, his servants had been killed, the private secrets of his associates were in danger. Santoine crossed to the door of the hall and opened it and called. No one answered immediately; he started to call again; then he checked himself and shut the door, and opened that to the top of the stairs descending to his study below.

The smoke and fumes of the firing rushed into his face; it half choked him; but it decided him. He was go- he supposed; and the thieves must ing to go down. Undoubtedly there have succeeded in their errand. The was danger below; but that was why blind man, in his uselessness for purfor some one else to run a risk for for him no longer. He started toward him. Basil Santoine, always held back the bell, when some scrape on the submit to guard even of women in pet- for by an object moved by the windcould see, controlled him.

He put his hand on the rail and started to descend the stairs. He was

windows of the wing and entering the grasp on the rail; he noticed that now open windows of the other parts of the to wonder at it. When he had aroused house, they would not appear to the at the sound of firing, his blindness, household to come from within the as always when something was happening about him, was obtruded upon him. He felt helpless because he was blind, not because he had been injured. He had forgotten entirely that for almost two weeks he had not stirred from bed; he had risen and stood and walked, without staggering, to the door and to the top of the stairs before, now, he remembered. So what he already had done showed him that he had merely again to put his injury from his mind and he could go on. He went down the stairs almost steadily.

There was still no sound or any evidence of any one below. The gases of the firing were clearing away; the blind man could feel the slight breeze which came in through the windows of his bedroom and went with him down the stairs; and now, as he reached the lower steps, there was no other sound in the room but the tread of the blind man's feet on the stairs. This sound was slight, but enough to attract attention in the silence there. Santoine halted on the next to the last step-the blind count stairs, and he had gone down twenty-one-and realized fully his futility; but now he would not retreat or merely call for help.

"Who is here?" he asked distinctly. "Is any one here? Who is here?"

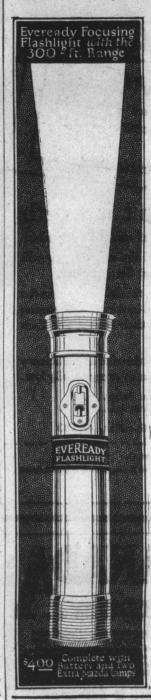
No one answered. And now Santoine knew by the sense which let him feel whether it was night or day, that the room was really dark-dark for others as well as for himself; the lights were not burning. So an exaltation, a sense of physical capability, came to Santoine; in the dark he was as fit, as capable as any other mannot more capable, for, though he was familiar with the room, the furniture had been moved in the struggle; he had heard the overturning of the chairs.

Santoine stepped down on the floor, and in his uncertainty as to the portion of the furniture, felt along the wall. There were bookcases there, but he felt and passed along them swiftly, until he came to the case which concealed the safe at the left side of the doors. The books were gone from that case; his bare toes struck against them where they had been thrown down on the floor. The blind man, his pulse beating tumultuously, put his hand through the case and felt the panel behind. That was slid back exposing the safe; and the door of the safe stood open. Santoine's hands felt within the safe swiftly. The safe was empty.

He recoiled from it, choking back an ejaculation. The entry to this room had been made for the purpose which he did not call again at the other door suit, could delay calling others to act and always watched and obliged to floor-not of the sort to be accounted ty matters because of his blindness, sounded behind him. Santoine swung held one thing dearer far than life- toward the sound and stood listening and that was the trust which other again; and then, groping with his men reposed in him. Since it was that hands stretched out before him, he trust which was threatened, the im- left the wall and stepped toward the pulse now, in that danger, to act for center of the room. He took two himself and not be protected and steps—three, four—with no result; pushed back by any one who merely then his foot trod into some fluid, thick and sticky and not cold.

Santoine stooped and put a finger-(Continued on page 339).

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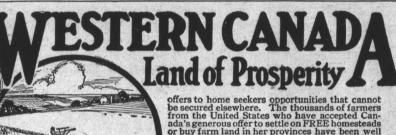
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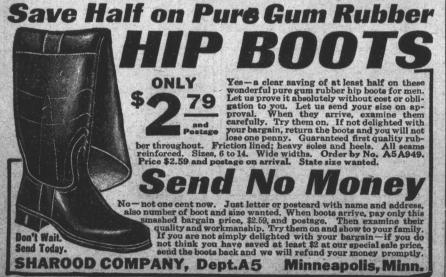
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### The Pathfinders

Dress Forms and Daisies

By Alta L. Littell

old she is? Oh! is that what a college specialist looks like?"

The group of curious women who, safely concealed by the curtains, had been peeping through Myra Jones's window at the flivver which Milly Allen drove into the yard, melted away and hastily dropped into chairs.

"What'd you think of a specialist looked like?" Myra demanded of Mrs. Mason who had been guilty of the last disappointed question. "Think she'd have steel-rimmed specs and a ruler and be about sixty years old?"

"No, but-" Mrs. Mason's voice trailed into silence as Milly accompanied by a slim young girl entered the room. There was a ripple of introductions before Myra ushered the two into the bedroom to slip off coats, hats and galoshes. Removed from her heavy fur coat Miss Denton stood revealed as a very modern young person, well manicured and correctly coiffed, in a trim, one-piece tricotine dress, with brown wool hose and substantial brown brogues. That she was also a very handsome business-like young woman was evident from the way she briskly answered the conventional queries as to her trip and the cold, and then immediately plunged into the business of the day, the organizing of Poplarville women into a club with the definite aim of making farm home life happier and better.

"Just what do you want help with most?" she asked.

"How to make a dress form," Mrs. Mason answered, promptly.

"And how to embroider daisies," Myra followed.

"I'd like to know what to feed the baby; she's nearly a year old and still taking nothing but milk," young Lettie Collins smoothed her first-born's yellow curls.

"And I'd like to know what to feed Lucy," Mrs. Smith broke in. "She's fourteen and so pale and pindlin' I'm afraid she's going to have consumption."

"If someone would help me with the washing I'd not ask for anything else," frail Mrs. Baer raised a tired voice. "I never know what it is not to have a backache."

"I'd like to know how to cull my poultry," Mrs. Granger said. "I thought Mrs. Bob could show me, but she says mother always did that."

"We killed a beef yesterday, and I want to know how to put down the meat so it'll be ready to use next summer," Mrs. Burns added her bit.

"We might almost call this an agricultural conference," Miss Denton laughingly interrupted, "certainly all the farm women's problems are about to have an airing. As we can't take up everything, what had we better start with? I take it majority rules; so we'd better put it to a vote."

"I move we take up sewing," Mrs. Mason rushed her pet subject in. "We're all good cooks and some one can tell Lettie what to feed the baby."

"I'm sure you're all good cooks," Miss Denton answered diplomatically, "but you know even good cooks make mistakes sometimes in feeding babies and young children-they're all so different. But if most of you want sewing, you can start with that and I can send these ladies bulletins on nutrition and meat canning."

should be the main issue with the club for a time at least, whereupon business ability.

"I was pretty sure from Mrs. Allen's letter than you'd want sewing," she more attractive.

ID she really come? What does said, "and I was equally sure you'd she look like? I wonder how come without anything to work with the first day. So as a dress form is almost indispensable to the woman who makes her own dresses I just brought along the material to make three forms." She dived into the bedroom and brought back a travelling bag from which she produced three gauze undershirts with high, close-fitting collars and short sleeves, and several rolls of gummed art paper. "Three women who want forms put on these shirts directly over the corset, which must be laced a little tighter than usual: and then we'll start some others sticking this art paper, which will be cut into strips, right onto the shirts. Now, what three women want to be living models, and who wants to learn how to make forms?"

> Myra, Mrs. Mason and Mrs. Peterson promptly begged for the forms, and in less than no time busy groups were cutting paper into lengths dictated by Miss Denton, while others were fitting the shirts to the models. There was an hour of high-pressure work, and then, as odors of coffee and frying chicken began to float tantalizingly in from the kitchen, the models suddenly discovered they could not stand up another minute. Fortunately Miss Denton agreed that it was time to rest.

> "I didn't know my shoulders were all bulged up like that," Mrs. Mason gazed wide-eyed at her form as it stood completed on the table late that afternoon.

> "And I'm positive my left shoulder is even with my right," Mrs. Peterson declared. "That thing is lop-sided."

> "It's shaped just like you are, Aggie," the woman who had made the form insisted. "That comes from lugging water in from the barn."

> "You'll have to appoint a leader," Miss Denton broke in. "I can't come to every meeting, of course, and you need someone to take charge and plan your work.

> "We'll have Mrs. Bob," two or three women spoke at once. "She's a school teacher."

"But not a dressmaker," Milly objected, promptly. "I never even hemmed a kitchen towel. You want someone who knows which end of the needle to thread."

"Mrs. Peterson used to be a dressmaker down in Ohio," Mrs. Baer sug-

"Then we'll consider Mrs. Peterson your leader," Miss Denton forestalled objections. "Now, you'd better plan to go on with the dress forms until all are supplied, and then I can come back and get you started on patterns. I take it you know how to do plain sewing," she glanced around and smiled at the affirmative nods.

"But the daisies," Myra wailed. "I want to make daisies before Christmas."

"I've just time to show you the stitch before I start," Miss Denton snatched up needle and thread as she glanced at her wrist watch. "Of course, you want embroidery silk, but this thread will do to show you."

"Talk about rapid fire," Myra wiped her brow as twenty minutes later the flivver whirled away bearing Milly and Miss Denton. "Did you see ever her beat?"

"She never said a thing about washnd meat canning." ing," Mrs. Baer sighed and rubbed So it was decided that garments her aching back."

Bind the ends of your quilts with a Miss Denton further demonstrated her strip of cloth. These are easier to wash than the quilts. A little lace on the ends of the strips will make them



### THE BLIND MAN'S EYES.

(Continued from page 337).

tip into the fluid and brought it near his nose, It was what he supposed it must be-blood. He raised his foot and with his great toe traced the course of the blood; it led to one side, and then the blind man's toe touched some hard, metal object which was warm. He stooped and picked it up and felt over it with his fingers. It was an electric torch with the light turned on. Santoine stood holding it with the warm end-the lighted endturned away from him; he swiftly switched it off; what put Santoine at a disadvantage with other men was light. But since there had been this light, there might be others; there had ence came from recognition of some been at least three men, perhaps, Santoine's therefore, three lights. senses could not perceive light so dim ed, curbing himself. and soft; he stood trying fruitlessly to determine whether there were other lights.

He could hear now some one breathing-more than one person. From the house, still shut off by its double, sound-proof doors, he could hear nothing; but some one outside the house was hurrying up to the open window at the south end of the room.

That one came to, or just inside the window, parting the curtains. He was breathing hard from exertion or from excitement.

"Who is it?" Santoine challenged

ed his recognition in amazement. "Basil; that is you! What are you doing down here?" Blatchford started

come any further; stand man-tried again to speak. "Don't there!'

Blatchford protested but obeyed. "What is it? What are you doing down here, Basil? What is the matter here? What has happened?"

"What brought you here?" Santoine demanded instead of reply. "You were running outside; why? What was out there? What did you see?"

"See? I didn't see anything-except the window here open when I came up. But I heard shots, Basil. I thought they were toward the road. I went out there; but I found nothing. I was coming back when I saw the window open. I'm sure I heard shots."

"They were here," Santoine said. "But you can see; and you just heard the shots. You didn't see anything!" the blind man accused. "You didn't see any one going away from here!"

"Basil, what has happened here?" Santoine felt again the stickiness at his feet. "Three or four persons fought in this room, Wallace. Some-or one was hurt. There's blood on the floor. are gone. about now, Wallace?"

"Yes."

"What are you doing?"

"Looking for the light."

"Don't."

"Why, Basil?"

gone. But-get help first. Wallace."

"And leave you here?" Blatchford rejoined. He had not halted again; the blind man heard his cousin still moving along the wall. The electric switch clicked, and Santoine knew that the room was flooded with light. San-

toine straightened, strained, turning his head a little to better listen. With the flashing on of the light, he had heard the sharp, involuntary start of Blatchford as he saw the room; and, besides that, Santoine heard movement now elsewhere in the room. Then the blind man heard his friend's cry. "Good God!"

was not, Santoine instantly sensed, from mere surprise or fright at finding some intruder in the room; that must have been expected. This was from something more astourding, from something incredible.

"What is it?" Santoine cried.

"Good God! Basil."

"Who is it, Wallace?" the blind man knew now that his friend's incoherone, not alone from some sight of hor-"Who is it, Wallace?" he repeat-

"Basil! It is-it must be-I know him! It is-"

A shot roared in front of Santoine. The blind man, starting back at the shock of it drew in the powder-gas with his breath; but the bullet was not for him. Instead, he heard his friend scream and choke and half call, half cough.

"Wallace!" Santoine cried out; but his voice was lost in the roar of another shot. This was not fired by the same one who had just fired; at least, it was not from the same part of the room; and instantly, from another side, a third shot came. Then, in the "Basil!" Blatchford's voice exclaim- midst of rush and confusion, another shot roared; the light was out again; then all was gone; the noise was outside; the room was still except for a cough and choke as Blatchford-some-"Wait!" Santoine ordered sharply. where on the floor in front of the blind

> Basil Santoine, groping with his hands, found him. The blind man knelt and with his fingers went over his cousin's face; he found the wound on the neck where Blatchford's life was running away. He was still con-Santoine knew that he was scious. trying his best to speak, to say just one word-a name-to tell whom he had seen and who had shot him; but he could not.

> Santoine put his hand over a hand of his cousin. "That's all right, Wally; that's all right," he assured him. And now he knew that Blatchford's consciousness was going forever. Santoine knew what must be most on his friend's mind at that last moment as it had been most on his mind during more than thirty years. "And about my blindness, Wallace, that was the best thing that ever happened to me. I'd never have done what I have if I hadn't been blind.'

Blatchford's fingers closed tightly on Santoine's; they did not relax but now There are two here I can hear breath- remained closed, though without ing; I suppose they're hurt. Probably strength. The blind man bowed and then lifted his head. His friend was dark, isn't it? That is you moving dead, and others were rushing into the room-the butler, one of the chauffeurs, Avery, more menservants; the light was on again, and amid the tumult and alarms of the discoveries shown by the light, some rushed to the windows to the south in pursuit of "Get help first. I think those who those who had escaped from the room. aren't hurt are gone. They must be Avery and one or two others rushed up to Santoine; now the blind man heard, above their cries and alarms, the voice of his daughter. She was beside him, where he knelt next the body of Blatchford, and she put back others who crowded about.

(Continued next week).

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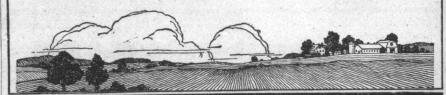
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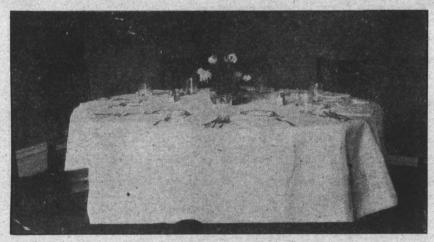
### Spring Wedding Menus

By Hilda Richmond

spring confided to a close friend that she is "just scared stiff" in regard to serving refreshments at the wedding. She wants to make the great occasion a happy one for her only daughter, but the thought of making ready a wedding feast and successfully serving it keeps her awake nights worrying lest everything go wrong. She doesn't know what to do nor how reassure her and help plan her plan, she looks at the whole thing as if it haps the most satisfactory of all the were a mountain she can never remove from her pathway.

WORRIED country lady whose tato, escalloped oyster, or shredded daughter is to be married this chicken with mashed potato can be used for the hot dish. Instead of the rolls, sandwiches made of white bread with cheese, brown bread with meat, nut bread with butter or sweet sandwiches in which jelly is used can be served. For the second course serve cake, ice cream, candies and coffee.

Even a perfectly cold supper can be served if space is limited. For this, sandwiches and salad with pickled to do, and, though her friend tries to fruit, or a gelatine dish or cold chicken can be used. Chicken salad is percold foods as it is appetizing and everyone likes it. Of course, cake and Of course, first of all she should ice cream are used for each and every think over her resources carefully. If kind of supper, but this is easily man-



Correct Placing of Silver and Dishes; Bread-and-Butter Plate at Left by Fork, Glass at End of Knife and Spoons, Napkin Between Knife and Fork.

the house is large enough to admit aged as the cakes can be baked ahead can have a more elaborate dinner than town. if her space is limited. Small tables hired from the town caterer with folding chairs can be in readiness for the dinner or supper, and everything can be arranged quickly and easily. If the house is small and trays must be used where each guest is responsible for his own supper, so to speak, a much simpler and easier menu must be planned.

For the table dinner a good menu would be creamed potato, chicken salad, hot rolls, several spreads, pickles, escalloped oysters and perhaps a water ice for the first course, and cake, ice cream, coffee, salted nuts, candies and crystallized fruits or any other dainty for the second. This could be served from the kitchen and be easily and quickly disposed of.

A more elaborate table dinner could consist of roast chicken or turkey, mashed potato, gravy, escalloped corn, fruit salad, rolls, spreads, pickles and the same second course as above, but hot plates and hot food are hard to manage unless the number of guests to the easier menu and have everything perfect than to struggle with keeping the food hot, carving, dishing and serving all in a kitchen not built for large social affairs.

For the meal served on a tray, hot rolls can be used, and they should be buttered in the kitchen. Two or stiff, rather than soft and capable of

setting tables for all the guests she of time and the ice cream bought in

For the little fancy things salted nuts, preserved fruits heavy with sugar, bon bons, rich home-made candy loaf in tiny boxes, bits of wedding cake in fancy ribbon-tied boxes, to "dream over," tiny fancy cakes in assorted colors, and a number of other trifles can be used. Write to some firm in the nearest large city and ask for prices and descriptions of little fancy novelties, or get some friend in the city to make your selection.

All the things one reads about in papers about miniature brides and grooms at each plate, maline depending from the ceiling, yards and yards of ribbon strewn over the table and dozens of wax candles need not disturb the country hostess. She can use flowers or a wedding cake or anything she chooses for a simple center piece and let the "minnery" go by.

A large handsome frosted bride's cake is a beautiful ornament on the bride's table, or a basket filled with roses or other flowers, but ribbon never adds much to the beauty of the is limited. It is far better to stick occasion. Have your food good, abundant and nicely served and you will not have to worry about what your guests think of it.

### SOMETHING TO TAKE CARE OF.

OH, mother, I wish I had a cat or a dog or a baby-or some kind of three different spreads can be passed, an animal," sighed the little boy one but they should be heavy and rather day. He was expressing the natural desire every child has to care for and mixing with other foods. Chicken pat- protect something smaller than himties or salad, escalloped or creamed po-self. This is a very good wish for a

derness and responsibility.

The cat and the dog and the baby the child if these are out of the ques-

child to have and the wise mother uses winter. He was very proud when it | it at once to develop a feeling of ten- blossomed before his brother's did, and watered it carefully every morning.

A small bed of pansies was given to should be in every family if possible, a little girl one spring day, and she but there are other ways to please was told it was her flowerbed to care for. Her mother suggested that she tion. One mother put a bowl of gold- supply the table with pansies, pickfish on a low magazine stand, and let ing a few at a time for a low dish, her little boy feed them each day. He then showed the child how to comwas interested in watching their hab- bine colors to make lovely effects. The its and he and his mother often talked little girl learned many things about about the tiny, beautiful fishes. 'An- flowers that summer and tended her other boy was given a geranium at a garden faithfully, with love in every church concert and cared for it all touch she gave the pansies .- N. K. A.

### Cleaning Saves Buying

By Addie Farrar

dry-cleaner's bill. Especially is this so should be sponged with ammonia and in a large family, and often times good water. Men's clothes may be cleaned clothing is discarded because it does in this fashion very easily. not seem to warrant another bill for cleaning, clothing that cleaned might sponged or dipped in cold coffee and be made over or combined with other pressed. They will then look like new. material and thus save the price of new garments.

Dry cleaning is not such a secret are not in business for their health, monly known, hartshorn ammonia. would have us believe. Any sensible common household accessories as dry of the chemicals in the dye and the fabrics and certain colors. Long experience tells the professional cleaner this when he glances at a fabric, but the home cleaner can find out just as before attempting to renovate the entire garment.

cleaning it is wise to set aside a home cleaning department, a shelf where this mixture as it acts slowly. there are such good old standbys as Fuller's earth, French chalk, an ounce of chloroform, a bottle of ammonia, carbonate of soda, a goodly supply of Javelle water, glycerine, benzine and gasoline, being sure to keep the last fire. With this array you can subdue ground rice.

The grease spot on your silk frock will require French chalk. Cover the spot with the chalk and let it remain on all night. In the morning iron unalso clean your light colored shoes or allow them to become too dirty before

stiff bristled brush, and it should look sample.

MONG the minor expenses of the like new. Of course, all grease spots A household nothing seems to run should be removed before the salt away with more money than the cleaning; and shiny marks due to wear

Black silk and black lace should be Turpentine will remove grease spots from velvet. Acid stains can be removed from many materials by the approcess as professional cleaners who plication of hartshorn, or, as it is com-

If you are unfortunate enough to woman, even with only the use of such get a paint or varnish spot on your best suit do not be discouraged, just salt, bran, corn flour, ground rice and cover the spot with a little turpentine, gasoline, may successfully compete or saturate the stain with benzine, and with the cleaner. The success of clean- rub until the paint is loosened. Then ing lies principally in the knowledge scrape off with a blunt instrument and apply more turpentine until spot effect of these chemicals on certain disappears. Alcohol will sometimes take the place of turpentine if the spot is not too old. Stains from tea, coffee, or chocolate on silk should be treated with glycerine mixed with cold well by trying a piece of the material water, and fruit stains on colored goods will respond to an application of glycerine and alcohol in equal parts. If there is a big family and much It must be remembered, however, that repeated applications must be made of

Gasoline, although rather dangerous to handle on account of its inflammability, is one of the best cleaners in the world. This fluid will not remove blotting paper, plenty of soap flakes, grease stains, but will take out the dirt and will not injure a fabric. I find that when Putnam's cleaner, a soapytwo remedies away from the heat or like fluid that is sold in the drug shops at a small price per bottle, is mixed any spot that may attack the family with the gasoline, the cleaning is twice clothing or the household linen. To as easy and several times as good. Silk this, add dry salt, bran, corn flour, and and other gowns dipped into a mixture of gasoline and cleaner come out like When washing white gloves in gasoline it is well, while they are still wet, to lay them on a cloth and cover well with flour on both sides. When der brown paper. French chalk will dry the flour can be brushed off and the gloves will be left soft and white. evening slippers, provided you do not Benzine is best for cleaning dark gloves. When the plume on your hat cleaning. Spots on light colored or gets too grimy, wash it, providing it evening coats may be removed by sun- is white, in a warm suds made of pure dry applications of this same French soap and warm water and then rinse chalk or, better yet, a good rubbing and dip in a cold starch water. Let with Fuller's earth. Suede shoes and dry, shake out the starch, and the shoe tops may also be cleaned with plume will be as fluffy and full as Fuller's earth. White or light felt hats when new. It can then be curled with that have soot spots on them require a blunt knife, strand by strand, and

been crushed as fine as possible and gar will remove them from gowns. passed through a sieve to free it from However, in using this remedy it is all lumps. Spread the garment on the always well to wet a piece of the gown table and strew a thin layer of salt all material first to see what effect vineover it. Now take a white pad and rub gar will have upon the color and the the salt into the tweed with long fabric. In fact, in cleaning with anysweeps downward. Never rub up and thing it is well to try a piece of the down or round and round, as this spoils material before putting a gown hapthe nap of the material. Brush off all hazard into any fluid. I often take a the superfluous salt and go over the piece of gown material and stain it more soiled parts, such as the hem of with the same liquid, grease, oil, or the skirt and the sleeves of the bodice, paint that has spotted my frock and a second time and then give the dress then try my remedies, using the one a most thorough brushing with a clean that proves the most efficacious on the

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## Profit and Experience in Clubs

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USSUTH county, Iowa, is noted for its pure-bred live stock, and the breeders are back of their sons and daughters in the junior club work. The bankers of the county are also interested. The farm bureau chose an able leader, Mr. C. E. Fish. who is a graduate of the Ames Agriin the county.

there were twenty-two Holstein-Friesian calves and eight Guernsey calves borrow \$7,000 from the local banks for a period of two years to finance their

By V. W. McCray

they were the same calves which he had seen a month before. All the grade calves were sold at public auction in the winter.

In the Pure-bred Gilt Club there cultural College. Mr. Fish is assistant were forty-six gilts distributed among to the county agent, W. T. Makestead, the boys and girls who preferred a pig and had full charge of the club work to a calf. These gilts were purchased a the county.

of the breeders in the county. The In the Pure-bred Dairy Heifer Club pigs were shown at the county fair where \$50 in premiums was offered for each breed. The National Hampshire fed out. The boys and girls had to Breeders' Association also gave \$100 to the winners in the Hampshire class. There were ten cash prizes for each calves. At the end of two years the breed, rather than two or three larger

pure-bred sire and profits by the experience of the youth.

NEW GIRLS' LEADER IN UPPER PENINSULA.

M ISS RUTH CRESSWELL, formerly assistant state club leader in Washington state, is now a member of the state club staff in Michigan and has charge of girls' club work in the upper peninsula. Her headquarters are at Court House, Marquette.

### SERVICE THE MEASURE.

It isn't the cut of the clothes that you

wear, Nor the stuff out of which they are made,

Though chosen with taste and fastidious care,
And it isn't the price that you paid;
It isn't the size of your pile in the

bank, Nor the number of acres you own.

It isn't a question of prestige or rank,
Nor of sinew and muscle and bone;
It isn't the servants that come at your

call,
It isn't the things you possess,
Whether many or little—or nothing at

It's service that measures success.

### IN CHARGE OF CLUB LIVE STOCK WORK.

A BOUT March 15, Mr. Nevels Pearson, formerly assistant state club leader in Kansas, will take charge of live stock club work in Michigan.

### POTATO CLUBS DEMONSTRATE VALUE OF DISEASE-FREE SEED.

B ECAUSE 225 boys in Butler county, Pa., showed that the use of diseasefree seed potatoes last year resulted in increasing the yield one-third, Butler county farmers have ordered ten carloads of disease-free seed potatoes for planting this year. The boys were enrolled in eleven potato clubs conducted in cooperation with the United States Department of Agriculture. Each boy purchased one bushel of disease-free potato seed brought from New York, which was planted beside home-grown seed for comparison and to demonstrate the value of diseasefree seed. Field meetings were con-



Iowa Boys Get Practice in Judging Stock, as do the Michigan Boys. The Club Leader is Showing them How to Judge Brood Mares.

vices of some of the best bulls in the Watson owned by C. F. C. Lagge and Iowa State College, and is one of the have been offered free. The calves are all insured.

The junior owners entered their calves at the county fair where there was \$50 in premiums offered for each breed. The first prize Holstein heifer in the club also too first prize in the open class, winning \$18 in premiums. When the boys and girls can outdo their fathers in the show ring it shows that they have not neglected their heifers. One girl has been offered five times what she paid for her calf.

The Grade Dairy Heifer Club is a. forerunner of the pure-bred dairy calf club. There are thirty-seven members in this club. The leader says that these clubs are very successful, every one of the members being more of a booster six months after the club had started than when they started. This club was divided into two clubs, The Ledyard Club and The Titonka Club. Since the grade calves were not shown at the county fair Mr. Fish arranged for a local show, held at Ledyard. This was called "Dairy Day." The members enter all the calves which were judged and prizes awarded to the winners. There are twelve members in the Ledyard Club.

The Titonka Grade Dairy Calf Club is one of the largest of its kind, in the state, with twenty-five members. At Titonka a little different method was followed. The local banker, who loaned the money to the boys and girls, and Mr. Fish arranged for a tour with the members so that each boy and girl saw every other member's calf. At each farm the owner of the calf told how he had fed and cared for his or her calf. Each member went home determined to take better care of the calf. One month later when Mr. Fish

heifers will be sold, in calf or with calf prizes. On the last day of the fair the at side, at public auction. The ser- gilts were sold at public auction. All the members made a profit on their county, including Iowana Homestead pig and gained much valuable experience out of it. The boys and girls were very enthusiastic about the work. three greatest Holstein sires in Iowa, As Mr. Fish said in telling about their interest, "Every time any of them come to town they come up to my office to tell me about their pig or their calf, and to ask for suggestions. Already thirty-five of the gilt club members have entered the sow and litter club for next year. If the work is developed on a safe and sound basis rather than with a show and a splurge. it will grow into a permanent institution instead of dying out the first year."

In addition to the club work, Mr. Fish coached the boys in judging. This way they were able to judge a good animal as well as to feed and care for it. Every phase of the work was a



The Showing of Prize-winning Hampshires by the Boys of Kussuth County, lowa, at their County Fair.

success and much credit is due the ducted in August to show diseases and leader. The work develops community differences in appearance under growinterest as well as an interest in bet- ing conditions. ter live stock. When a boy or girl is in a club of this nature, he or she is and club demonstration meetings were not thinking about some job in town. held. It was found that the disease-Few club members leave the farm and free seed was responsible for about start working away from home. In one-third of the increase in yield over many instances after the son or daugh- home-grown seed, the other two-thirds ter has had a successful year in a jun- being due to better cultural methods. made an inspection of the calves he ior club, the father takes more inter-

In October the potatoes were dug

Sixty-five of the boys secured an insaid that he could scarcely tell that est in his live stock and invests in a crease of thirty-nine per cent with disfathers' home-grown seed. Each boy tions that are puzzling you-I know I was given a bushel of disease-free did when I was a boy. Perhaps I can

AM never so happy as when I have young folks. I like to learn what they hopes and ambitions.

what you are doing and what you want from you.-Uncle Frank.

ease-free seed, as compared with their to do. Perhaps you have some queshelp you out on some of these. I want to be what the educational editor said OUR CORRESPONDENCE CORNER. he expected me to be-a pal to the Michigan Farmer boys and girls.

In a short time we are going to start letters to read, especially from the a correspondence corner in which we will use letters from my pals. I am are doing, and to talk over with them not much at making promises, but I their trials and tribulations—their "kind of feel it in my bones" that we are going to have a lot of fun togeth-So, let me hear from you. Tell me er. Let's start right away-let's hear

### Contests and Other Things

question and answer contest in found number seven just the same. the issue of March 4 greatly exceeded our expectations. In fact, the dred got all the questions right, so replies came in so fast that I was you can imagine the difficulty I had in swamped and had to neglect my other work. So we got Uncle Frank to take right down to fine points. They were

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### The Prize Winners

Here are the young folks who won a dollar each in the March 4th contest:

Alice Metcalf, Adrian, Mich. Margaret L. Kroener, R. 5,

Quincy, Mich. Doris Goodrich, R. 8, Eaton

Rapids. Mich. Lewis Hooghouse, R. 2, Free-

soil, Mich. Wells J. Bruno, R. 3, Durand,

Mich.

Try hard and you, too, may be among the lucky five in this week's contest.

care of these contests and to manage the entire boys' and girls' department.

We are expecting Uncle Frank to be a regular pal to the boys and girls who read the Michigan Farmer. He's had the joys and trials of boyhood. For instance, at times he thought that grown folks were made just for the purpose of preventing him from doing what he wanted, and at other times he thought the older folks were O. K. Now he is on the other side, trying as a father and pal to guide his boys to a useful manhood. Besides, he is still a boy in spirit and likes his play as well as his work.

Almost from the time he learned to. whistle he had an appreciation of girls, a real wholesome appreciation. He still has this and feels sure that he has a realization of their hopes and ambitions, too. So he will endeavor to be a pal to the girls as well.

We will now let Uncle Frank speak for himself.—Educational Editor.

### What the Letters Showed.

There have been times when I have waited and waited, and thought the postman the meanest man on earth because he did not bring me a letter, but this last week I had no such feelings. I certainly was in clover reading the many interesting letters from all parts of the state, and other states, too.

All letters showed a thorough reading of the Michigan Farmer, but quite a few could have shown greater care in writing.

Question number two was the stumbling block for many. They gave the answer as cultivated orchards instead of sod mulch orchards. It is true that cultivated orchards give the best average results, but the sod mulch orchards give the most uniform yields from year to year.

Quite a few got question three wrong and many missed number seven entirely. Of course, the latter oversight was not entirely their fault, as the printer put the "cut-off" line in the

HE results of our educational wrong place, but the observing ones

Seventy-nine of the nearly six hunpicking the winners. I had to get selected, however, for the clearness and conciseness of their answers, correctness of composition and the easy reading arrangement of their letters as well as for neatness and the correctness of the answers.

#### The Answers.

The correct answers were as follows:

Alfalfa, 2.3; other hay, 1.2 No. 1. tons. Page 3.

No. 2. Sod mulch. Page 30.

Vitamines. Page 28. No. 3. No. 4. Kansas City. Page 34.

No. 5. Phillips Brooks. Page 22.

No. 6. For controlling mosquitoes. Page 19.

No. 7. Three years. Page 4.

In another place on this page you will find the names of the winners, and also this week's contest.-Uncle Frank.

### Read and Win

THOROUGH reading of the A Michigan Farmer helped the five boys and girls mentioned on this page to win a dollar. It will help you do the same thing, if you get busy this week. Look through the pages of this issue for the answers of the questions below. Write the answers neatly and concisely, numbering each answer to correspond with the question, and give the number of the page on which the answer was found. The five best answers from boys or girls will win a dollar each. Address your letters to Uncle Frank, Michigan Farmer, Detroit, Michigan. Contest closes March 23.

-If a man buys a farm clear of all indebtedness, but later a silo company presents a note signed by the seller of the farm for a sil on the farm, who is liable on the note?

2.—What is a good dry mash for Leghorn hens in the winter? 3.-What will take fruit stains out of colored goods?

4.—What variety of peaches stood the recent storm the best? 5.—What will relieve nervous

headaches and colds in the head? -What caused the farmers of Butler county, Pennsylvania, to buy ten cars of disease-free potato seed for this year?

7.—What promises to be a competitor of grape juice as a

8.—What is the natural growth of dewberries a sure sign of? 9.—What is as interesting as a

comic supplement? 10.-Where do nearly one-third

of the population of the United States live?

Look for a new brain teaser next week. It will be interesting.

### HOMESTEAD FARMS Michigan people: He something in your own to interest you. Let us **Pure Bred Practical Poultry**

Here is an egg producing poultry stock such as the farmer poultry-woman wants. It is proving our in actual eggs in the hands of the farmer poultry people who

White, Brown and Buff Leghorns; Anconas; Black Minorca; Barred, Buff and White Rocks; Rhode Island Reds; Wyandottes; Orpingtons. stock is culled and bred on the plan of the state cultural College, and all the Hens in the Breed Jolonies are practical egg-producing Hens.

If you will send for a description and egg record of this Pure Breed Practical Poultry, you will find stock that it will pay you to buy. Buy Day Old Chicks this year and see the results you will get. EIGHT WEEKS OLD PULLETS

We shall have 5000 Eight-weeks and Three-month; Pullets to sell in May, June and July in all our breeds Orders can be placed now for these Pullets. We will send you description and Price List.

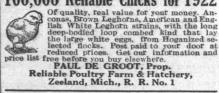
STATE FARMS & SSOCIATION Box A47, Kalamazoo, Mich.



### OVIESBABYCHICKS Makes Producers!

For years we have been building up utility heavy laying strains of exhibition quality so our customer's will be assured of success. 12 leading breeds. 12 each and up. Safe arrival guaranteed by P. P. Prepaid. Catalogue free. Ovie's Poultry Farm & Hatchery, 32 State St., Mari'n, Indiana

### 100.000 Reliable Chicks for 1922



ANCONAS "Superior Quality" baby chicks and fertile eggs from M. A. C. selected 250 egg strain hens, mating list free. MANNINGS ANCONA FARM. Coldwater, Mich.

### **DAYOLD CHICKS**

White Leghorns \$15 per 100; \$8 for 50; and \$4.25 for 25. Barred and White Rocks, White Wyandottes and Rhode Island Reds \$17 for 100; \$9.00 for 50; and \$4.75 for 25. Order from this ad, terms cash with order. Custom hatching 5c per egg, hatchery capacity 9600. Hatchery 4 miles east of Mt. Morris on Mt. Morris on done mile north and one east. Valley Phone No. 14.5. ROSS WADE, Prop. Meadow Brook Hatchery. Mt. Morris, Mich.

### Free ROYCROFT Book B-A-B-Y C-H-I-X

WHITE LEGHORNS AND MOTTLED ANCONAS
Also Black Leghorns, Brown Leghorns, Buff Leghorns, Black Minorcas, R. O. Rhode Island Reds,
Barred Plymouth Rocks, White Plymouth Rocks,
Silver Wyandottes, White Wyandottes, WE HATCH
eggs from Hoganized flocks on free range on separate
farms. Valuable Booklet with first order for twenty-five or more

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Hoganized, full blooded, high egg producing Leghorns and Anconas from best flocks in Mich. Also Pullets, Cockerels and Yearlings. Order now. Reduced Prices. Catalogue free.

Twelve most popular varieties. Hatched from flocks which have been bred for quality and culled for heavy egg production. 100 percent live de-livery guaranteed by parcel post prepaid.

Mankel Ideal Hatchery Upper Sandusky, Ohio

CHICKS from trapnested hens. English S. C. White Leghorns and Barrad Rocks Everyhen on our ranch trapnested. Pullets red Rocks, Every hen on our ranch trapnested. Pullets in season. Also few cockerels. Catalog free. Hudson-ville S. C. White Leghorn Ranch, Hudsonville, Mich.

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Thoroughbred varieties of Tom Barron English White Leghorns, S. C. R. I. Reds, Barred Rocks, Big. Strong and Healthy Chicks from tested heavy producing stock, correct in plumage and color as well as being EXCELLENT LAY-ERS. Our prices will interest you. Write for them. We GUARANTEE safe arrival of our Strong and Vigorous Baby Chicks. FIRST COME FIRST SERVED, so we advise to place with us your order as soon as possible. Write AT ONCE for our interesting catalog. It is FREE.

BRUMMERS POULTRY FARM,
BOX 25, Holland, Mich.

### BABY CHICKS

S.C. Anconas and S.C. White Leghorns. Be sure and get description and prices of our stock before you order.

M. D. WYNGARDEN, Route J4, Zeeland, Mich



Anconas and White Leg-horns. High grade stock only. Bargain prices. Send for free circular and price list

Vriesland Poultry Farm, Vriesland, Mich.

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Shepard's Anconas, English Type White Leghorns and Brown Leghorns and Barred Rocks. Why pay two prices when you can buy direct? Our chicks are from strong, vigorous flocks of fine quality and excellent layers. Chicks are shipped prepaid with 100% live arrival guaranteed. Order now, catalogue free.

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CHICKS, Have shipped thousands each season prices. Freeport Hatchery, Box 12, Freeport, Mich.

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	Wh. & Brown Leghorns	15.00		4.25
j	Buff & Bl. Leghorns	16 00	8.50	4.50
	Ancona & Minorcas	17.00	9.00	4.75
ij	S. C. & R. C. Reds	17.00	9.00	4 75
	Barred Rocks	17.00	9.00	4.75
	Buff & Wh. Rocks	18 00	9,50	5.00
	Wh. & SL Wyandotte	19.00		5.25
	Buff Orpington	19.00	10.00	5.25
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	Start the season right wit	h chicks	that can be o	lepen-
	ded upon to produce profit hens. Farm at Hudson, (	O. Mail	orders to	
	J. KREJCI. 2165 East	86th St.	, Clevela	nd, O

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Baby Chicks \$12.00 per 100 and up Hatching eggs, \$1.50 per setting to \$15.00 per 100. We are listing IT varieties of pure bred fowls; Chickens, Geese, Ducks & Guineas, also breeding stock. Send for prices and circular Booking now far early delivery. CLINTON HATCHERY & POULTRY FARMS, Wilmington, Ohio.

Buy Chicks Where Quality Counts. All my flocks culled. You get chicks from nothing but best layers. Safe arrival guaranteed by prepaid parcel post. Ask about 8-week pullets. HERMAN J. COOK, 133 W. Main St., Zeeland, Mich.

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BRED-TO-LAY R. C. Brown Leghorn eggs \$1.50 for 15 or \$6.00 per 100.

ARTHUR CLARKE, Alto, Mich. Additional Poultry Ads. on Page 344

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English type S. C. White Leghorns and S. C. Brown Leghorn Chicks from Hoganized heavy laying selected breeders. 10 years of careful breeding for egg production. Our chicks are hatched right and will grow right and are easy to raise. We guarantee satisfaction. Order now for March and April delivery. Prices very reasonable. Catalog free.

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Place with us AT ONCE, your order for Baby Chicks. Our supply is limited and we refuse to sell anything but our OWN STOCK, so we advise to not delay. Buy from Michigan's largest practical Single Comb White Leghorn Egg, Pullet and Broiler Farm. We supply every egg that goes into our incubators from our own strain of BRED TO LAY UTILITY S. C. white Leghorns and have a few thousand surplus chicks to spare at certain periods of the season. We GUARANTEE each customer ABSOLUTE SATISFACTION. Write NOW for interesting PRICES, before placing your order elsewhere. Drop us a Post Card TODAY. Chicks delivered at your door by Parcel Post Free. 100% ALIVE

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From "Pedigree" sired "culled"
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of S. C. White Leghorn Barron Strain and Shepherd's Anconas. Pure bred stock, the kind that grows fast and makes the best layers. Safe delivery guaranteed Parcel Post Prepaid. Catalogue free. Costum hatch-ing in season \$3 per 100 eggs, chicks 14 cents. Byron Center Poultry Farm, G.C.Keizer, Byron Center, Mich.

CHICKS

We have bred our flocks for heavy egg production for many years. We now have the finest flocks in this vicinity. Buy chicks from the largest chick producing center in the world. Leading varietes—Leghorns and Anconas. Send for catalog.

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DAY OLD CHICKS

your Baby Chicks now from selected heavy strain. Single Comb White Leghorns, English Brown Leghorns, Anconas, Reds. Send for lst. Hillcrest Hatchery, R. 2, Holland, Mich



CHICKS





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Now-or write today
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"Hatching Facts"
It tells the whole
story.-Jm Rohan, Pres.
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Wisconsins are made of genuine California Redwood. Incubators have double walls, air space between, double glass doors, hot water, copper tanks, self-regulating. Shipped complete with all fixtures set up, ready to run and freight prepaid.

180 Egg Incubator and Brooder, \$20
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250 Egg Incubator and Brooder, \$30
30 TRIAL Send for our 1922 Catalog today.

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Money Saving Brooder For Poultry Raisers

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An AIR-TIGHT, self-regulating Stove. That's hy it burns SOFT COAL with such marvelous access and at a saving of nearly half over hard coal. Greatest, stove in the world to hold fire. Economy of fuel more than pays for its. Burns hard coal or coke if desired. Holds fire over night with stove wood. Write us for literature.

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LEE'S LICE KILLER

## Farm Poultry

THE COLONY HOUSE PLAN.

OLONY houses are so useful that they are worthy of a trial on more farms. I find an eight-by-ten house to be ideal for a stove brooder which protects about two to three hundred chicks. The houses I have used have been ten feet wide and eight feet deep

When colony houses are used for



than when the brooders are placed in around the top of the head due to the larger buildings. Colony houses can activity of the male birds. be moved if new soil is needed for the er they can be hauled into the fields Possibly your birds eat shells when or orchards where the growing poul- you are not around, but are interested try will have fine range conditions. in other feed you are giving them, Portable roosting sections of two-by- when you are present. They may not two pieces can be made to fit into each seem to be eating much shell and still other as soon as the chicks are wean- obtain enough. If the eggs are coved and ready to roost.

when built on skids. These skids can shell-making material to satisfy their be made of eight-by-two planks. Nail needs. two planks together and bevel the edges. That makes a good skid for one side of the house. Then make the other and use the two skids connected

window in front and a smaller opening above the window for ventilation. When the curtain is down on rainy days the window furnishes enough light for the chicks.

### CARE OF HATCHING EGGS.

B UYERS of hatching eggs often rush The best means of distinguishing the eggs from their package to the purebred stock from mixed stock is incubator or the hen's nest. Experiin the best of packages there is some distinguishing signs between "fulljostling of hatching eggs in transit and bloods and partial-bloods" but it would

ting, it is best to turn them each day, often appear in finely bred Barred after the third day. It pays to remem- Rocks are due to the Black Java blood ber that the fresher the eggs the great- which was used many years ago in

The nests should be perfectly clean as hatching eggs cannot be washed without destroying the protective film which nature places on fresh eggs. If an egg is only slightly soiled it can be cleaned enough to place in the machine without using water or washing the entire egg.

When eggs are placed under hens but the new ones will be eight feet they should be tested out some time wide and ten feet deep. This addi- between the seventh and tenth day. tional depth makes it possible to put Then remove the infertile eggs and the brooder quite a distance back from those containing dead germs. Often the window. When colony houses of spoiled eggs are left in a nest until that depth are used for roosting quar- the close of the hatch. If one is brokters during the summer, it is best to en it does injury to the other eggs or have an opening in the back for ven- the chicks and is also bad for the morale of the poultryman who must clean the nest to save the balance of brooding there is much less fire risk the hatch. If all the eggs are bad it is better to find it out soon and not waste the time of the hen.

### POULTRY QUESTIONS.

Our chickens have picked or have lost feathers around comb. Is that unnatural and harmful? Chickens also do not eat enough, or scarcely any, oyster shells if placed in the hopper alone before them. Can they be mixed in the dry mash? If so, what proportions?—R. R.

Hens may lose feathers because of scabies caused by mites which work at the base of the feathers. Carbolated vaseline rubbed on the bare spots will usually destroy the mites. In spring the hens sometimes lose the feathers

Poultrymen do not mix the oyster growing stock. They can be placed shells with the mash as it is found near the farm home early in the spring that the birds will eat shells from the when the brooders need attention. Lat- hoppers when that material is needed. ered with firm shells it is evidence Colony houses are easy to move that the hens are obtaining enough

### BREED CHARACTERISTICS.

other and use the two skids connected by two-by-fours as the foundation for the floor boards.

The best colony houses have a glass window in front and a smaller opening

Can you give some of the characteristic points or signs by which I can distinguish a full-blood from partial bloods of the White Leghorns, male or female? Also of the Barred Rock?

L. H.

We cannot give you a description of the breeds as given in the Standard of Perfection as this material is copyrighted and sold for the benefit of the American Poultry Association. would pay you to obtain a copy of this book through the office of the Michigan Farmer.

ments have proven that it is best to study the types. Much information to visit owners of purebred flocks and let the eggs stand about ten or twelve can be gained at poultry shows. When hours. This gives them a chance to buying stock a guarantee of good quale more normal before the growth ity can only be obtained by dealing of the germ is allowed to start. Even with reliable breeders. You request they seem to hatch best when given a be impossible to give any definite numchance to settle before incubation ber of signs or describe them as they would be so variable depending upon Hatching eggs should be stored in the breed which was mixed in. Every a room where the temperature will be breed crossed on a purebred fowl about fifty degrees. Too much heat would probably give progeny of cerwill start a slow germination and even tain characteristics. Things that did a slight chilling may weaken the germ not show up in the first generation so the egg will not hatch. If hatching might appear in the second or later. eggs are held several days before set- For example the black feathers which er the chances for a good hatch, producing the breed. Most of our best

### EGGS \$1.00 A DOZ. ←



Did your hens fill the bas-ket last winter when eggs were \$1.00 a dozen? If they did no doubt you took the

### Modern Poultry Breeder

In not you'd better subscribe. "Dollar eggs are easily secured when fundamentals of production are understood," says Prof. Foreman, head of MUDERN POULTRY BREEDER. "How to Plant for \$1.00 Egg Crop," is the subject of his March article.

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#### POULTRY

### 5 to 6 Lb. White Leghorns Larger hens, better winter layers. Free catalog describes them, tells a new way to cull hens, feeding methods, how to make a mash hopper that won't waste feed or clog, and other information. A.WAUCHEK, Gobleville, Mich.



BABY CHIX March and April Delivery Prices. Barred Plymouth Leckorns 25 for \$5,50, 50 for \$10,00 or 100 for \$17.00 parcel post prepaid, 100% live delivery guaranteed. Our 12th year producing the kind of chix that please. Get our prices in 500 or 1000 lots. GREEN LAWN POULTRY FARM, Route 3, Fenton, Mich.

Barred Rock. Hatching eggs from Parks 200-egg strain from stock direct from Parks best pedigreed pens, \$2 per 15, \$6 per 50, \$12 per 100. Prepaid by par-cel post in non-breakable containers. No chicks for sale. R. G. RIRBY, Route I. East Lansing, Mich.

### Baby Chicks and Hatching Eggs S. C. English White Leghorns. Bred from heavy egg producing strain from our own free range poultry farm. Circulars free. VILLAGE VIEW POULTRY FARM, R. 3, Zeeland, Mich.



Crystal Poultry Farms High quality baby chicks from heavy lay-ing strains. Prize winners at leading state fairs. 35 best breeds. Prices very reasonable. CRYS FAL POULTRY FARM. 7902 Franklin Ave., Cleveland, Ohio

Barred Rocks. Hill's heavy-laying prize-winning strain. Eggs 15, \$2.00; 50, \$5.00; 100, \$9.00 prepaid. Lucian Hill, R. 3, Tekonsha, Mich.

Barred Rocks from Rocky Ridge Hatching eggs from Park's Pedigreed Selected Stock \$2.00 per 15. Prepaid by P. P. Booking orders for day old chicks. W. T. Richardson, Hanover, Mich.

BABY CHICKS \$13 per 100 and up. Leghorns, Rocks, Reds. SEND FOR PRICE LISTS. CONNERS CHICK HATCHERY, Oxford, Mich

Chicks From "Michigan's Old Reliable Hatchery." 8, C. White Leghorns, (3 grades). Anconas White and Barred Plymouth Rocks and Reds, Fine strong sturdy chicks from Grand, bred-to-lay Hoganized, free range breeders, Prepaid by mail, 100 s alive on arrival. Sold on gnarantee to satisfy or money back, 15,000 every week, 14th season. Get my low price and valuable illustrated 1922 free catalogue, and place your order where you get your money's worth. Write your order where you get your money's worth. Write worth with the control of the control of

Chicks of Quality pure bred S. C. White Leghorns and Anconas; bred exclusively for egg production and best standard qualities for prompt delivery; order now: new low price catalog free. Riverview Poultry Farm, R. 2, Zeeland, Mich.

CHICKS Bred-to-lay S. O. W. Leghorns, S. O. Anconas and Barred Rocks' quality chicks that please, guaranteed full count, parcels post paid. Leghorns \$14.00 per 100. Anconas and Rocks \$17.00 per 100. Special prices 500 to 100. Circular. Sunnybrook Poultry Farm, Hillsdale, Mich.

100,000 Chicks 12c & Up. Of pure bred finest egg directly from laying and exhibition contest winners hatching eggs. Ducklings. Catalog. 20 varieties. Early bookings avoids disappointment. Beckman Hatchery, 26 E. Lyon, Grand Rapids, Mich.

Day Old Chicks From best selected flocks, all popular varieties, chicks and prices that are right. Send for price list, HOMER HATCHERY, Homer, Migh.

HA1 HA1 { 75,000 cHiCKS
Buy Hi-grade Profit Paying Bred-to-Lay Chiz. From
tested egg strain. Best foundation stock ever produced,
Hatching eggs, duckings, 10 varieties. Clr. stamps appre.
Laurence Poultry Farm. R. 7, Grand Rapids, Mich.

Day Old Chicks, S. C. White Leghorns. They are from the big, thrifty, persistent producing stuff for which Macalwhite Poultry Yards are becoming noted. We know we can give you satisfaction. Send for our circular. Macalwhite Poultry Yards, Caro, Mich.

### STRONG BABY CHICKS

From flocks bred for heavy egg production. We offer Leghorns. Rocks, Reds, Wyandottes and Anconas, 100 s live delivery, prepaid post. If you make your living or a part of it from poultry, we can help you. Catalog free.

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BABY CHICKS 1922 delivery now feady. White Leg-horns White Rocks, Buff Orpington, Buff Rocks, Bar red Rocks, R. I. Reds, Black Minorcas, S. C. Anconas Guaranteed pure bred and live arrival. Postage paid DURAND HATCHERY, Renton, Mich

The beautiful business hen! Wonderful winter layers, Big white eggs. World Record layers American Erg Contest! Greatest winners New York-Chicago, Hardy, vigorous money makers, Stock Ergs, Chicke, shipped safely. Catalog free.

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breeds are "made breeds." That means that man has developed them by certain systems of breeding and the use of certain crosses.

By studying the Standard of Perfection and observing purebred birds you can soon form a mental image of the true type and in that way know purebred fowls from different crosses.

### STOVE BROODER FUEL.

C HESTNUT hard coal makes the most satisfactory fuel for the coalburning brooder stove as it seldom goes out if the fire is given the proper attention and there is no difficulty in making the fire last all night. Coke makes a hot fire while it burns and can be used in brooder stoves but the stove may need attention during the night to be sure that the fire will last until morning.

Soft coal can be used in brooder stoves with grates constructed for that purpose. However, it is not usually considered as satisfactory as the hard coal. It pays to have a box in each colony house that will hold nearly a week's supply of coal. This saves carrying fuel in bad weather and reduces the time necessary to care for brooder

If you use oil-burning brooders it pays to buy the best grade of kerosene or the grade commonly sold by the oil companies for incubator use. This first-grade oil gives the most heat for the money and there is less soot and

It pays to use a good grade of fuel in spite of the cost, as the expense can be divided among two or three hundred chicks, making the fuel cost per chick very small. And if the fires go out the injury to a brood may be so great and no amount of fuel economy can make up for it.

### MANAGING THE LAYERS.

Will you please tell me how to cull poor layers from the good layers, and give me a daily ration for Leghorn hens—a good dry mash—V. K.

The best time to cull the flock is in the fall when the poor layers have stopped laying and started to moult and the best layers are still busy. However, you can do some culling now. You might cull out all hens that seem lacking in vitality. The active alert hens with the intelligent look are the best. Hens that go early to roost and come down reluctantly in the morning are apt to be drones.

Hens that are kept baggy with fat are not desirable. Unless the hens have been receiving a balanced ration for egg production it will be difficult to do good culling. Without the materials to make eggs at this season the best of hens might not be laying. Next August and September will be a good time to cull your flock to determine which layers to keep over for breeding stock in 1923. More extensive information on culling will probably appear in the Michigan Farmer about that time.

A good dry mash for Leghorns for winter can be made of one hundred pounds of ground oats, fifty pounds of wheat bran and thirty pounds of beef scrap. The grain ration can be two hundred pounds of corn to one hundred pounds of wheat. Another good dry mash can be made of equal parts of ground corn, ground wheat and ground oats plus twenty per cent by weight of beef scrap.

### SUNSHINE HOLLOW NOTE.

Flossie McGray says she don't mind men going hunting if they need a little exercise and can shoot straight. But she hasn't much use for the bum marksman who shoots the wings and legs off innocent birds and lets them drag around to die a week later.



### BABY CHICKS

### Best Laying Breeds on Earth

Barron English White Leghorns, also American white Leghorns, S. C. Brown Leghorns and Anconas, 25,000 large strong super-hatched chicks every week from Hogan tested flocks culled out Semi-annually by our Poultry Experts.

### 17 Years of Careful Breeding for Egg Production

You get the advantage of 17 years of careful breeding which brought our flocks up to their present High standard. Our wonderful winter layers are headed by large, vigorous and Pedigree sired males of exceptional quality.

Thousands of Satisfied Customers Make Big Money

Mr. F. L. Hess, Chicago. Ill., writes: "I averaged 112 eggs a day from 140 of your pullets and sold, \$158.00 worth of eggs in February."

Mrs Wyttenbach, Amherst, Ohio, writes: "I sold \$357.30 of eggs in two months from 200 pullets of your stock."

#### Raise Good Stock and Reap a Golden Harvest

Intelligent chick buyers of today do not take chances with ordinary stock. Our enormous output enables us to sell these money makers at a price that positively cannot be equaled

#### We Ship Thousands of Chicks Each Year

Every shipment is sent by PARCELS POST PREPAID, and we guarantee 100% live delivery. Send for our illustrated catalogue and prices today, it's Free.

Wyngarden Hatchery, Box M, Zeeland, Mich.

### BUY HUBER'S



### Our 13th Year

### 700,000 for 1922

By Parcel Post Prepaid—100% Live Delivery. Our Request is: Give us your order for some of our (Reliable Chicks) and we will prove that we will give you better chicks for the money than you can get elsewhere. Combination offers. Order Early. Write for Prices and Free Illustrated Catalog.

### HUBER'S RELIABLE HATCHERY,

EAST HIGH STREET,

FOSTORIA, OHIO

### PURE BRED BABY CHICKS WORLD'S CHAMPION LAYERS

Tom Barron English White Leghorns Imported Direct From England American White Leghorns—Brown Leghorns—Anconas

ALL FLOCKS on free range, vigorous and healthy, culled by M. A. C. experts, for years headed by Pedigreed Males.

All chicks sent prepaid to your door and live arrival guaran-



Our prices are very low and it will pay you to put in a flock of these Superior birds for profit. Get the most for your money.

Send today for our Free Cat-

Pedigree 278 Eggs in 1 Year

Superior Poultry Farms & Hatchery, Box 2053, Zeeland, Mich.

### BABY CHICKS Pure Bred for 1922



Bred-To-Lay from flocks selected for standard quality and production. We offer Exceptional values in following varieties: Leghorns, Rocks, Reds, W. Wyandottes, Orpingtons, Minorcas and Anconas. Our prices are right when quality is in consideration as this should be the main point in view. Get our big catalogue of Baby Chicks, Brooders & How to Care for Your Chicks after you have them, it is FREE, for the asking. Write today.

Wolf Hatching & Breeding Co.,

Dept. 10.

Gibsonburg, Ohio



## **CHICKS**

Eight leading Standard Vapure bred, healthy, carefully selected stock. We are not jobbers. We personally know what we are selling. Delivered at your door, parcel post prepaid. 100% live delivery guaranteed. Catalogue free.

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Seven varieties, from excellent purebred stock, 100% live delivery guaranteed. Parcel Post Prepaid. None better. Catalogue Free.

Lee's Poultry Farm & Hatchery, Edison, O.



All standard varieties. Our free catalog tells all about them. STILLWATER HATCHERY
Box G, Covington, Ohio

### BABY CHICKS

We furnish Pure Bred Chicks of the finest quality from high egg-pro-ducing stock, Flocks built directly from lay-ing contest winners. We have 17 breeds, Write for free illustrated catalog and price list. J.W. OSSEGE HATCHERY, Dept. 99 Glandorf, O. B. Rocks R. I. Reds

Day Old Chicks Leghorns Let us book your order for an early large and price list now ready. H. H. Pierce, Jerome, Mich. BABY CHICKS. All popular varie-

DERR& ADAMS, Litchfield Mich

### B-A-B-Y C-H-I-C-K-S

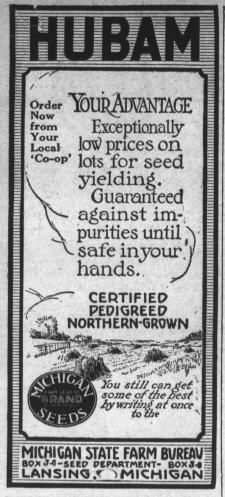
Book your order with us and get genuine foundation stock of Rocks, Anconas, English and American White Leghorns. We guarantee best quality and 100 \$ delivery. Large illustrated catalogue free.
Progressive Hatcheries, Box Q, Holland, Mich.

Baby Chicks and Hatching Eggs from trappediately pedigreed stock. Park's strain Barred Rocks. Heavy laying strain Rhode Island Reds. English White Leghorns. Quality, not quantity. Prices reasonable, Write us. Lakeview Poultry Farm, Box 3, R. 8, Holland, Mich.

Bred-to-Lay White Wyandottes 59 hens laid 1170 eggs in Jan. Eggs \$2.00 per 15; \$10 per 100. EVERGREEN POULTRY FARM, Blanding & Sons, Greenville, Mich.

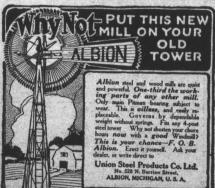
DAY OLD CHICKS S.C. English strain White Leghorns, Brown Leghorns, Anconas and Barred Rocks, free and safe delivery guaranteed. C. BOVEN, R. 12, Holland, Mich.

Additional Poultry Ads. on Page 352









## Stock Farming

### Save the Coming Pig Crop

Clean Quarters are Essential

NE practical means for increasing even on the feeding operation it would mer is to raise as many hogs as possible. Breeding time is long past, so the market for the coming crop. that no increase may be effected in the number of litters, but an increase in the number of pigs raised may be brought about by taking extra good of the system of swine sanitation orig-care of the sows before and at the inated by the department and demtime of farrowing, and by giving the onstrated with satisfaction by farmers pigs extra attention during the suck- in McLean County, Ill. This system, ling period at weaning time.

The possibilities for raising a bigger crop than usual are shown forcibly by records kept by the Department of Agriculture, which show that even under better than ordinary conditions 10 just before farrowing and put them in per cent of the pigs are farrowed dead the clean pens; (3) within 2 weeks or immature, and that 33 per cent are farrowing at weaning time. The last litters to a clean pasture where they figure was obtained by a study of the records on 229 litters. If half of the pigs that ordinarily would be lost ture for at least 4 months; (5) procould be saved this year, the increased pig crop would be able to make a large from the weather. dent in the corn surplus, or possibly remove it altogether. There is now a crop of healthy pigs are desirable evprofit in feeding corn to hogs, but if ery year, but this spring they are farmers could only expect to come out doubly important.

the consumption of corn this sum- pay to get rid of the excess of corn Marvelous French Discovery in the country because of the effect on

> which is designed to raise pigs free of worms, may be summed up in 5 requirements: (1) Clean farrowing pens with hot water and lye; (2) wash the dirt from the skins of the sows after farrowing move the sows and will have no contact with other hogs; (4) keep the young pigs on clean pasvide proper feed, water and shelter

These precautions to insure a good

### Breeders will Cooperate

Become Enthusiastic Over Proposed Plan By W. F. Taylor

the Oceana county convened at Hart, short talk lengthened until the noon February 28. The meeting was called hour was very short. to order at 11:00 a. m. by Mr. Alfred Henrickson, President of the Oceana Farm Bureau, and Secretary of Michigan Jersey Cattle Club.

Present pure bred Jerseys, Holsteins, Shorthorns, Guernseys and Duroc Jersey swine. County Agent Pickford was presented and proceeded to outline a plan of co-operation through are not wasting your energy in the which the breeders of pure bred livestock might use the Oceana Farm Bureau and through which the bureau ing for more efficient production. You might serve both the breeders and the buyers of pure bred cattle and hogs.

only ones having a county organization and one object of the meeting ple out west organized and promised was to induce breeders of other lines of livestock to organize, and develop and push their individual breeds. Mr. Pickford explained that a part of the breed organization should appoint two inspectors and a salesman, that all cattle offered for sale through this agency must pass inspection, and that each organization might arrange in its own way for payment of its inspector and salesman.

It was also suggested that the county agent would serve the various as- due time all came together again to sociations in every possible way and listen to Mr. Reed's address. Here would transport salesman from farm to farm as far as practical. Lastly, it ws stated that the County Farm Bureau would reserve the right at any time to withdraw its support from any association whose practices were not in harmony with the principle of "the square deal."

Prof. Reed on the Job.

President Henrickson then introduced Prof. O. E. Reed, of the M. A. C., who gave a short talk before the before we went to dinner; for it turned out that the things Prof. Reed seemed disposed to say gave more pleasure

ONE of the largest gatherings of could offer to eat; and so we stayed. livestock men in the history of while to our great satisfaction the

Mr. Reed said, in part: "In a general way I prefer to talk to men in the barn. Last week I addressed a large crowd from the platform, but didn't know what to say and in the end felt that I had failed; but I am glad to meet you this morning because you are on the right track. You effort to promote a "cost-plus" program but you are organizing and workare doing it, too, in a very intelligent way. Now and then a city puts on a At present Jersey breeders are the milk campaign, but the influence doesn't last. The other day some peoto eat corn every day. Something may come from these efforts but they are too much like many big revival meetings. I like an intelligent, constructive milk campaign that lasts the year around; and our friends out west might better feed the corn to the hogs and eat the pork."

Hold Breed Meetings.

After dinner representatives of the different breeds met in the interests of their several organizations and in are some of the good things he said: "The biggest word in this program is co-operation. Too few farmers know how to spell this word. Co-operation means everybody working together for the good of all. No man with six cows, either grade or pure bred, can afford to own a sire good enough for his herd. Here in Oceana County is one of the best Jersey herds in the country, but its owner could not afford to own a sufficiently good sire owned. noon hour, or more properly speaking, and so he joined with another breeder and they bought the animal.

"I am not particular how you people go at it-you may organize and purthan the prospect of the best that Hart chase sires or four or five of you may

## SURE QUICK DEATH FOR RATS AND MICE

Remarkable Triple Strength Virus Kills Every One Not a Poison

Another way in which pigs may be saved, and by which all the pigs may be made thriftier, is by the adoption of the system of swine sanitation originated by the department and demonstrated with satisfaction by farmers

Rats are your enemies. They destroy your buildings, eat your grain, kill your poultry, start fires and spread disease in every community. You need no longer suffer these losses—You can now in a week's time, easily kill every rat, mouse or gopher with Rat Virus, the great French discovery. Our triple strength virus is the most powerful concentrated deadly virus known, the only sure, safe rodent destroyer.

rodent destroyer.

Triple Strength Virus is absolutely safe to use anywhere—positively not a poison. No danger to chickens, horses, cattle, hogs or dogs. Harmless to children or grown persons. Affects only rodents.



Triple Strength Virus is prepared in a laboratory licensed and inspected by the U.S. Dept. of Agriculture. Triple Strength Virus is tested on rats, mice and gophers in this laboratory before shipment—it cannot fail.

Rats Die Outside

Triple Strength Rat Virus is easy to use. Simple directions show how. A single rat eating the virus gets sick with a contagious plague disease that affects and kills all rats and mice in the immediate vicinity. Rats fee because they become infected with a plague that affects the heart, blood vessels, and lungs, destroying the blood corpuscles and causing suffocation. The rats rush outside where they get fresh air and water. When the diseased rats get outside, they never get back for the disease is then so far gone it kills them. No odor, no dead rats to handle, no live rats to kill.

Special Introductory Offer

We want to prove to you our claim that Triple Strength Rat Virus is the most potent, most powerful—yet non-poisonous and absolutely safe—rat virus on the market. It is a TRIPLE STRENGTH Virus. Contains more living rat virus germs than any other rat killer made and will go one third to one half farther. To introduce this powerful Triple Strength Rat Virus, we will make every reader of this paper—for short time only—a special offer of a regular \$2.50 bottle for only \$1.00 postpaid. This \$2.50 bottle Triple Strength Rat Virus is enough to clear a big poultry house, barn or yard of rats and mice.

Money Back Guarantee

Your money back if it fails. Take no chances this year with traps or rat poisons. Only Triple Strength Rat Virus will positively kill rats, mice and gophers and be absolutely safe and sure. Give it according to directions—if after 30 days' trial you find any rats or mice—we will refund your money without question. Send \$1 bill today sure.

If not convenient to send \$1 today just send your name and address, a postal will do—pay postman \$1 and a few cents postage on arrival for regular \$2.50 bottle. Remember it costs you nothing if it does not do all we claim.

Agents Wanted in every community

GOLD SEAL LABORATORIES

GOLD SEAL LABORATORIES 3842 W. Lake, Dept. 260, Chicago, III.

## ABSORBINE STOPS

from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar troubles and gets horse going sound. It acts mildly but quickly and good results are lasting. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. \$2.50 a bottle cred. Horse Book 9 R free.

delivered. Horse Book 9 R free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. \$1.25 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps.

W.F.YOUNG. IRC.. 268Temple St., Springfield, Mass.

### 2 Cents a Name Paid

for the owners of sheep in your locality. Give name and correct mail address of each owner and state number of sheep

All lists will be verified as rapidly as received and payment mailed promptly Send your list to

L. D. GARTER 506 Carlton Ave., Wheaton, Illinois go together and buy the animal and dedicated with appropriate ceremonies offer his service for a sufficient fee; during the coming summer. The first but in some way you must eliminate the scrub and establish the good purebred sire if you improve your livestock. This plan will pay.

"Let me give you an example-A short time ago, I visited a community of Guernsey breeders in Alpena county. As we drove across Cheyboygan and a part of Presque Isle. I saw many native cattle along the way and they did not promise much for the meeting in prospect. By and by we crossed the line into Alpena and soon came to Leer where the meeting was to be held. Here we found thirtysix breeders of grade Guernsey cattle. The people had turned out well—the cattle were there too in large numbers. For twelve years those Scandinavians in Leer have been using pure-bred Guernsey sires. They began with cows like those we had seen along the way as we came-cows worth from \$30 to \$40 apiece; but they have now some of the finest Guern-

hundred fifty dollars apiece. "I regret sincerely the lack of time and space to include more of Mr. Reed's splendid address. The best of the story is, however, that the people this problem is to become a part of believed him and great things in the some local farm bureau programs. way of livestock betterment are going Practically every township in Hardin to come out of this meeting. The plan county, Ohio, has adopted this project, put forward by the Oceana Farm Bureau was unanimously adopted and has been called in to address commuarrangements for carrying it out are nity meetings on reducing farrowing all ready in the making.

sey cattle I ever saw. Many of them

are sixty-three sixty-fourths pure;

splendid producers of milk and butter

and worth from a hundred to one

### SUNFLOWER SILAGE FOR STEERS.

SUNFLOWER silage gives as good results in fattening steers as more expensive feed, as is proven by an experiment just finished by the Washington Experiment Station.

This is the first of a series of experiments to be made on the feeding of sunflower silage, the price of which per ton is \$4, as compared with \$6 for sorn silage, \$8 for alfalfa hay, and \$40 for cottonseed meal.

Twenty-five Shorthorn and Hereford steers were fed, 13 receiving an average daily ration of 2 lbs. cottonseed meal, 13.2 lbs. cut alfalfa hay, and 39.6 lbs. corn silage to each steer. The other 12 steers were fed 2.1 lbs. cottonseed meal, 12.5 lbs. cut alfalfa hay, and 43 lbs. sunflower silage.

Both lots gained 1.2 lbs. per head each day of the 75 days of the test, the total gain per steer being a little over 90 lbs. The cost of feed for ers and rheumatism in both the sow each steer receiving the sunflower si- and the pigs." lage was \$13.50, as compared with \$15.97 for each of the other steers. No difference in condition in the two lots could be detected.

The tops in both lots of the 18 head sold brought \$7.25 per hundredweight, the others bring \$6.50. The steers averaged about 1,050 lbs. at the close of the test. They cost about \$5 apiece

"It is evident that there is sufficient margin for profit," said Jerry Sotola of the animal husbandry department, discussing results. "The returns from the sunflower silage fed cattle were higher than those from the corn fed cattle, because the corn was \$2 a ton higher in price."

### SOME SENTIMENT IN THE HOG BUSINESS.

THE Ohio State Poland-China Breeders' Association has started a movement to raise a fund and erect a county, Ohio, where the first Poland-China pedigree was written about the year 1975. More than half the fund required has already been raised and it is hoped that the monument can be

pedigree was written in the home of W. C. Hankinson, near Blue Ball, Ohio. The Hankinson estate still owns the farm and will deed a plot of land on which the monument will be erected.

### CRIPPLED PIGS.

CRIPPLED pigs are the result of close confinement in damp quarters. It is quite common during the winter months. It is not always easy to give conditions that will overcome the trouble. Usually the best one can do is to give them plenty of straw, and turn them out and let them get all the exercise possible. If you have a straw pile handy, it usually pays to make a hole in the straw for the pigs, and dispense with the damp quarters. It is little use giving medicine, but rather remove them from the damp quarters-the cause of the trouble, or improve the quarters so that the pigs are no longer damp. Feed a little tankage or roots if you have them or can get them .- E. W. G.

### PROPER FEEDING SAVES PIGS.

So severe have been losses at farrowing time that a special study of and an animal husbandry specialist casualties.

"Rationing the sow is the surest way to forestall trouble," J. W. Wuichet, the specialist, told these groups. "Overfeeding at farrowing time makes her feverish and nervous; more likely to trample her offspring and less able, often, to secrete milk properly.

"Don't feed the sow at all during the twenty-four hours before farrowing. and during the week prior to that keep corn out of the ration. Corn is an especially heating feed. Instead, feed ground oats, barley or bran, any one or two of these, or all three if you like.

"And don't feed the sow at all for from twelve to eighteen hours after farrowing. After that, even, go slow, taking from a week to ten days to get the animal back on full feed.

"Scours in young pigs are one of the troublesome conditions which arise from faulty feeding of the mother. Next in importance to rationing comes condition of the pen. Clean, dry pens do much to prevent digestive disord-

#### MECHANICAL LOADING OF MA-NURE.

ON many farms the disposal of the manure accumulating from stack bottoms and feed lots and cattle barns is a serious proposition. Much of it has been loaded with the hand fork. Where it is possible to use a mechanical loader, much labor and time can be saved.

An Iowa farmer who wanted to use his tractor for hauling manure devised a tripod loader which greatly expedited his work. A strong tripod was erected, high enough to permit a scraper to swing from above a spreader raised beneath it. A pulley was hung from the apex of the tripod and another fastened securely to a short stake driven in the ground. A stout rope was placed over these pulleys. With a team attached at one end and the other end hooked into a scraper monument on the farm in Warren it was possible to fill the scraper with manure and draw it up an inclined board slide and dump it into the spreader. It is said that seventy-five per cent of the time of loading was saved.

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> The only question to consider in buying fertilizer is "What is the cost per bushel of crop yield?"

> The more pounds of plant food to the ton of fertilizer, the cheaper its cost to you, and the cheaper the cost to grow your crops.

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mours Big Crop 2-16-2

It costs us as much for labor, sacks, grinding, milling and screening to make a ton of 1-8-1 as a ton of 2-16-2.

It costs you as much a ton for freight, loading, hauling, unloading and applying.

So when you buy Armour's Big Crop 2-16-2 you make a double saving—besides getting a better fertilizer. All Agricultural Experiment Stations endorse and recommend High Analysis Fertilizers such as Armour's Big Crop 2-16-2.

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For stump blasting, ditching, sub-soiling, tree planting, road making, swamp draining and many other purposes Gold Medal Dynamite is a most efficient and economical aid. See your dealer for reduced prices.

Write us for free booklet, "What Dynamite Will Do."

Illinois Powder Mfg. Co. 1566 Pierce Bldg.



DEARBORN TRUCK COMPANY

### SEMI-SOLID BUTTERMILK

FED HOGS AND POULTRY Saves 1/2 to 1/2 the grain feed. Increases net profits 31/2 times. Write for descriptive circular.

J. E. BARTLETT CO.,

WANTED Man with team or auto to in some choice vacant territory. For particulars address, Saginaw Medicine Company, Saginaw, Mich.

Homespun Chewing of Smoking Tobacco-5 lbs \$1.25, 10 lbs, \$2.50, 20 lbs \$4.50. FARMERS UNION, Mayfield, Ky

HOMESPUN TOBACCO, smoking or chewing Collect on delivery, 5 lb., \$1.0; 10 lb., \$2.50; 20 lb., \$4 FARMERS ASSOCIATION, PADUCAH, KY

HORSES

1 pair pure bred Percheron Mares, coming 3 & 4 yrs., color brown, well matched, weight 3400 lbs.
1 pair pure-bred Percheron geldings, comings 3 & 4 yrs., color black, well matched, weight 3400 lbs. 1 dark brown stallion colt, 9 mos. old, weight 1200 lbs. an excellent opportunity to develop a great stallion.

2 young Shorthorn Bulls, of Imported ancestry that are the equal [of any we ever produced, are ready for service.

Anyone interested in the purchase of any of the above animals should communicate at once with owners.

H. B. PETERS & SON, ELSIE, Mich.

### FOR SALE

One reg. Percheron Stallion four years old; weight 1.700 lbs. nice to handle and a good colt getter, color Black. Will sell at the right price as I can not use him in our herd. E. A. ROHLFS, Akron, Mich.

For Sale Reg. Pure Bred Clydesdale Stallion, rising six years old, sure foal getter. If interested apply HARVEY McALPINE, R. 2, Bothwell Ont., Can

FOR SALE Percheron Stallion, steel gray, registered No. 149029, 4 years old.
THOMAS MURPHY Jr. Gilford, Mich.

### LIVESTOCK WANTED

WANTED to buy sheep, ewes only, for breeding, young or mature. Lincolns preferred, Leicesters, any large coarse wool type. Give full description, age, size, weight, price and present condition as to breeding.

DION GERALDINE, Gaylord, Mich

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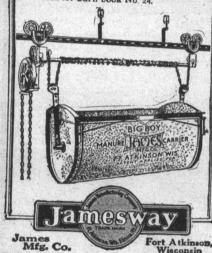
The wheelbarrow is out of date for barn cleaning. It's a sloppy, back-breaking, leg-tiring, temper trying way. It's hard work, the old way, and takes twice as long to clean the barn as with the easy running

### Jamesway Manure Carrier

Write today for the Jamesway Dairy Barn book of 336 pages, telling all about the Jamesway carriers, and other devices for saving time, saving work, and getting bigger milk yields.

The book is a mine of information on barn building, ventilation, and similar subjects.

Ask for barn book No. 24.





BARREN COWS -are the CONTAGIOUS ABORTION

tee. Write TODAY. lain lined.

The Melotte Separator, H.B. Babson, U.S. Mgr. Dept. 9103 s 2843 W. 19th Street, Chicago, Ill.

Prevent this by using ABORNO.
Easily administered by hypodermic syringe. Kills abortion germs quickly without harming cow. Write for booklet with letters from users and full details of Money-Back Guarantee.

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DOGS

### COLLIE PUPPIES

Write Dr. W. Austin Ewalt, Mt Clemens, Milchigan for thoroughbred Pedigreed Collie Pupples, bred from farm trained stock that are natural heelers with plenty of grit. Pupples guaranteed.

Trained American for Hounds, Rabbit and Skunk dogs, all ages. Send stamp.
W. E. LECKY, Holmesville, Ohio

## Dairy Farming

### Utilizing a Manure Spreader

A MICHIGAN farmer desiring a secured across the rear of the rack to handy, horse-drawn stock-rack conprevent animals from escaping. For ceived the plan of building a rack apron and spreading mechanism was removed and a floor of two-inch plankupright positions about the rack supvarying width and thickness—just surplus lumber which accumulates around any farm. The vertical pieces in the factorily two cattle at one time. Net rear are braced with similar pieces on the inside. Temporarily, two bars are

convenience, this may be replaced on a discarded manure spreader. The with a hinged door of heavy planks which, when lowered to the ground and open will serve as a substantial ing put in. Six two-by-four's bolted in gang-plank by which stock may reach the floor of the rack. Another contemported the side bars which were of plated improvement is the addition of a stanchion in the front of the rack. This efficient rack has carried satisweight of two was 2,030 pounds.-W. C. KNOWLES.



An Easy-loading and Substantial Stock-rack from the Old Spreader.

### Experiences of a Cow Tester

Some of the Conditions One Man Found

ilege to quizz J. H. Mathiesen, who is in charge of the cow-testunder his supervision about 230 cows and of these 182 were giving milk. Amongst the milkers, fifty-four produced over forty pounds of butter-fat and thirty-seven over fifty pounds of fat in the month. One cow owned by E. Stewart yielded 85.4 pounds of fat the high record for the thirty-day period.

According to Mr. Mathiesen it sometimes takes a farmer several weeks, or even months, to get started with his work so that he might observe results. The most obstinate difficulty is the lack of proper feeds. With a combination of feeds from which it is impossible to secure a good ration and with an unwillingness on the part of the owner to purchase substitutes particularly when he already has plenty, it is often very difficult to make a showing. In most instances, however, it the best solution, inasmuch as the failis not beyond the ability of the well- ure of a few of this kind to show good informed tester to show wherein this work can be of the highest value to to reflect against the cow-testing work. the dairyman, even though all the conditions for attaining the highest suc- man finds that creamery men occacess are not present.

greatest lack of knowledge on is needdifferent stages of the lactation period. Particularly is this true of the month or six weeks when the cow is dry. It is frequently found, he said, that a cow must give of the lime and other mineral elements in her own body to grow her calf, simply because the owner does not supply her with this material when it is so badly needed. The result is that the cow starts her season's work under a great handicap. Had she been properly fed when dry she would have had a surplus of these minerals laid by with which to repay her owner sides this there is invariably a far su- rear their calves.

FEW days ago it was our priv- perior calf coming from the cow which has been intelligently fed.

Occasionally it is necessary to teach ing work in Wayne county. He has the whole family. Before any decision is made in the matter of policy about the dairy barns the tester must convince the wife and the children in order that the vote might be unanimous. This on the surface would indicate a harmonious condition in the home life, but sometimes it is a little embarrassing for the tester who is anxious to keep close to his work.

A more provoking member, however, is the fellow who after he understands your suggestions and acknowledges that they should be adopted and withal is in every way prepared to adopt them, simply goes on in the same old way. Such a one is akin to the pharisee of old-long on advice but short on action. Mr. Mathiesen's method of handling this class by refusing to carry on their testing work, is perhaps results from the investment is certain

In his rounds this Wayne county sionally exist who are not crediting One of the things which he finds the the farmers with all the butter-fat to which they are entitled. He has been ed variation in the ration during the able to adjust some of these cases to the advantage of the association member. In one instance the test was raised from 3.2 per cent of fat to 4.4 per cent. You may feel sure that this farmer is thoroughly sold on the cowtesting work.

If for no other reason, a dairyman should feed his cows alfalfa and other legume hay to provide the animals with plenty of lime for bone making. Calves from cows so fed are strong. Otherwise cows are emaciated because they have been obliged to use bone through larger milk production. Be- materials from their own bodies to omes depressed, the concuson pient and China men of the cate;

### **Dairy Losses**

Some Amazing Experiences in Overcoming the Cause of Most Dairy Losses

Dairymen who are suffering serious losses due to sick cows, off-feed conditions and low milk yields, will find the following letters of real interest; "Larrowe Milling Co."

Gentlemen: Since feeding Larro we find our milk yield from 47 cows has increased 32 gallons per day."—Schermerhorn & Son, Florida. Another dairyman writes: "At times we have felt we could mix our own ration cheaper, but each time have returned to Larro. When feeding Larro to our 300 cows we have very few losses from sickness, cows off-feed and other ailments." Another writes: "My home-mixed ration failed, and I have returned to Larro. Have fed Larro to 40 head this winter. Have not had a sick animal, nor one off-feed. I am beating my neighbors badly in milk yields."

Why Milk Yields Fall Off

Why Milk Yields Fall Off
One of the biggest reasons, say authorities, why cows go off-feed, are often sick and milk yields fall down, is that few dairymen really mix an efficient balanced ration at home. They lack facilities, lack time and help, lack tried and proved formulas. Why waste time and take chances. Why not do as Schermerhorn and other dairymen are doing, and get maximum results from your cows? You can. Larro makes it easy. This famous blend of certified ingredients never did, does not now and never will contain any filler or off-grade materials. It is succulent, palatable, easily digestible and highly nourishing. It brings vigor, sleek coats, bright eyes, perfect health conditions and either increases milk yields or produces the same milk with fewer cows, less roughage and less work.

How to Get More Profit

**How to Get More Profit** 

Just write us. We will explain how your dealer will sell you two bags of Larro under our money back offer. How you can prove for yourself at our risk that Larro will stop your losses and increase your profits from every cow. If Larro fails to produce more milk, merely return the empty bags and dealer will refund your money. You don't risk a penny. Write us for details of this no-risk, trial offer at once. Also for full information regarding Larro. Address

### The Larrowe Milling Co.,

895 Larrowe Bldg.,

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### Get **Our Silo Prices**

Before you buy a Silo get our low prices. Milk more cows. Feed them good ensilage made in a Saginaw Silo—the result of 20 years experience in Silo construction.

Write today for our low prices and full information on the most complete line of silos in America. A Saginaw Silo will double your farm capacity and will soon pay for itself.

Address Dept. 16A

The Mc Clure Company Saginaw, Mich. Cairo, Ill.







Made in Four Sizes





### Limestone-

keeps the soil sweet and builds big crops. Get the story—write for bulk prices.

The France Stone Co., Toledo, O.



#### DID IT PAY?

producing county. From its herds supplied with dairy products. Saginumerous smaller towns and villages, depend in whole or in part upon Saginaw County for this portion of their daily ration.

Tuberculosis is no respecter of cows. Accordingly, it had worked its way into the herds of the Saginaw Valley. Some testing for tuberculosis had been done by local veterinarians previous to August, 1921, when the campaign promoted by the Farm Bureau was started. After securing the cooperation of the U.S. and the State Bureaus of Animal Industry and employing a veterinarian approved by the Bureaus, the campaign started on August 8, 1921, and continued to December 8. During this time 436 herds of cattle were tested, a total of 4,314

out to those who had their herds tested asking whether or not they considered the test had increased the value of their herd and if so, how much. The response to this questionnaire showed an average estimated increase of about 35 per cent, or a total increased value amounting to over

Thus it is seen that the increased value of 436 herds of cattle in the county was \$25,000 more than the total three-year membership dues of 2,500 members. This increased value was made possible by the County Farm Bureau. The test cost of the is an accumulated surplus of nearly which will either be refunded to those testing or used to apply on the cost of a second test.

About 2 per cent of the cattle tested to the State indemnity. The Federal indemnity alone has returned to the farmers having reactors about \$1,700 in addition to the State indemnity. thirds of the actual cost of the campaign.

Federal indemnity would not have not been for the contract entered into between the U.S. Bureau of Animal Industry and the County Farm Bureau, and that the \$1,700 added to the \$1,100, second test, makes a fund sufficient to want it .- L. E. B. reimburse the farmers for 75 per cent of the total cost of the campaign. Thus at an actual cost of about \$900 the sum of \$100,000 has been added to the value of the dairy herds of Saginaw County by the elimination of tubercular cattle and by proving others not to be tubercular.

### A MILK PRODUCERS' PLANT.

NOTING that the dairy industry of Menominee county has not been prospering of late, the Menominee County Journal tells how the Stephenson Cooperative Association has met the situation. The plan of operation that has been adopted involves the following features: The plant will be equipped to manufacture bi-products and special types of dairy products, which sell for fancy prices and therefore pay the farmer patrons better prices for cream and milk, it says. Instead of confining its output to the making of one product like the ordithe market for one of its products be-

can stop making that product and turn its raw material into several other SAGINAW County is a heavy milk products. Special attention will be given to the manufacture of sweet the tables of about 200,000 people are cream butter and fancy cheeses, such as Swiss and Roquefort. The plan of naw, Bay City and Flint, together with operation is said to be based upon that at Grove City, Pennsylvania, whose plant was conducted along lines worked out by the United States Department of Agriculture. The Grove City plant is said to have steadily prospered through the higher price received for its product, which in turn is reflected in the prices paid to farmers for cream and milk. A similar plant is operating at Adrian, Michigan, it is stated. Menominee county has the first such plant in the upper peninsula. The Menominee County Journal announces that Prof. O. E. Reed, of the Michigan Agricultural College, will have a course in cheese-making given by his staff at Stephenson, March 6-18. The making of fancy lines of cheese will have a place in this course.

Menominee city is also to have a A questionnaire was recently sent new creamery, says the Herald-Leader. A truck line will collect cream from the farmers, both on the Michigan and the Wisconsin side of the Menominee river, and the product will be an advantage in shipping by boat.

### WILL BOOST LEGUME CROPS.

REALIZING that successful and profitable crop productions depends upon the adoption of a systematic plan of crop rotation, and a scientific program of soil feeding, the Board of Directors of the Cheboygan County Farm Bureau have decided to conduct an extensive legume campaign farmers about \$8.50 per herd, but there in the county during the coming year, in an effort to increase the acreage \$1,100 set aside as a separate fund, of clover and alfalfa. Clover is the key of the successful crop rotation, and it is the secret of success in dairy ing and livestock raising.

Members will be encouraged and aswere found to be tubercular. The test-sisted in every way possible to ining having been done by a veteri- crease the acreage of leguminous crops narian approved by the U. S. Bureau grown on their farms. Particular atof Animal Industry, a Federal indem- tention will be given to efforts to ennity was paid on reactors in addition courage the farmers to sow more sweet clover and alfalfa. Either sweet clover or alfalfa can be grown successfully on almost any farm in Cheboygan county, provided the soil is care-This amounts to approximately two-fully and properly prepared, and high grade, adapted seed is sown.

Many of our farms may require an It will be borne in mind that this application of lime before either sweet clover or alfalfa can be grown successbeen secured for the farmers had it fully. Anticipating that need, the County Farm Bureau is perfecting arrangements so as to be able to furnish pulverized limestone in car lots, at cost, and on short notice, to any to be refunded or applied toward a member or group of members who

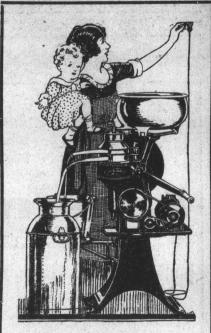
### MARKET VALUE OF SILAGE.

I have silage that is half corn and half sunflower. I wish to sell some. What would it be worth a ton?-B. R.

It is a common practice to figure the market value of silage at one-third' of the market price of mixed hay on the farm. In other words, if mixed hay is worth \$12 on the farm, silage will be worth \$4 per ton. I would not say that there would be any difference between the value of sunflower or corn silage.-W.

### KEEPING THE BOY AT HOME.

THE most remarkable pig club litter of 1921 was probably the Poland-China litter fed and shown by Shelby M. Divan, Browntown, Wis. The litter was exhibited at four fairs, including the National Swine Show. The total winnings of the litter at the four shows was \$104.50 and a gold watch. Shelby nary creamery or cheese factory, when is as enthusiastic a hog man as his father, who is one of the old-time Polcomes depressed, the Stephenson plant and-China men of the state.



### You pay for a **DeLaval** whether you buy one or not

If you are using a worn-out, inferior cream separator, or skimming cream by hand, you are surely wasting enough cream to pay for a De Laval in a short

The selection of a cream separator is more important than that of any other machine on the farm, for none other can either save or waste so much, twice a day, 365 days a year.

A De Laval Separator will:

-Skim cleaner for many more years than any other;

-Skim milk clean at lower temperature than any other sep-

—Deliver a higher testing cream, which is more acceptable to the creamery, and easier and less costly to ship,

—And deliver a cream which will make better butter.

Mechanically a De Laval Separator is the best that fine materials and skilled workmanship can make.

-It lasts longer than any other separator, many giving good service for 15 to 20 years.

-It is easier to turn.

—It is easier to clean.

It is so simple that one tool will set it up or take it down.

-It has the most perfect lubricating system.

Do not be deceived by separawhich are claimed to be "just as good and cost less."
When you consider its greater savings, a greater reliability, longer life, the extra time it saves, and the greater satisfaction it divos the Parallel and t tion it gives, the De Laval is, in the end, by far the most economical cream separator made.

Even if you have only two cows it will pay you to have a De Laval. One can be bought on such easy terms that it will pay for itself in less than a year. Why not see your De Laval agent at once or write us for full information?

### The De Laval Separator Co.

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Sooner or later you will use a Je Lava **Cream Separator and Milker** 

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### Imp. Edgar of Dalmeny The Sire Supreme

At the International Live Stock Exposition, where gathers each year the elite of North American Cattledom to compete for the covetous awards, five more honors have been be-stowed upon the "get" of Edgar of Dalmeny. You too may share these honors. A bull by this world famous sire will prove a most valuable write us today.

### WILDWOOD FARMS ORION, MICHIGAN

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

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

### REGISTERED GUERNSEYS

We offer 4 head of our cows for sale. We are not particular which ones, "take your choice". We will not sell these by mail. Come and see them.

J. M. WILLIAMS, No. Adams, Mich.

GUERNSEYS Accredited Herd, 4 bulls sold in last month. Bull calves under 4 months old. Grandsons of ex-worlds champion A, A, cow and out of A. R. dams. Satisfaction guaranteed, G. W. and H. G. Ray. Albion, Mich.

GUERNSEY S -REGISTERED BULL CALVES Containing blood of wo rld champions.

HICKS' GUERNSEY FARM, Saginaw, W.S. Mich.

Guernsey Calves, bull and heifer not related, also yearling heifer. Ancestors include most noted animals of the breed. G.A.Wigent, Watervliet, Mich.

Guernsey Yearling Bull, a big fellow, best breeding, \$150.00.
M. HOMPE, R. 5, Grand Rapids, Mich.

### WINNWOOD HERD Registered Holsteins

It was through the daughters of Flint Maplecrest Boy that

Flint Maple crest Boy that
Sir Ormsby Skylark Burke
Our Junior Herd Sir:
produced the Junior Champion and Reserve Grand
Champion Heifer, at the Michigan State Fair this
year, in a class of 38.
His get won first in Calf Herd, also first in get of
sire, in a class of 13.
A son of either of these great bulls will help the individuality and production of your herd.
We have bulls at dairymen's prices, and we also
have bulls at the breeder's price, from dams with
records up to 38 lbs. of butter in seven days, and
1168 lbs of butter in one year.
Ask us about a real bull, a Maplecrest or an Ormsby
JOHN H. WINN. Inc... Rocknester Mich.

JOHN H. WINN, Inc., Rochester, Mich.

Model King Segis Glista's
First Daughters Just Off Test
ANNIE SEGIS CORNUCOPIA GLISTA, senior two
year old. Butter? days, 19.814
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year old. Butter seven days. 18.919
SPENCER PANSY SEGIS GLISTA, twenty-four
months. Butter seven days
DUCHESS CREAMELLIA SEGIS GLISTA at twentyseven months. Butter seven days
BEAUTY PIETERTJE SEGIS GLISTA, at Twentyeight months. Butter seven days
14.03 Model King Segis Glista's

eight months. Butter seven days
GRAND RIVER STOCK FARMS,
Grey J. Spencer, Owner
III E. Main Street.
Herd Under State and Federal Supervision

Wiscogin Farm offers Holstein-Friesian bulls ready nearest dams average 33.34 lbs. butter for 7 days. A.R. O. Dams from 18.33 to 21.51 lbs. Herd under state and Federal Supervision. Oscar Wallin, Unionville, Mich.

## HERE IS A GOOD ONE

## BORN JUNE 2nd 1920 by MAPLECREST DE KOL HENGERVELD whose three sisters have each pro-duced over 1200 lbs. of butter in a year. TWO of them former WORLDS CHAMPIONS. Calf's dam by an own brother of a 1248 lb. cow. Write for pedigree, F. B. LAY, Kalamazoo, 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 Trave-se City, Mich.

\$300 buys six grade Holstein Heifers two will soon freshen other four one year old; and one registered bull ready for service; we also have some fine young bull sired by a 29 lb. grandson of the \$50,000 bull old enough for light service at \$75 each; also cows and heifers, at right price. The Home of Michigan's Best Bull. The Long Lane Stock Farm, £. A. ROHLES, Akron. Mich.

Holstein Friesian heifer and bull caives, purebred specific price \$20 up Splendid individuals and breeding. Write us your requirements. .... Browncroft Farms. McGraw. N. Y

### "Top Notch" Holsteins

in Ohio.

We have a few more desirable bulls ready for service, sired by a 32 lb. grandson of the 40 lb. 4 year old former world's champion, Mabel Segis Korndyke, out of high milk and butter producing cows. Priced to sell.

McPherson Farms Co., Howell, Mich. (Breeders of the only 800 lb. 7 day cow to produce an 800 lb. daughter). Herds under U. S. Supervision.

A Good Note accepted in payment of finely bred reg of the best, and at prices within reach of all. Write GEO. D. CLARKE. Yassar, Mich.

HOLSTEIN and Guernsey calves, 7 weeks crated for shipment. Satisfaction guaranteed. EDGEWOOD FARMS, Whitewater, Wis.

Holstein-Friesian pure-bred bull cal-berd. Prices are right. Larro Research Farm, Box A, North End, Detroit, Mich

5 yr. old son of Smithdale Alcartra Pontiac from daughter of Pontiac Korndyke, Priced low. FERNWOOD FARM, Evart, Mich.

Ten reg, Holstein heifers, some fresh, others fresh soon. All tuberculin tested and guar, O.K. every way. Price \$100 to \$150 each. B.B.Reavey, Akron, Mich

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Raise far better feeding cattle than you can buy. Grow Baby Beef when gains cost least in feed and labor. Avoid costly rail hauls with their shrink, bruises and lose

SOTHAM'S EARLIRIPE BEEF CONTRACT Solves your problem—insures your success. A fair intelligent, satisfying system evolved from 87 years conscientious service to American Cattle Industry by three generations of Sothams. GET THE FACTS. Write now, or wire, Address

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Repeaters, Beau Donalds, Fairfaxes, and Farmers represented in our herd. Repeater 173rd, a son of old Repeater, at head of herd. Both sexes and all ages for sale.

ALLEN BROS.,
(Farm at Paw Paw, Mich.)
Office 616 So. West St., Kalamazoo, Mich.

Herefords For Sale & females and 1 bull, \$75 per head.
RALPH CALHOON, Bronson, Mich.

### Complete Dispersal at Private Sale

Five Reg. Jersey Cows, exceptional producers, three reg. heifers over one year; and three reg. heifers under one year. Federal acc. herd. Prices reasonable. Also good team of Heavy

### CHAS. H. WALKER,

1160 Jefferson Ave.,

Grand Rapids, Mich.

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

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

BUTTER BRED JERSEY BULLS
FOR SALE
STRING STOCK FARM,
Silver Creek, Allegan County, Michigan. For Sale Jersey Bulls ready for service; Aleigh, Oxford Lad, Majesty breeding. WATERMAN & WATERMAN, Packard Rd., Ann Arbor, Mich.

Dispersal Sale of accredited herd of Milk Shorthorns, on March 21st. Davidson & Hall, Tecumseh, Michigan

Francisco Farm Shorthorns
and BIG TYPE POLAND CHINAS
Now offering:—Three bulls ready for service. Mastodon, Clansman, Emancipator blood in gilts bred for spring farrow, See them.
POPE BROS. CO., Mt. Pleasant, Mich

### Southern Michigan Polled Shorthorn Breeders Ass'n.

are offering for sale A Few Select Young Bulls and Heifers. We sell worth the money. Write your wants. C. E. NASH, Sec. County Agriculturist Branch County Coldwater, Mich. GEO. E. BURDICK, Pres. Mgr. Branch Co. Farm Coldwater, Mich.

### **SHORTHORNS** BUY A BULL

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

BIDWELL STOCK FARM, Box D. Tecumseh, Michigan

### The Maple's Shorthorns Kirk Levington Lad, by imported Hartforth Welfare, in service. Bulls and heifers for sale.

Gobleville, Mich. J. V. Wise,

SHORTHORN BREEDERS OF MID-LAND ORGANIZE.

SHORTHORN Breeders of Midland County have organized the Midland Shorthorn Breeders' Association, and one of their first resolutions adopted was in favor of eradication of bovine tuberculosis as a county proposition. The following officers were elected: W. E. Cummings, president; J. W. Johnson, vice-president; F. L. Sonley, secretary-treasurer, and I. S. Callison, Verne Barden and Charles Hollingsworth, di-

### GRATIOT COUNTY GETS NEW FARM BUREAU AGENT.

PERTH PRESSLEY, of Lansing, has been secured by the farm bureau to act as agricultural agent for Gratiot County, to fill the vacancy caused by the resignation of C. Cook. The new agent is a son of the late supervisor of the Gratiot County Poor Farm. For several months the farm bureau office and business has been in charge of R. C. Munson, secretary-treasurer of the bureau,—M.

### MERRILL CO-OP. HAS GOOD YEAR.

J ANUARY brought \$7,000 worth of business to the Merrill Co-operative shipping Association, according to reports made last week at a meeting of members of the association Hand-ling charges and management ex-penses were less than 4 per cent of the gross amount of business, the officials reported.

During the past year the association shipped 7 0,000 pounds of livestock, 3,000 pounds of butter fat, and 5,200 pounds of putter fat, and 5,200 pounds of poultry. Directors of the association and Arthur G. Bovay, farm bureau agriculturist, met a few days ago to outline a campaign to encourage more farm bureau members to ship their products through the association. ciation.

The opportunity of Marion township farmers to make use of the Merrill Co-operative Association, was outlined by Tom C. Price and Mr. Bovay at a meeting held in Marion at the farm bureau local headquarters .-

### AMONG MICHIGAN'S LIVE STOCK BREEDERS.

The pure-bred hog business is receiving a big boost through the comparatively high prices which are now commanding at slaughter houses. Cheap corn and a scarcity of swine makes the business look good and those who have breeding stock with type and quality are finding many prospective buyers. Especially are bred sows in good de-

The dairy herds of Elisha Bailey, Cleon Bailey and H. W. Marshall, Jr., of Pittsford, are now headed by Sir Or Pittsford, are now headed by Sir Ormsby Wisconsin Barostine, No. 206-687. He won second at the National Dairy Show last year and weighs 2,300 pounds. The dam of his sire is Dutchess Shylark Ormsby, a world's record cow for all ages in butter-fat production

A direct son of the world's cham-pion Duroc boar, Great Orion Sensa-tion, has just been purchased to head the herd of V. Lidgard, of Hesperia.

### SAGINAW COUNTY FARMERS WIN 36 PREMIUMS.

SAGINAW County carried away the 1922 sweepstakes banner for the greatest number of exhibits at the improved grain show in connection with the state farm congress at East Lansing, and to a Saginaw county farmer, Frederick J. Kueffner, went state honors for the best ten-ear exhibit of corn at the show. Seven other Saginaw county farmers won prizes, including first premium in various classes. Each of the eight winners lives in a different township, indicating that good farming in Saginaw county is not confined to one localty.

The Saginaw county winners were: Frederick J. Kuefiner, Frankenmuth, 10 ears Silver King corn, one peck white pea beans, 100 ears white dent white pea beans, 100 ears white dent corn, one peck pea beans, one sheaf rye; David A. Geddes, Thomas township; Douglas Vi Bow, Kochville township; A. W. Johnson, Swan Creek township; Charles Schnetzler, Bridgeport township; J. W. Veitengruber, Frankenmuth township; R. L. E. Smith, Richland township; Alexander Pullar, Saginaw township, and L. H. Berger, Kochville township.—M. M.

### WHY SUFFER LOSS FROM SICK COWS!

Lasy Home Treatment Keeps Cows Healthy and Profitable

Cows are pretty hardy animals. Practically the only diseases they suffer from are those which result from weakened vitality of genital or digestive organs. These, of course, are serious because they immediately reduce the milk-flow—and milk is money. We get scores of letters weekly like this one from W. H. Lawson, Petrolia, Ont., a dealer who sells Kow-Kare:

"We handle a lot of 'cow tonics', 'regulators', etc., but when it is up to us to sell something we can guarantee, we sell Kow-Kare. Only last month, we saved a valuable Registered Durham cow valued at \$250 with Kow-Kare. The cow retained the afterbirth and after ten days' doctoring the veterinary said to kill the cow, The owner happened in when we were recommending your Kow-Kare, and told us his trouble. We donated a box of your Kow-Kare and he came back in five days for another box and paid for both."

As a sample of the endorsements we get from cow owners themselves, read this letter from C. E. Dodge, Dewittville, N. Y.:

"Since I have been on the County Farm,
I have been using Kow-Kare in the dairy
for the last ten years. I have 52 cows.
My experience is that a few dollars worth
of Kow-Kare saves us a great many dollars
worth of veterinary bills, and also every
cow in the dairy that I feed it to produces
more all the year thru because of the KowKare. I have no sick cows or trouble,
when I begin feeding Kow-Kare, from
the first of January until I turn them
out in the Spring."

You, too, can be free of such cow allments as Barrenness, Abortion, Retained Afterbirth, Scouring, Bunches, Milk Fever, Loss of Appetite, etc., by using this reliable cow medicine. General store, feed dealers and druggists sell it at the new reduced prices—) 65c and \$1.25.

DAIRY ASSOCIATION CO., INC.,



### Binder Twine



THIS mark on binder twine means that it is the genuine Rakco Brand that is the genuine Rakco Brand
—twine properly made of the finest
quality Yucatan sisal. (Standard and
White sisal.) Rakco Binder Twine is
evenly spun; averages 500 feet to the
pound; with average breaking strain
of 80 pounds

of 80 pounds.

Packed in useful new burlap bags; tied with new half inch sisal halter rope. Manufactured by the makers of the famous Rakco brand rope. Sold by most good dealers. If yours does not handle

write to us THE R. A. KELLY CO., Xenia, Ohio 406 Magazine St., New Orleans, La.



### No Time Lost With SAVE-THE-HORSE

A LAME HORSE means money lost in late crops and a smaller yield. Thousands of farmers dependentirely on SAVE-THE-HORSE to cure and prevent Ringbone Thoropin, SPAVIN. and Shoulder, Knee, Ankle, Hoo and Ieadon disease. They take no risk whatever. Signed Guarantee assures positive cure while horse is working or money back.

more than 28 years of unrivaled success testify to its absolute dependability. Write this very day for valuable FREE 96-page Save-the-Horse BOOK telling how to locate, understand and treat lameness of all kinds. This unusual book together with expert veterinary advice costs nothing, yet it's worth real money tr you. Send for it and copy of Guarantee—no obligation.

TROY CHEMICAL CO.

320 State Street Binghamton, N.Y.

At Druggists and Dealers with Signed Contract or sent prepaid

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### Put Your Automobile To Work

Buy PORTA POWER or POWER MAKER, on EASY TERMS if you like, and make money with your car. With these time tested implements attached to your car you can have an abundance of good steady power to operate your belted machinery. They not only pay for themselves quickly but more than earn the operating and upkeep expense of your car. No farmer car owner can afford to be without this cheap and reliable power. They put the idle motor in your car to work, make it earn a good return on your investment and give you satisfactory belt power wherever and whenever you want it. Fully guaranteed. Write today for descriptive folder, low cash price or easy monthly payment plan.

### VAN DOLSEN MFG. CO.,

Department 24B, Shelbyville, Indiana



CATTLE

**Bulls Registered Holstein Bulls** old enough for service, for sale. Bred from Pontiac and Segis dams and sired by a 25 lb. Gdson of Maplecrest Korndyke Hengerveld, priced to move them will also sell a few heifers soon to freshen. Herd under federal and state supervision.

HENRY S. ROHLFS. R. 1, Akron. Mich

### Richland Shorthorns

Now offering a choice lot of bull calves. Best of breeding. \$150 to \$250 will buy a real bull at present time. Write for particulars.

C. W. Prescott & Sons, Tawas City, Mich.

Claradale Milking Shorthorns We invite the discriminating breeder and farmer, who is in need of a real bull, that will transmit the combine qualities, beef, milk, high in butter fat, type, character, beauty. We do state official milk testing. Come and see us or write for circulars and reasonable prices. F.W.Johnson, Custer, Mich., Mason Co. Box 26

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

Milking Shorthorns of best Bates breeding, bulls, cows and heifers for sale.
E. H. KURTZ, Mason, Mich

CHORTHORNS. Two 4 mo. old bull calves of White Shall Sultan Strain and a few young helfers. Priced very reasonable. J. A. Wilk & Son. Alma, Mich

HOGS

### BERKSHIRES

Special prices for registered Berkshire breeding stock:
10 Mature Bred Sows \$75.00
10 Fall Yearlings, Bred 50.00
Best type with size and quality. Satisfaction absolutely guaranteed. Write for information.
0.C. OOREY,
2428-30 First National Bank Building,
Detroit, Michigan

### **Brookwater Duroc Jerseys**

Gilts for May and early June farrow.
Ready for service boars.
Satisfaction guaranteed. Prices are reasonable.
Mail orders a specialty.

BROOKWATER FARM, H. W. Mumford, Owner J. B. Andrews, Manager. ANN ARBOR, MICHIGAN

Woodlawn Farm Duroc Hogs A well kept herd, best of blood lines, with size and breeding qualities, stock of all ages for sale at rea sonable prices.

W. E. BARTLEY, Alma. Mich.

### **Duroc Jersey Swine**

Breeding stock for sale at all times at reasonable prices. If in need of a high class boar, or sow any age write, or better, come to farm Best of Blood line and we guarantee you satisfaction. Herd boars, Panama Special 11th and Home Farm Wonder. Booking order for fall pigs at \$15

Thos. Underhill & Son,



Guaranteed Animals

ASSOCIATED SWINE FARMS, INC., Box 270 B Peorla, Ills.

Duroc Bred Sows \$40 to \$50. Service boars \$25 to \$35 and fall pigs \$15 and \$20. We register in your name and guarantee satisfaction. We have one of the largest and best herds in the state. Write for special sale folder. Michigana Farm, Kalamazoo County, Pavilion, Mich.

### DUROC JERSEYS Bred gilts at \$40.\$45.\$59 each. Also some good fall pigs. ROMEO, Mich.

Duroc Jerseys A few extra good fall boars, and a choice lot of spring boars of the heavy boned type popular blood lines at reasonable prices, DRODT & BERNS, Monroe, Mich.

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

Pure-Bred Duroc Jersey Hogs; we usually have good boars and sows of all ages for sale. Reasonable prices. Larro Research Farm, Box A. North End, Detroit, Mich.

### Veterinary.

CONDUCTED BY DR. W. C. FAIR.

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

Paralysis. - Brood sow 12 months old, lost control of hind quarters, at time I weaned her 5-week old pigs. W. S., Hemlock, Mich. Feed less corn, more oats, oil meal, clover and roots. Apply mustard and water to back every.

Fits.—Pig weighing 150 pounds has been thrifty up to few days ago, now when it commences to eat or drink it takes a fit. F. S., Michigan.—Give pig 3 ounces of castor oil—one dose only. Warm and liquify the feed and spread it out thin, this will prevent choking.

Preventing Sore Necks.—How can I prevent sore necks in horses? Will rubbing on medicine now prevent the necks getting sore next summer? W. T., Lincoln, Mich.—Only one way to prevent sore necks, the collar must fit; furthermore, it must be kept clean and free from germs. The skin of a healthy horse should be normal; if so leave it alone.

Scours.-Have four calves that have the scours and I thought my feeding the cows beet pulp was perhaps the cause of them scouring. M. E. H., Hope, Mich.—No, feeding beet pulp is not the cause. Bacterial navel infection is perhaps the cause. Give each calf five grains of salol three times a day. Clean and disinfect calf stable. Clean and disinfect calf stable.

Sick Dog.—I have a collie bitch 16 months old that had some discharge of mucus from eyes. I applied boric acid lotion, but lately she seems to be wabbly in hind quarters. L. J. M., Evart, Mich.—Perhaps she has had an attack of Canine Distemper. Give her two drops of fluid extract of nux vomica at dose 3 times a day and keep her warm. Feed her what she craves.

Eczema.-One month ago I bought a five-year-old Jersey cow, due to freshen April 30. When let out of stable en April 30. When let out of stable she immediately commences to lick herself and in spots made skin sore. Give me remedy. Coal-tar disinfectants fail to cure her. A. S. H., Dryden, Mich.—Apply one part of chinosol and 250 parts of water to itchy parts twice a day. Keep skin clean.

Splint.—I have a pacing mare with speed record of 2.20, with hard bunch on fore shin which I have failed to rub off. It is causing no lameness, but, of course, is a blemish. O. P., Buchanan, Mich.—Powerful drugs which will dissolve a splint are almost certain to leave a scar; however, as the animal grows older the splint will perhaps gradually reduce in size. You will seldom find a splint on a very old horse. I advise you to leave it alone. Treating a case of this kind with strong blisters might cause lameness.

Unthrifty Mare. - My mare has rav enous appetite, always hungry, but does not gain in flesh and she is usu-ally in heat. Had I better breed her? I have three head of horses, seven head of cattle all in row, not fenced off. Would the odor of cow manure affect the horses. R. S., Pinconning, Mich.—The cow manure should have little effect in keeping your mare thin. Have her grinder teeth floated. Change her feed, feed some clover, alfalfa and roots. and roots

Segregate the Diseased from Well Cows.—However, if they have been together it will not help much to separate them now. Dissolve a cake of yeast in one quart of tepid water, leave it in warm room for two or three hours, strain, and flush vagina two or three hours before cow is served; before doing so flush with tepid water. It is good practice to apply this yeast remedy daily for a few days before the cow comes in heat. Why don't you have your veterinarian give injections of Bouvine Abortion Serovaccine (living culture) then breed your cows.

Stringhalt.—We have a horse eleven years old that holds up hind foot part of the time; comes out of stable quite lame but soon shows less lameness and travels fairly sound. Has not had shoes on for twelve months; had opposite hip "knocked down" but this never bothered him. J. R., Charlevoix, Mich.—In some cases stringhalt is purely a functional nervous disease like chorea. Another form dependent on retraction of a ligament can be cured by peroneal tenotomy and aponeurotomy; which is not a difficult or dangerous operation. Perhaps you had better leave him alone.



Every O. I. C. Swine Breeder should support his own Association and protect his own interests by promptly recording his O. I. C. pigs. Do not record O. I. C.'s in any other Association upon any pretext whatsoever. Our Association records have been maintained since 1897. The O. I. C. Hog is large, strong, healthy and vigorous; matures quickly; fattens easily; very prolific. Good breeders, good mothers, good disposition. They are big money-makers for farmers. The breed is represented throughout the world. Every civilized nation has them. They are producing great results and giving greatest satisfaction. Sold by O. I. C. Breeders upon merit at fair prices.

They Are White Hogs of Quality

O. C. VERNON, Secretary O. I. C. SWINE BREEDERS ASSOCIATION GOSHEN, INDIANA



### DISPERSION SALE

of Milking Shorthorns at Tecumseh, Michigan, March 21, at 1 P. M.

Now is the time to buy pure breds. 33 head, 22 cows and heifers, 11 ulls of all ages. From the herd of Davidson and Hall. Tuberculin tested, and largely Clay bred. Sale, 2 miles east Tecumseh. Will meet all trains. Auctioneer, Andy Adams.

Write for Catalogues to CLAIRE BELAND, Administrator.



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

Phillips Bros, Riga, Mich. Durocs Herd headed by Great King Orion Col. assisted by a good son of King Orion Fancy Jr. HARRY FOWLER, Sturgis, Mich

AM SELLING

a great offering of bred Duroc sows and gits March 4th. They are mostly bred to Orion Giant Col., son of Ohio Grand Champion. Get on mailing list for catalog. W. C. TAYLOR, Milan, Mich.

Westview Duroc Bred Sows all sold. Have two spring boars left at a reasonable price. Will book orders for April & May Pigs. ALBERT EBERSOLE, Plymouth, Mich

DUROC — JERSEYS Sows all sold. E. D. Heydenberk, Wayland, Mich

\$12 for a Duroc Jersey pig. farrowed in Feb breeding. Registeration papers free. Express charges paid. D. W. SUTHERLAND, Gd. Ledge, Mich.

Duroc Jerseys heavy boned, low down type breeding stock for sale.
CHAS. BRAY, Okemos, Mich.

### BIG TYPE CHESTER WHITES

The prize winner kind from the best prize winner bloodines. Early developers, ready for market at six months old. I have started more breeders on the road to success than any man living. I want to place one hog in each community to advertise my herd, Write for agency and my plan.

G. S. BENJAMIN, R. F. D. 10, Portland, Mich.

CHESTERS We are all sold out of Boar, Bred Sows and Gilts, For spring pigs write WEBER BROS., Royal Oak. Mich., 10 Mile and Ridge Rd., Phone 468.

Chester Whites, bred gilts and fall pigs of excel-faction guaranteed. F. W. Alexander, Vassar, Mich.

Chester Whites Bred gilts for April far-row 250 lbs., c. o. d. \$45.

### O. I. C. HOGS ail ages sired by Callaway Edd, 1918 world's grand champ, boar and C. C. School master 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.

O. I. C. & Chester White Swine. Strictly Big Type with quality. Service boars, and gilts bred for Mar. and early April farrow, are all sold. Some good ones left, bred for last of April and early May farrow. All of prize winning blood lines. Have one good tried yearling sow that I will sell.

Newman's Stock Farm, R. 4, Marlette, Mich.

### O. I. C. BRED GILTS

J. CARL JEWETT, shipped C. U. D. Mason, Mich

O. I. C. Spring boars and gilts no akin. We breed and on the Grand Champion Boar at West Mich. State Fair. We ship C. O. D. and Reg. free. GEO. M. WELTON & SON. Alto, Mich.

O. I. C's. choice gilts bred for March and April faurow.
A. J. BARKER & SON. Belmont, Mich.

O. 1. C's all sold except two fall boars. Orders booked for spring pigs.
O. J. THOMPSON, Rockford, Mich.

C's Choice Aug. and Sept. open gilts also booking orders for spring pigs. OLOVER LEAF FARM, Monroe, Mich.

TYPE O. I. C. Pigs born Sept., The L. B. Silver Strain. Both sex. (GEO, N. RUPRAUHT, Mallory, N. Y.

For Sale. O. I. C. Gilts bred for March and April farrow (at a reasonable price.)
H. W. MANN, Dansville, Mich.

Large Type P. C. Largest herd of indivduals in state. Everything sold. Nothing to offer until spring pigs are ready to ship. I thank you. W. E. LIVINGSTON, Parma, Mich.

Big Type Poland China. Fall boars at \$25 each man Buster and Hover's Giant and out of such sows as Gerssdale Queen 2d. She is a daughter of Gertsdale Fimm, and Bob's Prospect 3rd is out of Leonard's Big Bob. DORUS HOVER, Akron, Mich.

40 Sows. Granddaughters of the great Giant Buster, to bred to agrandson of the Yankee, the \$10,000 sire, where can you find any better Big Type breeding? Our prices are very low, \$30, \$40. Also 50 fall pig Why not buy a pig? JNO. C. BUTLER, Portland, Mich. Bell Phone.

LEONARD'S Big Type P. C. Herd headed by Leonards Liberator 458, 285, the tallest, longest and Leaviest boned pig for his age in Mich. Call or write, stock in season. Fall pigs at Bargain Prices.
E. R. LEONARD. 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.

### L.T.P.C. \$15, \$20 & \$25

We have a fine lot of fall pigs sired by Harts Black Price and Right Kind Clan. HART, FULCHER and CLINE, address F. T. Hart, St. Louis, Mich.

### Large Type Poland Chinas

Spring boars all sold. Fall pigs at bargain prices.
Bred gits held for public sale.
A. A. FELDRAMP, R. 2, Manchester, Mich.

L. T. P. C.
Gilts bred Mo. Bob.. 2 sons of Clansmans Image, Big
Defender 2nd and High Joe, tracing back to Chief
Price.
H. O. SWARTZ, Schoolcraft, Mich. HAMPSHIRES all sold out at present.
JOHN W. SNYDER, R. 4, St. Johns. Mich.

BIG TYPE POLAND CHINAS Bred gilts for sale. Choice individuals of rich breeding at prices within your reach. Come see them or write. WESLEY HILE, R.6, Ionia, Mich.

L. T. P. C. Gilts bred to that Yearling Boar that stands 40" high, is 76" long, and walks on a 11" bone. Offering summer and fall pigs. Clyde Fisher, R. 3, St. Louis, Mich.

Poland Chinas Sixteen years breeding and showing, ROBERT MARTIN, R. 3, Woodland, Mich.

Big Type P. C. Sows bred to Big Bob Mastodon, his gilts bred to a son of Peter Pan, that sold for \$1.075 cash Jan. 5. C. E. GARNANT, Eaton Rapids, Mich.

L. T. P. C. Orange Model gilts, bred for March and bear inspection. W. J. Hagelshaw, Augusta, Mich.

BIG TYPE Poland Chinas, leading strains ages, and bred sows and gilts, G. A. BAUMGARDNER, R. 2. Middleville, Mich.

### A Real Bargain at Kope Kon Farms

We offer 40 big healthy yearling Shropshire and Hampshire Rams all registered at \$25.00 each Come or write while the picking is good.

S. L. WING, Coldwater, Mich.

Ten Aged Registered Delaine ewes lambs for sale.
CALHOON BROS... Bronson, Mich.

Additional Stock Ads on Page 347



### Monday, March 13.

#### Wheat.

Detroit.—Cash No. 2 red \$1.37; No. mixed and No. 2 white \$1.34; May

Chicago.—No. 2 red \$1.32; No. 2 hard \$1.33; May \$1.32¼.
Toledo.—Cash at \$1.41@1.43; May

#### Corn

Detroit.—Cash No. 2 65c; No. 3 yellow 63 1/2 c.

Chicago.-No. 2 mixed 571/2@58c; No. 2 yellow 57½c.

#### Oats.

Detroit.—Cash No. 2 white 42c; No. 3 yellow 40c. Chicago.—No. 2 white 38@39c; No. 3 white 36½@39c.

#### Beans.

Detroit.—Immediate and prompt shipment \$6.50 per cwt.
Chicago.—Choice to fancy hand-

picked Michigan beans at \$6.55@6.75; red kidney beans \$8.

New York.—Choice pea \$6.75@6.85; red kidney beans \$8.25. Detroit.—Cash No. 3, \$1.04.

Chicago.—\$1.02. Toledo.—\$1.02.

Detroit.—Prime red clover, cash at \$16; alsike \$12.60; timothy \$3.35.
Toledo.—Prime red clover \$16.15; alsike \$11.75; timothy \$3.15.

#### Hay.

Detroit.—No. 1 timothy at \$19@20; standard and light mixed at \$18@19; No. 2 timothy \$16@18; No. 1 clover mixed \$16@17; rye straw \$13.50@14; wheat and oat straw \$12.50@13 per ten in earlests. ton in carlots.

Detroit.—Bran \$33; standard middlings \$34; fine middlings \$34; cracked corn \$30; coarse cornmeal at \$28; chop \$25 per ton in 100-lb. sacks.

### WHEAT

WHEAT

Farm stocks of wheat of 131,136,000 bushels added to the commercial visible supply amount to only 172,414,000 bushels compared with a ten-year average of 209,478,000 bushels. About 100,000,000 bushels more wheat have disappeared into domestic and export channels since July 1 than the ten-year average for that period. The quantity of wheat remaining on farms and in the visible supply for use in the next four months is less than the quantity which disappeared from those sources in the corresponding period of 1921 and is only 14,000,000 bushels more than the ten-year average disappearance, thus forecasting a very small carryover at the end of the crop year. Country mill and elevator holdings, not included in the foregoing, were only 72,564,000 bushels on March 1 as compared with an average of 92,445,000 bushels during the preceding five years. This makes the situation still tighter, judged by the records of the past.

### CORN

Official estimates on farm holdings of wheat and oats on March 1 were slightly more than expected but stocks of corn were materially less than those indicated by private estimates. An analysis of the figures shows that the disappearance of corn in the last four months has been the largest on record and exceeded the average by over 200. and exceeded the average by over 200,000,000 bushels. With low prices there has been some wasteful feeding, no doubt, but the rapid disappearance of corn in the last four months. last four months suggests that the crop may have been overestimated by 100,000,000 bushels or more. Farm stocks are still the largest on record with the exception of last year when they were 251,000,000 bushels greater than this year, but if corn disappears as rapidly in the next eight months as it did in the same period of 1921, all of the big surpluses which depressed the market last fall will have faded away so that only a normal quantity will be left to carry into next year.

### OATS

Farm reserves of oats were 404,000,000 bushels compared with a ten-year average of 497,000,000 bushels, but the the total supply for the rest of the crop year is only about 45,000,000 bushels less than the average. Although the quantity of oats available until August 1 is nearly 50,000,000 bushels less than the disappearance in that pe-giod less than the disappearance in that period last year, it is 54,000,000 bushels more than the ten-year average, promising a fair carryover at the end of the season.

### SEEDS

Receipts of clover and grass seed are running light and shipments from distributing centers are large so that prices are holding well. At Toledo, receipts of red clover for the season to date have been 31,999 bags compared with a four-year average of 28,050 bags. Shipments have amounted to 24,014 bags compared with a four-year average of 30,477. Receipts of timothy at Toledo have been 22,302 bags compared with a four-year average of 46,897. Shipments have been 8,496 bags 897. Shipments have been 8,496 bags compared with a four-year average of

### **FEEDS**

Demand for most feedstuffs is quiet particularly at eastern points. The prosperous hog market, however, is maintaining a good outlet for mid-dlings and tankage. Supplies are am-ple with the exception of linseed meal. Corn industries are operating nearly at capacity. Flour mills have increas-ed operations recently and are offering wheat feeds at slightly lower prices.

### BEANS

The bean market had a slight set-back early last week but the appearance of export orders seems to be the signal for an effort on the part of the wholesalers to increase their supplies and the market advanced rapidly again to a new top of \$6.60 per 100 pounds sacked for choice hand-picked white beans f. o. b. Michigan shipping points. Growers are receiving \$6 for points. Growers are receiving \$6 for beans in the dirt. Stocks in the hands

of wholesalers, elevator men and farmers are light and there is no prospect of a material change in the situa-

### HAY

Receipts of hay at distributing markets have been light and prices have held firmly. Timothy prices are about \$1 per ton higher. Alfalfa also has advanced slightly. Storms have increased the demand in some sections and have curtailed shipments. When these conditions pass the advance may not conditions pass, the advance may not be sustained.

### BUTTER

Although receipts of butter at the leading markets are gradually increasing and are now running substantially ahead of those of last year, prices more than recovered a small loss during the early part of last week. Confidence in the maintenance of prevailing values has fore little while ing values has for a little while longer been more general due to the passing of conditions which prevented ship-ments from producing sections. Also the supply of fancy fresh butter has been light due, it is said, to local de-mand which has absorbed all of the product of some creameries. Produc-tion reports from creameries indicate a gradual increase in the make. The demand, however, is very broad at the present level of prices.

Prices for 92-score fresh butter on

March 11 were:
Chicago 37c; New York 39½c. In
Detroit fresh creamery in tubs sells
at 35@35½c per pound.

### POULTRY AND EGGS

The egg market is apparently not far from its low points for the spring season. At Chicago, fresh firsts sold as low as 21½ to 22 cents during the past week, although the close was on a small upturn. The movement into storage has begun as there are some

operators evidently who believe that these levels are safe. In the spring of 1921, the lowest price paid for fresh firsts was 21½ cents late in April. From this point the market advanced to 55 cents early in December. Poultry prices have declined slightly in the last few days. Receipts of dressed poultry at the four leading cities since poultry at the four leading cities since January 1 are practically the same as during the corresponding period of 1921. The supply in cold storage is 1921. The supply in cold storage still large but is being cut down rather

rapidly.

Chicago.—Eggs miscellaneous 21@
22c; dirties 19@20c; checks 18@19c;
fresh firsts 22½@22¾c; ordinary
firsts 21@22c. Live poultry, hens 25c;
springers 28c; roosters 18c; ducks at

28c; geese 18c; turkeys 35c.

Detroit.—Eggs fresh candled and graded at 23½@24½c. Live poultry heavy springers 29c; light springers 25c; heavy hens 29c; light hens 29c; roosters 18c; geese 18@20c; ducks at 35c; turkeys 25c.

### **POTATOES**

The potato market has weakened recently with the northern round whites quoted down to \$1.70@1.80 at Chicago and \$2@2.10 at other consuming markets. Northern sacked round whites at shipping points are quoted at \$1.45 @1.57.

### **APPLES**

New York Baldwins A-2½ are quoted at \$7.50@8.50 per barrel in the city markets. Northwestern extra fancy boxed Winesaps have advanced to \$3@3.50 in most consuming markets.

### WOOL

Although wool markets are quiet, mills are showing more interest than when the speculative fever was at its height and prices remain near to topmost levels. High-class foreign wools especally are scarce and the total supply of all kinds in the United States is less than usual. Contracting of the new clip in the west has ceased as a deadlock over prices has developed. Only a small quantity of new wool from the southwest has been shipped thus far. Foreign wool prices are about five per cent lower than in January. five per cent lower than in January. The American Woolen Company which was the leading buyers at the government auction is said to have sufficient orders for cloth to keep its mills going into the summer and the woolen goods market has improved slightly.

### **GRAND RAPIDS**

The live stock market in Grand Rapids was dull this week as a result of the lenten season slowing up the demand for meat. Prices to farmers, however, were in the main unchanged as farmers heeded advice of butchers to restrain movement. Heavy consumption of eggs held prices fairly steady and packing will begin next week. White beans went to the highest mark of the season, local elevators bidding \$5.75 per cwt., with farmers making few deliveries on account of the condition of the roads. The bean trade is bullish owing to the bulk of the crop being out of growers' hands. Potatoes continue weak.

Live Stock.—Cattle, steers and heifers at \$5.50@7 per cwt; cows \$2.50@4.50. Hogs, medium weight at \$10@10.50; heavy \$8@9; dressed \$13@14. Sheep, ewes \$6.50@7; lambs \$11@13.

Vegetables.—Potatoes 80@90c bu; leaf letture (hothouse) 17@18c a lb: The live stock market in Grand Rap-

Vegetables.—Potatoes 80@90c bu; leaf lettuce (hothouse) 17@18c a lb; beets, carrots and parsnips \$1 per bu; cabbage \$2 bu.

Produce.—Eggs 19@20c per dozen; butter dairy 30c.

### DETROIT CITY MARKET

The farmers' market was active and The farmers' market was active and well supplied with produce. Potatoes held firm and were in good demand. Carrots were rather draggy and in heavy supply. Eggs were plentiful and sold for a little less than last week. Apples \$2.25@3.50 per bu; cabbage at \$1.50@2; carrots \$1.75@2.25; eggs 25 @30c; potatoes \$1.15@1.30; poultry 27 @35c lb. Veal sold for 17c; no hogs were offered.

### LIVE STOCK SALES.

Shorthorns.—March 21, Davidson & Hall, Tecumseh, Mich.
Holsteins.—April 20. Eaton County Holstein Breeders' Association Assignment Sale, at Charlotte, A. N. Loucks, Secretary.

## Live Stock Market Service

Monday, March 13.

### DETROIT

Cattle.		
Receipts 971. Bologna bu dull, other grades steady.	lls are	very
Best heavy steers\$	6.75@	8.00
Best handy wt bu steers	7.00@	7.50
Mixed steers and heifers	6.25@	6.75
Handy light butchers	5.75@	6.25
Light butchers	5.00@	5.50
Best cows	4.75@	5.25
Butcher cows	3.75@	4.50
Common cows	3.00@	3.25
Canners	2.00@	3.00
Best light weight bulls	4.50@	5.00
Bologna bulls	4.00@	4.50
Stock bulls	3.500	3.75
Feeders	5.50@	6.50
Stockers	5.00@	5.50
Milkers and springers\$	40@	75
Vest Osters		

	VC	al Calves			
Receipts	615.	Market	steady	to	50c
higher.					
Best			.\$12.00	@1	3.00
Others			5.00	@1	0.50

Receipts	1,705.	Market	is	50@60
lower than				
Pigs		\$		10.5
Roughs			8.7	5@ 9.0
Stags				5.0
Mixed hogs				11.0
S	heep an	d Lambs		

and manipul	
Receipts 1,961. Market slow	
Best lambs\$	15.50
Fair lambs 13.00	@14.00
Light to common 8.75	@10.50
Fair to good sheep 8.00	@ 9.50
Culls and common 3.00	@ 4.00

### **CHICAGO**

### Hogs.

Estimated receipts today are 57,000; holdover 3,085. Market is mostly 150, 25c lower and slow. Bulk of sales at \$10.30@10.75; tops \$10.95; heavy 250 lbs up \$10.30@10.55; medium 200 to 250 lbs \$10.45@10.85; light 150 to 200 lbs \$10.70@10.95; light lights 130 to 150 lbs \$10@10.85; heavy packing sows 250 lbs up \$9.40@9.90; packing sows 200 lbs up \$9.25@9.50; pigs 130 lbs down \$8.50@10.35.

Cattle.

Estimated receipts today are 24,000. Market slow and 15@25c lower. Beef steers medium and heavy weight 1100 lb up choice and prime at \$9.10@9.60; do medium and good \$7.50@9.10; do common \$6.60@7.50; light weight 1100 lbs down good and choice \$8.25@9.35; do common and medium \$6.40@8.25; butcher cattle heifers at \$4.85@8.25; cows \$4.25@7; bulls bologna and beef \$4@6.50; canners and cutters cows and heifers \$3@4.25; do canner steers \$4@5; veal calves light and handyweight \$7.50@10.50; feeder steers at \$5.55@7.25; stocker cows and heifers at \$4.25@5.50. @5.50.

### Sheep and Lambs.

Estimated receipts today are 14,000. Market slow and about steady. Lambs 84 lbs down \$10.35@15.75; do culls and common \$10.25@13; spring lambs \$11 @14.25; ewes \$6@9.50; ewes cull and common \$3@6; yearling wethers at \$11.50@13.50.

### **BUFFALO**

### Cattle.

Receipts 120 cars; market 25c lower. Choice to prime shipping steers 1,400 pounds and up \$8.50@8.75; good to choice shipping steers at \$8@8.25; to choice shipping steers at \$8@8.25; light native yearlings good quality \$9 @10; best handy steers \$7.50@7.75; handy steers and heifers at \$7@7.25; western heifers \$6.50@7; light Michigan butchering heifers \$6.50@7; best fat cows \$5.50@6; cutters \$3.50@4; canners \$2.25@2.50; best heavy bulls \$4.50@5; common bulls \$3.50@4; best feeders \$6@6.60; medium feeders at \$5.50@5.75; stockers good \$5.50@5.75; light common \$4@4.50; best milkers and springers \$75@85; medium \$30 @40. Calves, receipts 2,500. Market lower; top \$13.50.

### Hogs.

Receipts 80 cars; lower; medium and heavy at \$10.75@11; yorkers and mixed \$11.25@11.50; pigs \$11@11.25.

### Sheep and Lambs.

Receipts 50 cars; strong; top lambs \$16.25; yearlings \$12@15; wethers \$11 @12; ewes \$10@10.25.

### **Booster For** Mutual Insurance

A man recently came into the office of M. B. Armstrong, our agent at Pontiac, and said that he had a new car that he wanted insured with the Howell company. Mr. Armstrong asked him the struck just about insuring his big truck, just purchased. He replied, "I would like to do that but I have bought the truck on time and the dealer insisted on placing the insurance insisted on placing the insurance with an Old Line Company." He said further, "I am ashamed to tell you what it cost me. The old line premium for fire, theft and collision coverage was just \$400 and if I injure or kill any person I will have to stand the suit myself as the policy covers neither property damage nor personal injury liability. I certainly am a booster for the Howell Mutual where a Dodge automobile can be insured for fire, mobile can be insured for fire, theft and liability for \$13.00 here and for \$10.50 in the country districts. A little investigation by anyone will show a great benefit to automobile owners by having a mitual company insure them." a mutual company insure them.



Kills all insects including Moths, Flies and other household pests. Also lice and mites on livestock and poultry with no strain or odor.

Brings bugs out of hiding, then kills them. Flyosan is absolutely non-poisonous to human beings and animals.

We guarantee and stand back of every statement money cheeffully refunded if found unsatisfactory Flyosan is put up in pints at \$1.00, quarts \$1.50, half gallons \$2.50 and gallons \$4.25. Delivered to your P. O. Address. Sprayers \$.50 extra.

MICHIGAN SEED COMPANY, GRAND RAPIDS, MICH.

### Don't Throw Your Old **Battery Away**

because lit won't take and hold a charge and you're told it must be rebuilt or scrapped. 90% of all battery troubles is caused by sulphation. One application of Wayside Chemical Compound removes sulphation from the plates; and an hour's running charges the battery. Thousands of users have added one to two years service to their old batteries.

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### TOWNSEND'S PLANTS

### AT WHOLESALE PRICES

**Direct to Growers** 300 ACRES Of Choice True-to-name STRAWBERRY PLANTS

PREMIER The greatest money mak-FORD ing varieties on earth E. W. TOWNSEND & SON, Nurseries 20 Vine Street Catalog is free Salisbury, Md.

### ATEASTER TIME

There is always a good demand for veal and poultry, as well as eggs and we will use large quantities of these products for our trade this year. We are giving the shippers the advantage of a good market place and conscientious and expert service that is gaining many friends for us. We will handle your shipments, getting you the highest market prices, and we usually make remittances the same day goods are received. Let us number you among our many satisfied shippers. If you have not already availed yourself of our service you should tag your next shipment to us, and satisfy yourself of our statement. A trial shipment will convince you.

Gunsberg Packing Company, Inc. Commission Dealers in Poultry, Veal, Hogs, Eggs, etc.,

2460 Riopelle St., Detroit, Mich.

"A Better Commission Service"

HAY SHIPPERS, for highest prices bill all cars to The E.L. RICHMOND CO., Detroit.

25c—will bring you sami-monthly utility farm poultry newspaper one whole year as trial. POULTRY GUIDE. Box D. Montpelier, Indiana

### FARM HELP

Experienced Farmer wanted to manage large State age, experience, references and salary expect in reply. Address Box G11, Mich. Farmer, Detr

SALES TAX MEETS STRONG OPPO- and the incident was soon forgotten. SITION.

THE letter written Michigan congressmen by the State Farm Bureau, protesting enactment of a sales tax to finance the national soldiers' bonus, brought prompt replies from both senators and several representatives, all but two assuring the farmers of Michigan that they are opposed to a sales tax.

The agricultural bloc in congress has been insisting that the excess profits tax be re-enacted to assist in taking care of the proposed bonus. Other opponents of the sales tax have suggested funding into bond issues some of the European debt owed the United States as a solution of the problem.

The farm bureau and Michigan congressmen opposed to the sales tax as a means of financing the bonus hve made it plain that they are not opposed to the bonus, but do oppose the sales tax as an unfair tax.

The farm bureau says a sales tax would rest heaviest no the great mass of consumers least able to bear itthat the tax burden would be shifted to the consumers, that the small incomes would pay most of the bill through a tax on the necessities of life whereas the same tax would rest lightly on those of large income and under a sales tax their surpluses would escape share in financing the bonus.

#### WHAT FARM TRIALS TELL US ABOUT OATS.

cultural College and produced under inspection by the Michigan Crop Im-

ers was about six bushels per acre, showing very often much larger increases over the usual common run of

The Wolverine variety proved of THE sale of registered Holsteins of widest adaptation, leading in tests under a great variety of conditions. It matures from a week to ten days earlier than most other Michigan oats and this very often gives it a decided advantage in avoiding summer drought and the consequent blasting and failure to fill.

Worthy is a variety of long standing and it has retained its popularity especially on heavier soils where its stiffer straw avoids considerable lodging. The College Wonder, released from M. A. C. in 1915 also has this character.

The lowar, a pedigreed sixty-day variety from Iowa, is very well adapted to muck and other types of soil where lodging becomes a most serious prob-

or an average of nearly \$55 per head. Twenty-two head sold from \$50 up to \$140, the highest price being paid by Arthur Neidermier, of La Salle. The

Following is a list of the buyers and their addresses.

L. G. Burke, Dundee; W. L. Allen, Ypsilanti; S. R. Bird, Petersburg; Charles Nawrotke, New Boston; Har-Charles Nawrotke, New Boston; Harlan Wilt, Britton; Henry H. Wager, Flat Rock; Earl Murphy, Britton; F. Jackson, Dundee; Fred Baum, Petersburg; Ellery K. Lennard, Samaria; Paul H. Gilman, Petersburg; Frank Jackson, Dundee; Edward C. Hawley, Britton; Wm. Wallenberg, Romulus; F. S. Wood, Petersburg; A. A. Ding, Blissfield; W. C. Craey, La Salle; Edward Schroeder, Monroe; W. Hoerl, Monroe; Howard Linn, Britton; Arthur Neidermier, La Salle; B. S. Knapp, Monroe; Charles Nawrotzke, New Boston; George Weilnan, Monroe; F. L. Newcomb, Dundee; Albert Cronenwett, Dundee; Wm. Zimmerman, La Salle; H. S. Craig, Britton; F. J. Uhle, La Salle; Carl H. Miller, Monroe, Geo. E. Smith, Monroe; Wm. Nickel, Monroe.

### SCHLAFF DISPERSAL SALE.

THE dispersal sale of the splendid herd of pure-bred Holsteins of John Schlaff of Mt. Clemens, on March 9, was an outstanding success, considering the times. All told there were sixty head of registered animals sold for a grand total of \$14,780. Among these were twelve head of young calves, which averaged \$70 per head. The forty-eight other head brought an average of \$285. The highest price was paid for Artis Pontiac Saskia, 245-034, a thirty-three-pound cow born in 1913. Herman Beady, of Mt. Clemens, bid off this animal at \$1,400. Mayor Couzens, of Detroit, paid \$550 for the herd bull, Following are the buyers:

THAT pedigreed varieties of oats developed by the Michigan Agric-cultural College and produced under inspection by the Michigan Crop Im. New Haven; Otto Neitz, Mt. Clemens; provement Association by the Michigan Crop Im. New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Mt. Clemens; Schaffer Bros., Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Detroit Creamery Company, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Detroit Creamery Company, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Detroit Creamery Company, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Otto Neitz, Mt. Clemens; Schaffer Bros., Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Oxford; J. J. Haack, Richmond; S. C. Goeschell, New Haven; Oxford; J. J. Haack, R inspection by the Michigan Crop Improvement Association have demonstrated their dependability is shown by the results of more than thirty over state variety tests conducted under the supervision of the college during the past three years.

The average increase of the three pedigreed varieties, Wolverine, College Wonder and Worthy, over all others was about six bushels per acre,

### SALE OF E. A. HARDY AND WALTER GREEN.

E. A. Hardy and Walter Green, of Rochester, was conducted on the Hardy farm, five miles east of Rochester, on March 10. There were some splendid animals in this offering which sold for less than they should have brought. However, the forty-three head brought an average of practically \$150. Among these were several calves. The highest price paid was \$360 for Carrie Onid De Kremo 349507, a fiveyear-old cow which has produced over 2,000 pounds of milk in twenty-seven days. The animal was sold to Edwin Nedelykof, of Utica. The same buyer purchased Hazel-let Pontiac Main 342, 424 for \$300. Following are the list of buyers:

lem. Its early maturity, along with its very short stiff straw makes it a leader for those conditions.—R. C. R.

PLUM CREEK DUROC SALE.

PLUM CREEK DUROC SALE.

PLUM GRIEK DUROC SALE.

PLUM CREEK DUROC SALE.

PLUM GRIEK DUROC SALE.

PLUM GRIEK DUROC SALE.

PLUM GRIEK DUROC SALE.

TENER GRIE OF Brief Price serve by ter; Wm. Tyson, Washington; Identification of the color of the col THE sale of bred Duroc sows by Licht, Armada; Herman Beaty, Mt. Stock Farm was a success. Forty-two Vick, Washington; L. E. Smith, Byhead sold for the grand total of \$2,304,

### FARMERS WAREHOUSE IN SAGINAW.

sale was auctioned by H. S. Inglehart A co-operated by the newly organized & Son, who were assisted by F. Co-operative Marketing Association, Hengest, of Louisville, Ky. The day was opened by the association on Monwas ideal. Shortly after the auction day, February 27th, at 314 Hancock Street, Saginaw. The business will about 200 people gave way and placed a damper on the selling for a few moments. Fortunately no one was hurt ties which farmers needs.

### A Good Place

to buy your S.C. White Leghorn baby chicks. Because we hatch from our own stock only. Large vigorous free range stock that have been bred for eggs, and vitality for several years. We ask a trial order at our very low prices. It will convince you they are right in every respect. And will give us your future business. Also some good Rocks and Reds. Ask for catalogue.

SUPREME POULTRY FARM, R. 2, Fremont, O.

EGGS \$1 SETTING Parcel Post Paid. Thorough-breds. Barred Rocks, White Rocks, Buff Rocks, White Wyandottes, Anconas, Buff Mi-norcas, White Leghorns, Brown Leghorns, Rhode Island Reds, Lind Oppingtons. Philip Condon, W. Chester, Ohio

Hatching Eggs \$1,25 setting, \$2 per 30, dottes. White and Barred Rocks, White Leghorns-Genuine Farm raised. Flease order from ad. Satisfaction. GORET BROS. Corunna, Mich.

EGG BRED CHICKS, from high pro range stock. 19 years experience in hatching and breed ing White Leghorns. Barred Rocks and Anconas, Cir cular, Frank Heinz, Box 6, Comstock Park, Mich

CHICKS English S. C. W. Leghorns \$11 per 100. Beat laying strain known. By parcel post, alive deliver guaranteed, Henry Waterway, R. 4, Bolland, Mich.

English W. Leghorns extra selected winter lay-ORCHARD KNOLL. 81.50; 100, \$7. prepaid. R. 2. Spring Lake, Mich.

FOR SALE if taken at once 8 J. S. Martin Regal Doleas strain White Wyandottes, males. Am selling all my heavy strain stock. Mrs. N. Curriston, R. 1, Twining, Mich. For Sale Columbian Wyandotte Cockerels \$10.00 per 30. F. H. WOODWARD, R.6, Owosso, Mich.

Original Dr. Heasley S. C. Buff Leghorn flock, Egg bred. Winners at Chicago, Cincinnati, etc. Cockerels breeding hens and chicks, at bargain prices. Also bred to lay English Strain S. O. White Leghorn chicks for 1922. Discount on Early Orders. Hillside Hatchery Farm, R.3, Holland, Mich. Successor to Henry DePree

PARDEE'S Ducklings Frice List Free. Box T. Pardee's, Islip, L. I., NY.

Rural Baby Chicks and Pullets

from our choice stock of English Strain S. C. White Leghorns, Brown Leghorns and Anconas at very rea-sonable prices. We solicit your inquiries. Catalogue. Rural Poultry Farm & Hatchery, K.I. Zeeland, Mich. RHODE ISLAND WHITES

win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks, H. H. JUMP, R. 5, Jackson, Mich. Rose Comb Rhode Island Whites. The laying kind selected stock, eggs 15-\$2.50; 30-\$4.00; 50 \$6.00; 100-\$10. Henry Scholten, R. 12, Holland, Mich

S. C. W. Leghorns
Quality Chicks From 284 egg strain,
trapmest HOLLYWOOD
Farm Stock. Get my prices. At GRAND VALLEY
POULTRY FARM, R. 4, Saranac, Mich.

SINGLE COMB WHITE LEGHORNS

baby chicks. All eggs used by us for hatching produced on our own farm. Write for circular.

RALPH S. TOTTEN, Pittsford, Mich. STRICKS POULTRY FARM

Hudsonville, Mich., R. R. 4, Box M. S. C. English White Leghorns, Official records from 9 hens of 208 to 244. Chicks and Eggs, Write for catalogue.

Single Comb Buff Leghorn
baby chicks, Order now for spring delivery. Send for circular. Willard Webster. R. 2, Bath, Mich

S. C. B. Minorca A few choice Minorca Cocker els, great big fellows, sired by R. W. MILLS, Saline, Mich. S. C. Black Minorca cockerels Northrup Strain choice stock, \$3 and \$5. Hatching eggs, single settings or quantity. C.J. Deedrick, Vassar, Mich

Silver, Golden & W.Wyan., grand winnings at Grand Rapids Coliseum show. Choice breeding stock, Prices reasonable, C.W.Browning, R.2, Portland, Mich.

Snowy White Rocks Fishel Strain, dandy layers Eggs \$1.50-15; \$3.75-50; \$7.00 100. All prepaid. Mrs. Earl Dehnhoff, Vanburen, Ohio

S. C. Brown Leghorns, excellent layers. Vigorous farm range. Selected eggs postpaid 15. \$1.25; 30, \$2; 45, \$2.50; 100. \$5. Floyd Robertson. R. J. Lexington, Ind.

Trap-Nested Strain S.C.W.Leghorns. Heavy winter layers, snow white, high on shank, pelvic bones thin and well spread Baby chicks and hatching. Have few choice cockerel's and pullets for sale, shipped on approval. Leonard Sumner, R.2, Box 97, Romulus, Mich.

TEN EGGS for hatching from pure Toulouse Geese, four dollars and fifty ets. (\$4.50), insured parcel post paid.

MRS. AMY SOUTHWORTH, Allen, Mich.

Top Quality (hicks Spanish, Minoreas, Rocks, Wyandottes, Orpingtons. TYRONE POULTRY FARM, Fenton, Mich.

### WE BREED

Park's Strain Barred Rocks, Barron Strain White Leghorns. The two greatest strains of utility poultry in America. Baby chicks for early delivery should be ordered soon. Let us quote you our price on your requirements. Pullets, hens and males at reasonable prices. Bred in the north for northern conditions, FINE BAY FOULTRY FARM, Holland, Mich.

Whittaker's R.I. Reds Both combs, Greatest Color and Egg Strain. Free by blood test Greatest Color and Egg Strain. Free, by blood test, from bacillary white diarrhea. If you are interested in Breeding Stock, Day Old Chicks or Hatching Eggs write for our Twelfth Annual Catalog. It is free. INTERLAKES FARM. Box 39. Lawrence, Mich

WHITE WYANDOTTES 207 egg average. Five special matings. Eggs \$2.00, \$3.00, and \$5.00 per 15. Cockerels \$5.00. FRANK DELONG, R. 3. Three Rivers, Mich

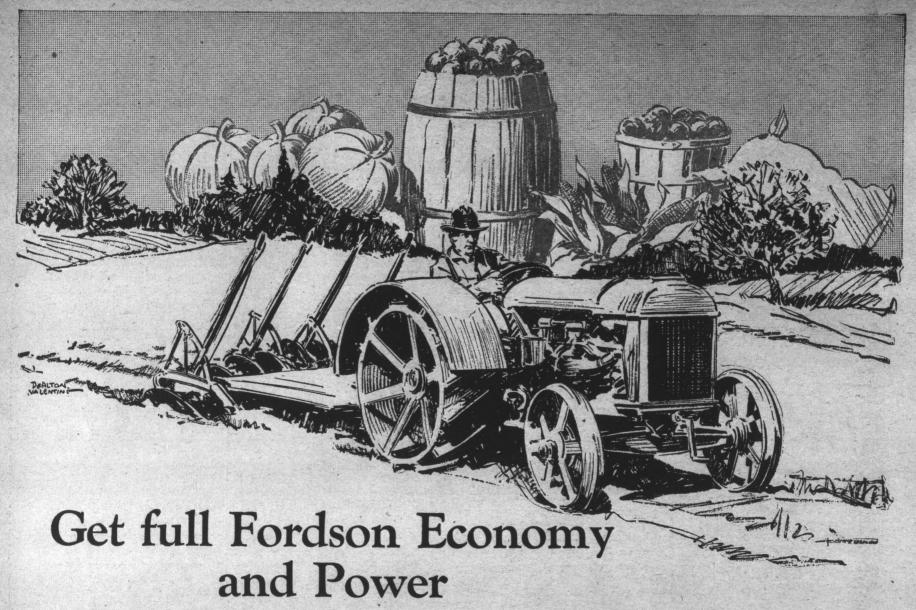
WHITE LEGHORN BABY CHICKS
Send for Catalog.
FARM. Route 1, Grand Rapids, Michigan.

White Wyandottes won second cockerel, third pullet. Detroit, twelve birds, all winners, Ann Arbor. Show birds, \$\frac{3}{2}\text{up.} Write for prices. David Ray, Ypsilanti, Mich

W Wyandottes. Strong, sturdy, cockerels bred from Chicago Coffseum winners of best display and Ho-gan tested layers at \$5: 37.50 and \$10. Eggs \$3; \$5 and \$10 per 15. Cat.free. H.J.Riley, BoxM, Hillsdale, Mich.

W.Chinese goose eggs 40c each, Pekin duch for 15. MRS. OLAUDIA BETTS, Hillsdale, Mich.

White Holland Turkeys, White African Guineas, Tolouse Geese. Stamped addressed envelope brings prompt reply. Alden Whitcomb, Byron Center, Mich.



### How Gargoyle Mobiloil helps

THERE is only one reason for a tractor—service. There is only one test for any oil which you put into your Fordson—service.

Farmers who take pride in real efficiency and rock bottom operating costs aren't using either "good enough" tractors or "good enough" lubricating oil.

Thousands of Fordson users will drive their tractors out to the spring plowing with Gargoyle Mobiloil "BB" in the crank-case. Why? Because these farmers propose to make sure of securing all the work and economy which their Fordson can bring them.

They find that Gargoyle Mobiloil leaves less carbon and thus lessens power waste and the need for frequent cleaning of cylinder heads, valves and spark plugs. They find that Gargoyle Mobiloil maintains a lubricating

film which minimizes kerosene leakage past the piston rings. They find that Gargoyle Mobiloil lubricates every friction surface under all conditions of climate, load and soil.

Like the Fordson Tractor, Gargoyle Mobiloil has proved its economy and efficiency in every State in the country—and in every country in the world.

### Not a gasoline by-product

NINE OUT OF TEN lubricating oils on the market are simply by-products in the manufacture of gasoline.

Gargoyle Mobiloil is not a by-product. It is produced by lubricating specialists who are recognized the world over as leaders in lubricating practice. Gargoyle Mobiloil is manufactured from crude oils chosen for their lubricating qualities—not for their gasoline content. It is manufactured by processes designed to bring out the highest lubricating value—not the greatest gallonage of gasoline.

## GARGONE

### Warning:

Don't be misled by some similar sounding name. Look on the container for the correct name *Mobiloil* (not Mobile) and for the red Garcovie

## Mobiloil

Domestic Branches: New York (Main Office) Indianapolis

Boston Minneapolis Chicago Buffalo

Philadelphia
Des Moines

Detroit Dallas Pittsburgh Kansas City (Kan.)