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The Michigan Farmer

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DETROIT, DECEMBER 11, 1920

CURRENT COMMENT

Grain Market Futures

THERE is a very general feeling among the farmers of the middle west that the speculative trading in grain market futures has been an important contributing factor in the spectacular decline of cereal grains during recent months. In response to that feeling bills will be introduced in congress to prohibit this speculative trading in grains for future delivery, of which only a mere fraction is ever delivered or intended to be delivered.

Trading in grain futures is merely a method of betting on the future market price of the commodities bought or sold, and there is a strong feeling among growers of the product that these bets have a marked influence on the spot market for grains. It is even charged that agents of foreign governments who are interested in our grain products have been able to bear our grain market through systematic operations in grain futures.

Naturally, grain merchants and millers are opposed to the prohibition of speculation in grain futures. This opposition is based on the theory that the sale of futures enables them to "hedge" on their purchases in a manner to insure them against loss during the process of merchandising or milling the grain. Manifestly such insurance must be carried by one or both of two classes, viz., professional gamblers who make a business of trading in futures, and private citizens who become obsessed with the idea that they can beat the game.

It is a sound business axiom that insurance costs money. Somebody must pay the premiums and the losses which accrue. In the long run the producers and consumers of any commodity must bear the cost of insurance against loss in manufacturing and merchandising any product. In the case of cereal grains the point at issue is whether the cost is excessive. There is a very general belief on the part of grain growers that when every bushel of their wheat is bought and sold for future delivery perhaps a score of times and when more corn is sold on this basis in a month than is grown in a year, the cost is excessive, and that much if not most of it comes out of the grower in a lower price for his grain.

The congressional hearings which will follow the introduction of bills to prohibit trading in grain futures will be most interesting, and not the least interesting feature will be the findings of the federal trade commission, which has made an exhaustive investigation and study of grain marketing conditions. Grain producers, as well

as millers, grain merchants and grain gamblers will also have an opportunity to be heard. The result will be interesting if not final, since the proposition will undoubtedly receive more serious consideration in congress than it has ever before been given. And if the result does not appeal to grain producers as economically sound, the chances are that it will not be final. It will rather tend to hasten the better economic organization of producers for the selling of their grain on an intelligent merchandising basis in the hope of insuring a measure of the market stability sought by the government in prohibiting speculative trading and guaranteeing a reasonable price under war conditions.

Michigan's Preferred Stock

OTHER states may boast of the prizes won by their cattle, horses, sheep and swine at the recent International Live Stock Exposition at Chicago, but the people of Michigan have reason to feel a certain degree of sectional pride in the achievement of her three boys who won second place in the live stock judging competition against teams from thirteen leading agricultural states of the country.

Carl Johnson, of Ironwood; Walter Ball, of Charlotte, and Rex Stow, of Wildwood, carrying the banner of Michigan in competition with the best junior judging teams in America, were placed second. First honors went to the state of Georgia, the southerners leading Michigan's sons by only a very narrow margin. Iowa was third, Indiana fourth, and Illinois fifth in team ranking.

The class in which the boys competed was known as the "Non-Collegiate Judging Event," and was open to boys below the college class. Michigan's team represented the Boys' and Girls' Clubs of the state, the boys receiving their training under the club leaders of the Extension Staff of the M. A. C. W. A. Anderson, the state leader of live stock clubs, accompanied the boys to Chicago.

It is to be hoped that the achievements of these three young men, who carried the banner of Michigan, may inspire in the minds of those who know not yet the lure of pedigree stock breeding, some realization of what they are missing by not knowing some of the fine points of animal selection and perfection. The editors of the Michigan Farmer wish to congratulate Carl Johnson, Walter Ball and Rex Stow, and sincerely hope that they may live and own good stock of their own where they may find one of their chief delights of life in bringing home still further honors to old Michigan.

Three Cheers for Michigan

ON another page of this issue will be found an account of the remarkable showing of Michigan's grain and hay exhibits at the International in competition with exhibits from other states. The editors of this journal wish to congratulate the Michigan Agricultural College, the Michigan Crop Improvement Association and the Michigan State Farm Bureau and all the individual farmers who had a part in a breeding, growing and exhibiting the state's exhibit on this occasion.

There seems to be two general reasons why the Michigan exhibitors carried away more of the prize money than did the exhibitors in these classes from all the other states of the Union and Canada combined. One of these reasons is the naturally superior soil and climatic conditions obtaining in the state for the production of grains of superior quality. This reason has been apparent to observing farmers and careful students of agriculture as well

as to good seedsmen, for many years past.

The other reason is that the agricultural college and the farmers got together a number of years ago for the definite purpose of developing higher quality in farm crops and began to breed and disseminate better seeds. The Crop Improvement Association was the outgrowth of the Michigan Corn Improvement Association which organization was started through the efforts of a member of the editorial staff of this journal nearly two decades ago.

Much publicity has been given by the winnings at the International, which publicity is certain to redound to the financial advantage of those farmers who have through patient work developed that rare skill needed in the growing of seeds of high merit. But even now if the large number of farmers devoting themselves to the growing of superior seeds was increased a hundred fold Michigan's position as the great source of high-class farm seeds for a large number of states and provinces would be made more secure and the financial returns of those who produced the crops would be considerably enhanced.

American Farm Bureau Federation

THE remarkable development of the various State Farm Bureau organizations throughout the country has focused the attention of our great farming class upon the annual meeting of the national body, The American Farm Bureau Federation, which was held at Indianapolis, Monday, Tuesday and Wednesday of this week. Representatives from thirty-seven state organizations having an aggregate membership of 1,500,000, responded to roll call. Governor Goodrich, of Indiana, declared the gathering to be the greatest, the strongest, and the most representative that had ever come together at one time.

In the opening address, Governor Goodrich made the following significant statements: We cannot picture the situation of the farmers as bad as it actually is. The slump in industry is insignificant as compared with that in agriculture. In referring to the matter of holding up of credit he declared that a few public officials, in conjunction with some banks, have deliberately formed a money trust. In his regular business transactions the farmer needs his credit extended over a longer marketing season than now prevails. The federal reserve is a banker's and a commercial man's institution and not a farmer's, only one-tenth of one per cent of rediscounting by the reserve banks being farmers' paper. He stated that he did not wish to suggest anything radical, but if nothing could be done to establish the farmer's credit he, the farmer, would ultimately be forced to form his own banks. The farmer ought to demand as much tariff as are the manufacturers. The governor paid tribute to the work of the county agent and the home demonstration worker.

Mrs. Ketcham, of Michigan, stated that women want a uniform standard with men when working out agricultural problems. They do not want a separate organization. Some men think the farm bureau is a purely economic organization to start with, and that ultimately they will work out social, educational and other problems, but that the farmer's business problems must first be solved. However, Mrs. Ketcham thinks that women should be taken into the organization at once.

H. C. McKenzie, chairman of the taxation committee of the federation insisted that the farm bureau must set its face like flint against waste and extravagance. It should demand that the tax burden be so distributed that

those with the largest income should pay most of the taxes. He advocated seven recommendations. (1) Reduce surtax on individuals so that the minimum tax does not exceed fifty per cent. (2) Revise the administrative features of the excess profits tax and establish a local board in each district where at least ninety per cent of all the returns can be passed upon, and only the most complicated sent to Washington. (3) Establish a board of adjustment to which cases can be referred for official settlement. (4) Amend the constitution so there will be no tax-free securities, that all the income be taxed. (5) Raise seventy-five per cent of the taxes from incomes and twenty-five per cent from consumption and other taxes. (6) Enact house record No. 14198. (7) Provide that the net loss for any year may be deducted from the succeeding year or years.

The executive committee voted to establish a department of organization to begin January 1 and to make Clifford Thorne director of the department of transportation. They authorized the secretary to appoint a director of the department of cooperative marketing. They voted to select immediately a head for a department of education and publicity.

The resolution committee brought in a resolution addressed to the secretary of the treasury asking him to take action immediately with the federal reserve board to provide for the extension and renewal of farmers' obligations. They also drew up a memorial to congress petitioning that body to make arrangements for credit for foreign countries which would stimulate foreign trade in foodstuffs.

News of the Week

Wednesday, December 1.

THE Italian troops have encircled Fiume, presumably to force D'Annunzio's men to surrender and to enforce the treaty pact with Jugo-Slavia. General Calles is chosen leader of the Mexican cabinet. President Wilson proffers his personal mediation to end hostilities in Armenia. Attorney-General Palmer asks the district supreme court to issue an order appointing trustees to take possession of all the packers' stock yard interests.

Thursday, December 2.

GENERAL D'ANNUNZIO declares war on Italy. General Obregon is inaugurated president of Mexico. A conflict between the executive and judicial branches of the Peruvian government is expected to result in the overthrow of President Leguia. The interstate commerce commission orders an increase in intra-state rates on railroads operating in Wisconsin. Seven persons are killed when a New York apartment house collapses.

Friday, December 3.

ALLIED premiers in conference at London warn Greece not to restore Constantine to the throne. The United States Senate moves to conduct an investigation into the price of anthracite coal. The trade pact between Great Britain and Soviet Russia is signed. Governors of the various states in session at Harrisburg advise federal government to extend loans to European governments to encourage the export of American foodstuffs.

Saturday, December 4

IT is announced that the Greek plebiscite upon the return of Constantine will be postponed. Because her legal existence has not been established, Armenia cannot be admitted to the League of Nations. The adventurous plan of General Balakovich to rush Moscow with a handful of men is frustrated by soviet troops. It is rumored that the empress of Japan is dead.

Sunday, December 5.

THE export of American automobiles in 1920 will approximate one million dollars worth daily. The federal reserve board states that the crisis in the transition of business from a war to a peace basis has been passed. Troops have been called out to restore order at Roanoke, Va.

Monday, December 6.

THE sixty-sixth congress convenes for its third and final session. The United Mine Workers of America plan to support strikers in Alabama (Continued on page 746).

Congress Grooming for Real Work

Probably the Farmer Has Never Had More Influential Friends in Congress Than Now—By E. E. Reynolds

SENATORS and congressmen, especially those from the agricultural states, have returned to Washington with a well-defined conviction that emergency remedial legislation for the relief of the farmers should be enacted at the earliest possible moment. Never before in the history of the nation, it is asserted, has the attention of congress been so centered upon the needs of agriculture as at the present time. The representatives of several large farmer organizations have already presented their demands which it is believed congress will not ignore. It is also true that not in a long time has the farmer had more active or influential friends in both branches of congress than at the present time. These senators and representatives are largely from the middle west.

Senator Capper, of Kansas, is deeply impressed with the extremely critical situation in the middle west, where "there is a vague, ugly feeling among farmers over the violent fluctuations in prices of farm products which they feel is not entirely due to the law of supply and demand." Senator Capper would like to see an immediate embargo placed on wheat. The next best thing, in his opinion, would be a tariff on wheat and other grain just as soon as a bill could be enacted. A move will be made to put a tariff on wheat, but there is a danger that it will be taken up in the general tariff bill, which will require much time to prepare and enact, thereby postponing action on wheat so badly needed in the present emergency. The Kansas senator stands for a protective tariff on all farm products—wheat, corn, hogs and cattle—which now compete in our home markets with similar products coming from Canada, Argentine, Denmark and other countries.

A bill to prohibit gambling in the grain exchanges on future deliveries of farm products, will be introduced by Senator Capper at an early date. "I am not advocating doing away with the exchanges, and their legitimate activities; what I am after is to stop gambling in farm products," he says. "Immediately after the opening last July of the Chicago Grain Exchange, which had been closed during the war, prices of farm products began to fluctuate violently with bears in control, forcing the market downward and undoubtedly exerting a great influence in depressing prices."

It is proposed by Senator Capper to restrict trading in farm products to those who are dealing in a legitimate way. His bill will put a tax on all contracts except those made by producers or dealers engaged in actual selling and milling of wheat, and will prohibit all transactions not bonafide.

The farmers' collective bargaining bill seems to be in excellent shape to get through congress during the short session. This bill has already passed the house and is now on the calendar for action in the senate. The bill which passed the house put the regulation and control of the cooperative organizations under the department of agriculture, but the senate bill places these organizations under the federal trade commission. This, however, is regarded as a minor difference, and it is thought that an agreement will be reached without retarding the passage of the bill.

A meeting will be held in Chicago on December 10, at which a committee of bankers will confer with President

J. R. Howard and other representatives of the American Farm Bureau Federation in regard to the bankers' plan for organizing a syndicate under the Edge law for the purpose of extending credit to Germany.

A REAL effort toward working out a law to establish a nation-wide system of marketing which will benefit alike the farmer, stock raiser and consumer will be made in this congress, says Senator Cummins, of Iowa,

with the understanding that the subject is to be approached without commitment to any particular plan and with the sole purpose of attaining the wisest solution. Dr. Hollander was the associate staff director of the advisory committee on policies and platform of the republican national committee, and is a well-known economist. The backers of the McFadden bill will ask the house committee on banking and currency, of which Representative Louis T. McFadden is chairman, for

substitution from farm loan bonds. "It is enough to make the ordinary friend of agriculture tremble when he contemplates what may happen to the farm loan act in congress, with the provisions of the law and its purposes and benefits that have been derived under it, little understood by many members of that distinguished body," says a man who is in close touch with the subject. "I cannot escape a feeling that those who are charged with responsibility for the administration of the law and those entrusted with the management of the farm loan system land banks have failed utterly to comprehend the necessity for supplying the public with full information as to its interest in the farm loan system."

"This law came into existence in its present form as a compromise between two opposing factions which had been snapping and snarling at each other for more than a year, each proclaiming itself the friend of agriculture and each assuming to know the practical side of long-time rural credits. Now the compromise is rejected by the group which proposed it, and a powerful element is advocating some radical changes in the law. Developments in the last session of congress indicated that there is danger that the present disordered condition may result in a smash-up for the entire system. If such a calamity comes, it will come not because of any weakness in the farm loan act, and not because of failures in the functioning of the farm loan system, but because congress and the people have not been informed as to the benefits of the system."

ORGANIZED labor is occupying much of the lime-light just now. The leaders are preparing to concentrate their efforts upon two things—exclusion of immigration for at least one year, and opposition to the open shop. The labor people are not only backed by the bureau of immigration in their demand for the exclusion of immigration, but Chairman Albert Johnson of the house committee on immigration, is quoted as saying that "if a bill is not passed by congress before March 4, it will be necessary to suspend immigration until formal action can be taken by the bureau." "Unless the present rush of immigration is checked," says Representative Johnson, "there is every indication that the fiscal year 1921 will record a total immigration more than twice as great as in any year heretofore." It is shown by official emigration figures that six hundred thousand persons have left Italy within the past year, at least one-third having come to the United States.

Senator Thomas Sterling will propose early this session the creation of a federal immigration board to pass upon questions relating to immigration, including the number of immigrants that shall be admitted into this country. The conditions in Europe, and the fact that immigrants are seeking to enter the United States in numbers that cannot be readily assimilated," he says, "make restrictions necessary." There are two fundamental reasons for restriction of immigration, pointed out by Senator Sterling. The first is the labor situation. The second is the exclusion of radical elements.

The Farmers' National Congress, at its Columbus, Ohio, meeting, adopted a resolution recognizing the American Farm Bureau Federation as the outstanding leader of the whole American agrarian movement and pledged its cooperation with it.

State Grange Meets at Grand Rapids

MEMBERS and friends of the Grange will be pleased to note the date for the regular annual meeting of the state society, which will be held December 14-17. The sessions will be held in the Banquet Hall of the Pantlind Hotel, Grand Rapids.

Special features of the program are: Tuesday afternoon, Master's address; evening, exemplification of short-form ritual by the Charlotte team. Wednesday afternoon, state lecturer's open program; six p. m., annual banquet with toasts. Thursday evening, conferring of the fifth and sixth degrees. Friday evening, installation of officers.

Railroad rates, one and one-third fares on the certificate plan have been arranged for. Delegates should purchase tickets one way at full fare and ask for certificate (not a receipt), which, when endorsed at the Grange meeting, will entitle purchaser to one-third return fare.

Lodging and breakfast in private homes may be had at \$1.50 per person; for such reservations, write Lee H. Bierce, Secretary Association of Commerce, Grand Rapids, Michigan.

who will take a leading part in this movement.

All the farmer organizations are giving much attention to rural credits and in this way they have the active support of several senators and congressmen. One of the plans proposed is the amendment of the federal farm loan act to give the farmers better credit facilities. Another proposal is the establishment of a system of warehouses whereby the receipts of products in storage may be made negotiable.

The McFadden rural credit bill, which was introduced in the house last spring and has attracted much comment, both favorable and adverse, has made considerable progress, and its friends are confident of its success. But they are willing to accept any revisions that may be effective in providing the farmers the necessary credits. Dr. Jacob H. Hollander, of Johns Hopkins University, has informed Mr. McFadden that he will be glad to help in perfecting a rural credit bill,

judicial hearings on the bill. It is probable that Dr. Hollander will be employed as monetary-advisor of the committee during the hearings.

There seems to be a real danger that a flood of foreign wool will be dumped into American markets. The appreciation of the American dollar has been such as virtually to place an export bounty of about thirty per cent on wools exported to the United States from other countries. The wool produced in the United States since the Underwood tariff law went into effect, has been unprotected, and now it is at a disadvantage of thirty per cent in comparison with imported wools.

A QUESTION of considerable importance which will come before congress at an early date is that of removing the tax exemptions from future issues of all securities. Certain interests, including the Farm Mortgage Bankers' Association, are advocating the removal of the tax exemp-



Preparing for a Cold Winter.

Michigan Scores at the International

Makes a Most Remarkable Showing at the Great Grain and Hay Show

THE growers and handlers of Michigan crops have long known that the good soil and climate of Michigan could produce grains and seed of surprisingly good quality, as compared with other states. There is much satisfaction, however, in proving the superior value of adapted Michigan products in comparison with other states and Canada. Michigan folks can feel justly proud of the record of the state at the second annual Grain and Hay Show, held at Chicago, November 26 to December 4. Briefly stated, Michigan farmers brought home the following "scalps":

First place in corn; first twenty-two places in rye; twenty-seven of the thirty prizes offered for rye; eleven of the first fourteen offered for soft red winter wheat; second, third, and fifth prizes in clover hay; fifteen in alfalfa; second in timothy, and a good representation in many other classes.

First Twenty-two in Rye.

It was certainly a most unusual sight to notice the unbroken array of excellent Rosen rye entries, bearing Michigan Crop Improvement Association tags, and carrying away all awards from the first to the twenty-second. It is doubtful as to whether any state has ever made such a record at a National Grain Exhibit in any class, and

hardly probable that the same will again be repeated.

The first prize in rye (fifty dollars) was won by Mr. Louis Hutzler, of the South Manitou Island. Mr. Louis Hutzler is the son of George Hutzler, who is cooperating with the Farm Crops Department of the Michigan Agricultural College in developing head selected and improved rye for distribution to the entire island.

The second prize in rye (forty-five dollars) was taken by Murphy & Gormley, of Newberry. The upper peninsula can feel proud of the fact that Luce county sent down four entries and carried back four prizes. Mr. Gifford Patch, of Clarkdale, who exhibited an excellent sample of head selected rye, took third prize (forty dollars). Mr. G. F. Horton, of Jackson, the first Michigan farmer to grow Rosen rye after its distribution from the college, took fourth (thirty-five dollars).

Michigan samples of rye were pitted against numerous entries from other states. The outstanding excellence of Michigan Rosen gave a great advantage to Michigan. Twenty-nine of the thirty prizes offered were taken by Rosen rye from Michigan and other states. Michigan growers won \$505 out of \$520 offered in prizes by the Chicago Board of Trade on rye.

THE Red Rock wheat again caused dispute in regard to classification. Many who entered wheat from other states in the soft red winter class protested against the placing of Red Rock in that class and thought it should be placed with hard red winter wheats. The matter was finally put up to a grain dealer in Chicago who buys more wheat than any other buyer. After looking carefully at this red wheat, he stated shortly, "Soft red winter wheat, but I would pay two cents more a bushel for it." Mr. Phillips, of the Board of Reviews of the United States Department of Grain Standardization, officially ruled it to be soft red winter wheat. Plant Breeder F. A. Spragg can feel highly complimented on developing a variety, for growing in a soft red winter district of such hardness and excellent milling quality.

While Michigan did not take first in soft red winter wheat, nevertheless the second place (thirty-dollar prize) was secured by Mr. C. D. Finkbeiner, of Clinton, with a remarkably good entry. In addition to second, Michigan farmers took fifth, sixth, seventh, eighth, ninth, tenth, eleventh, twelfth, and thirteenth, or eleven of the first fourteen places in wheat.

John Dunbar, of Rudyard, Michigan, (upper peninsula), made four entries and won fourth in field peas, ninth in wheat, eleventh in barley, and seventeenth in oats, an excellent individual record.

First in Corn.

Mr. Charles Laughlin, of Three Oaks, Michigan, in taking first prize (forty-five dollars) for the northern corn district won for Michigan the greatest honor that a corn entry from this state has ever attained. Mr. Laughlin's sample was a splendid selection of yellow dent corn. It is the result of careful selection from healthy plants in the field. Last year Mr. Laughlin took fourth place.

In addition to taking first place, Michigan was well represented in the corn classes by L. H. Laylin, of Mason, fifteenth; J. W. Pickett, of Caledonia, sixteenth; A. W. Jewett, of Mason, twenty-first; Farley Brothers, of Albion, nineteenth in white, and A. W. Jewett and A. H. Laylin, fourteenth and twentieth. In Flint corn, Michigan farmers took five prizes.

The grand championship on corn went to C. E. Troyer, of Lafontaine, Indiana, and was a splendid sample of white corn. He has long been recognized as one of Indiana's leading judges, and for years has selected ears in the fall from healthy, disease-free, and

(Continued on page 724).

The International Live Stock Show

In Several Departments the 1920 Show Surpasses Any of its Predecessors

THE Twenty-first International Live Stock Hay and Grain Show may not have surpassed all preceding exhibitions but only the most discriminating observer could discover the fact. Accommodations for displays, animate and inanimate, were comfortably filled and attendance was liberal.

The unsatisfactory market conditions which have affected sales of pure-bred live stock of all kinds resulted in an undertone of gossip of an entirely different character from that recently prevalent. Low sale averages and losses due to depreciation in the market value of pure-breeds recently purchased were frequently related. However, the farmer and stockman is a man of faith. The dominant note upon the outlook regards the present period of low prices for pure-breeds as a golden opportunity for the farmer-breeder who wishes to improve his herd, flock or stud. Many breeders are now trying to court back again the local farmer trade which was frightened away during the period when high prices in pure-bred auctions were the rule.

The purely educational displays were of exceptional value. The experiment stations of Michigan and four other states and the state agricultural departments of Illinois and Louisiana presented by various methods of graphic art the work which each was doing for the promotion of the welfare of its farmers. Beyond doubt the most interesting of these was the Michigan exhibit which featured the complete organization in that state for the production and distribution of pure seeds. The new and improved varieties developed upon the test plots at the agricultural experiment station are multiplied in the hands of reliable farmers, members of the Michigan Crop Improvement Association. Since the work of these farmers is supervised by the agricultural college it is able to furnish those which come up to standard with a disinterested registration and

guarantee of purity. The last step, distribution, is provided for by selling the seeds cooperatively through the seed department of the Michigan Farm Bureau.

The United States Department of Agriculture was represented by a display of its work. One of the new features shown was the exhibit of colored transparencies showing the various market classes and grades of live stock illustrating the classification used by the bureau of markets in its reporting work. Telegraphic reports issued by the same bureau upon prices and market conditions at the principal centers were shown upon blackboards near by. Other features shown were milling and baking tests of flour, testing farm seeds for impurity, insect and plant pests, new crops not generally known but of high value to agriculture,

feed analyses and methods of cultivating and harvesting crops in the most effective manner.

Such exhibits placed before visitors in concentrated form the results of many experiments covering a number of years.

The grain and hay show which was first added last year registered a growth of fifty per cent. All parties consider it a splendid addition to the live stock display. Successful live stock production depends upon the large and economical production of farm crops. Also the majority of visitors to the show in the past have been diversified farmers interested in field crops as well as live stock. The addition of the grain and hay show provides for them "a balanced ration."

Michigan Juniors Win Second Place.

In the judging contest for college

students, twenty teams competed. Three came from Canada and others from as far as Colorado, New Mexico and Massachusetts. The Indiana team from Purdue University won first place with Nebraska second and Iowa third. Although there was no team from Michigan in this contest, the state was represented in the junior competition with a team which won second place among eleven competitors, first place going to the team from Georgia.

The display of beef cattle was the only section of the show aside from hay and grain which surpassed former exhibitions in point of numbers. Enthusiasm seemed undiminished. Both the Shorthorn and Hereford shows were believed to be the strongest ever held in America. Thomas Clark, of Beecher, Illinois, the oldest Hereford breeder in America, is sponsor for that statement so far as his favorites are concerned.

The show of fat steers held on the first day of the week drew the largest crowd on the grounds as usual. Forty-five pure-bred Shorthorn steers were shown, the breed champion being uncovered in Cloverleaf Jack exhibited by W. C. Rosenberger, of Tiffin, Ohio. Calved on April 4, 1919, he weighed 1,570 pounds, showing that he had manufactured beef at the remarkable rate of about two and two-thirds pounds for each day of his life. Although slightly uneven over his ribs, he was the runner-up for the grand champion in which competition he won the reserve ribbon. "A picture book steer" is a proper characterization of him. The Hereford steers numbered eighty-one, the largest display of the breed ever held in an American show yard. Standard Supreme, shown by C. A. Tow, of Norway, Iowa, was champion of the breed, while the calf, Woodford Don, shown by E. H. Taylor, Jr., Frankfort Ky., won the calf championship among all breeds.

It was an Aberdeen Angus year again in a show for individual steers (Continued on page 745).

The International Grand Champion Steer



"Black Ruler," Bred and Fed by Purdue University.

Cherry Growing on a Business Basis

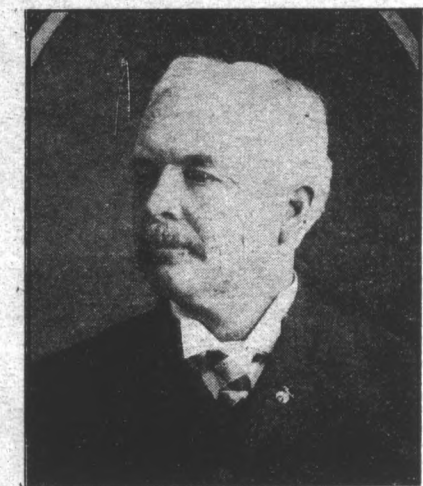
*Interesting Indeed Are the Results of the Venture Made 35 Years Ago
by Birney J. Morgan of Traverse—By Nellie Blair Greene*

FROM a briar patch to a great tract of highly productive land, is the history of the Morgan orchards, situated on the hills just west of Traverse City, Michigan, and famous for the quality and quantity of its cherries.

From these orchards the 1920 cherry crop exceeded twelve carloads, or more than eight thousand crates, a very fair showing for forty acres of cherries, and this is due largely to the modern methods of fertilization, pollenization, cultivation and spraying in usage by T. B. Morgan, present manager of the estate.

Overlooking beautiful Traverse Bay from its hills, this farm was nothing but a "briar patch" thirty-five years

ago, as Mrs. B. J. Morgan, widow of the late owner states. To clear one hundred and twenty acres of briar patch was no small undertaking, but Mr. Morgan accomplished it and succeeded with his fruit farm as he succeeded with his livery stables, his boat lines, lumbering interests and real estate enterprises.



Birney J. Morgan, Pioneer Orchardist.

He did not think of cherries in those days, for it was believed that cherries would not grow in the north, especially on sand hills. Apples were the foundation of his orchards, and he started with about two hundred trees.

This venture was such a success that he determined to try cherries, much to the amusement of his friends who attempted to dissuade him from the idea. But when financial rewards came as a result of his cherry orchard others tried this branch of the fruit business, until Grand Traverse county has become famous for its cherries above all other fruits.

Birney J. Morgan was, in a way, a pioneer, for it was through his success

that others have been led to extensive cherry growing, although the orchards he planted remain about the largest in the county. He was a pioneer in another way, likewise, for he was among the first to settle in the little village at the head of Traverse Bay, "We-Que-Tong," as the Indians called it. Born in 1846 in Carlisle, Ohio, he came as a boy of sixteen to Traverse City where he remained until his death, July 22, 1910. Mrs. Morgan, who was a daughter of James K. Gunton, was one of the first white children born in the village, and has lived all her life upon the same block where the family home is situated.

The orchards were started about 1880, Theron B. Morgan, son of Mr. and Mrs. J. B. Morgan having been manager of the estate during the past ten years. The success of the cherry business, Mr. Morgan believes, is due to the system of pollenization which he has used for several years. About fifty sets of bees were used in 1919 and double that number will be placed in the orchards this coming spring.

Winds cannot always be depended upon, and cold rainy weather is bad for the cherries, but with bees, a good crop of fruit is assured, and this has been tried with success in many localities. Traverse City soil is very sandy and orchards need constant attention. Cover crops are put in just as soon as the cherries are out of the way in August, and these supply the needed elements to the soil. Oats, vetch and other crops are used in the Morgan orchards by William M. Pickel, farm manager, and these, with the bees and the spraying have brought the Morgan cherries to their present height of perfection.

A day in the orchards during cherry picking time is like a visit to a gypsy camp and a packing house combined. First comes the drive in the early morning from Traverse City along the shore of the bay and around a curve in the hills, to the great farm. Then comes the plunge down the long lanes of trees, some heavy with crimson fruit and others showing the path of the pickers, bare except for one or two ripe red cherries in the topmost boughs where it has been almost impossible to reach. Both sweet and sour cherries are grown, among the many varieties being Early Richmonds, Yellow Spanish, Montmorencies and English Morellos.

At last the packing tent is reached, where beneath a long canvas canopy, a dozen or more girls and women stand sorting fruit, filling crates and

packing them ready for the boys to nail them up.

Down the endless rows of cherry trees come girls, boys, women and men, all with heaping pails of fruit. These are turned in at the checking table and the picker's card is punched for each pail, which holds four quarts. For each crate, a check is given and these are cashed twice each week, some of the cherry pickers making as much as \$6.50 a day.

Among the two hundred pickers who round up the crop at the Morgan orchards, are country girls and boys, college students, Indians and parties from Traverse City and other localities, and out of the lot, there are about seventy-five first-class, experienced pickers.

The orchards hum like a giant bee hive. From all directions comes the call, "ladder mover!" as the workers on one tree finish their job and move on to another location. Hundreds of ladders are used, from the small one to the largest size, queer ladders which come to a point at the top like snowshoes, and which have adjustable legs or supports.

Girls in overalls, girls in skirts and girls in gingham dresses and sunbonnets were perched everywhere high on ladders, filling pails with cherries and calling to each other with laughing voices. Some of the cherry pickers camp near the orchards, others walk from their homes within a radius of three miles, and others are brought in truckloads from a central starting point in Traverse City.

They furnish their own shears for clipping the fruit, and bring their lunches. An experiment, more or less successful, which was tried some time ago by Mr. Morgan, was the establishing of a camp cooking outfit where the workers could get sandwiches, "hot dogs," coffee and other easily prepared lunches, and although this has not been repeated since, it doubtless will be again.

Under an efficient forewoman, Mrs. Cutler, who has served in the same capacity for several years, the cherry pickers are marshalled as they arrive at the orchards, very like a huge army of gypsies. They are given their cards, their pails and the ladder movers show them their locations.

There is the kindest sort of rivalry, many of the older ones helping out the children by half pails of cherries, from time to time. Two receiving tables are sometimes in use, and as one section is cleaned out the trucks gather in the tents, crates, pails and equipment

and shift them to a thicker section where the fruit is waiting.

Cherries as big around as a fifty-cent piece are not at all unusual, even the so-called "sour" cherries attaining a remarkable growth, due to the care given the trees. When the orchards were set out, trees from one to two years old were planted, and there are



One of the Fast Pickers.

trees thirty-five years old in the orchard, bearing as well as they ever did.

Apples, pears and plums are grown along with the cherries, and the original peach orchard which followed the first apples, has been replaced with cherries, which have taken the place of many pears. That the apple business is likewise successful is proved by the fact that the crop was 3,200 barrels in 1919, and this was surpassed by the 1920 crop.

It is a paying business to pick cherries, and in this case, the race is to the swift. Many of the more experienced ones average thirteen crates a day, and this means fast work, as the cherries have to be clipped with shears instead of pulling.

When the fruit is intended for canneries, it may be pulled or stripped, but the higher grades of cherries for shipping to other states and cities must be clipped. For this, fifty cents a crate was paid this year, and forty cents a crate for pulling. One small boy of twelve earned enough money

(Continued on page 724).



Pickers do not Always Like the Job of Taking Cherries from Top Limbs, for Work there is Much Slower than when Standing on the Ground.



These Cherry Pickers Agree with Plutarch that Life is Most Happy when Superfluities are not Required and Necessaries are not Wanting.

The Bookkeeping of Humanity

Every Man is Concerned About Vital Statistics

SO important in public health work, in the prevention of sickness, are vital statistics—figures touching man from birth through sickness and happenings of life until death—that they have been called the "bookkeeping of humanity."

Vital statistics are to the health officer and physician what charts and compass are to the sailor. The registering of births and deaths form the basis to intelligently combat disease. First, in order to fight a disease physicians and public health officials must first know where it exists and what trend it has taken in former years. For example: A few years ago the typhoid fever death rate in Ford village near Detroit reached the proportions of one death to every twenty-three families. Detroit at the same time had a typhoid fever death rate of but one to every 666 families. Armed with these statistics a sanitary survey was made and it was found that the people in Ford village were drinking water polluted by Detroit sewage. It was thus possible to clean up some of the sources and lower the death rate considerably. In studying recent statistics on diphtheria it was learned that St. Clair county had the highest diphtheria death rate of any locality in the state. Diphtheria was ever present. So during the later part of the past month a staff of technicians from the Michigan Department of Health, cooperating with local physicians and health officers, took cultures from the throats of 6,500 school children in the county in an attempt to find those who were capable of carrying the disease and starting epidemics. Thirty-five children were found who harbored the virulent germs of diphtheria in their mouths and throats, though not in danger of contracting the disease themselves. By isolating these patients until their throats cleared up, thirty-five possible sources of diphtheria outbreaks were avoided. This is simply another instance of the follow-up work made possible by the keeping of vital statistics.

Registration of births and deaths is one of the duties of every civilized government and is of importance not only to the individuals themselves but also to the entire public. Questions of parentage, heredity, legitimacy, family identity, property rights, inheritance, and citizenship are decided by such records. No child labor law can be of any value unless it rests upon a system of birth registration and of birth certificate issued by the state, certificates which the child or parent can present at any time as positive proof of time of birth and of paternity.

Many interesting cases are recorded where birth certificates were absolutely necessary in the affairs of some person and yet were lacking. Let us cite two cases of this nature: Alice, a girl of twenty-four, without family, was living in California when a distant relative died and left her heir to several hundred thousand dollars. In order to come into her inheritance it was necessary to prove her identity as an heir at law. Her birth was not recorded in the county where she was born, and for a long time no one could be found to establish the time of her birth. Naturally the papers made much of the case. Finally an old acquaintance of her family chanced to read an account of the story and was able to establish her identity.

Again: An Irish family, composed of father, mother, and son, went back to Ireland for a visit. At the end of a few months the parents decided to

remain there, but the son wished to complete his education in the United States where he had been born. But on arriving at Ellis Island authorities detained him because he could show no record of birth in America. A search was made in his home county for record of birth registration. None could be found. Finally, at the end of several weeks he was permitted to re-enter the land of his birth after friends had established the time and place of his birth by baptismal records.

Michigan is one of thirty-three

been backward in this important phase of keeping national records. This is due to our form of government, the federal government being dependent upon initiative taken by the individual states since there is no clause in the constitution requiring the keeping of vital statistics. Some few states, however, have kept vital statistics for a long time. Massachusetts, for instance, having very valuable records.

Without the records of births and deaths, it is impossible to determine the birth rate of a community, to esti-

ing the relative healthfulness, or unhealthfulness, of different parts of the country. To attempt to carry on modern health work, either on the part of a city or state without a vital statistics bureau as part of the organization is as hopeless and unsatisfactory, as unmodern, as it would be to attempt to carry on a modern business without an accounting department.

At present Michigan's Bureau of Vital Statistics is under the direction of the department of state and the information gathered there is not readily accessible for use by the Michigan Department of Health. The convening session of the legislature will be asked by the state commissioner of health to transfer the bureaus to the State Department of Health. As compiled now our vital statistics are arranged for legal use rather than for use in public health work, in the combating of disease. Monthly reports of births and deaths cannot reach the bureau of communicable disease of the department until the latter part of the following month, rendering public health officials unable to correlate their work, as advantageously as they might, to the ebb and flow of sickness and epidemics in various localities of the state.

With the Bureau of Vital Statistics organized as a division of the department of health, and with its information gathered from a public health standpoint as well as from the legal side, the department would have an instantaneous "drop" on epidemics throughout Michigan. The bureau would act as an automatic fire alarm, giving warning as soon as danger arises instead of after the conflagration has started.

dustries, all need the steadying, sobering, protective influence of a state police force.

"Daily expression of this need is seen in any study of the record of lawless and criminal acts committed, with little fear on the part of the perpetrator and little hope on the part of the victim, that any apprehension and conviction will follow.

"Roads and rapid transit extend the operations of the criminal who harbors in the jungles of the cities. The banks and business houses of the towns and villages yield him tribute annually many times greater than the cost of an efficient state police system.

"Let us determine to pay the tribute to lawlessness no longer; let us agree to pay the legitimate cost of efficient law enforcement."

Although the Illinois Agricultural Association started out to be a largely promoting organization it has found it necessary to establish three marketing departments.

John W. Coverdale, secretary of the American Farm Bureau Federation announces that forty-two states will have State Farm Bureaus by December 1. The number this summer was thirty-three.

Ohio has reached the 42,000 mark in its farm bureau membership campaign. It is working on a ten dollar a year basis, the same as Michigan. There has been a very notable trend in recent months to make the membership fee in all states not less than five dollars and the ten dollar membership is the most popular.

"The world is short of wheat; the United States is over-sold; and prices must certainly go higher," says a statement recently issued by the American Farm Bureau Federation.

Are the Boys and Girls Well?

IF the children of Kalamazoo county are typical of the 850,000 school children of the state then there are in our schools at the present time 383,000 children who have enlarged tonsils, which makes them especially susceptible to diphtheria, 245,000 with defective vision, and 345,000 under weight.

Everyone of these boys and girls with defective bodies is being handicapped in the race of life. And the pity of it is that from hundreds of thousands of them the handicap could be easily removed. It is largely because of a lack of knowledge that these conditions are permitted to go on. Every parent should learn the way to health. On this page appears the first of a series of weekly articles on this all-important subject. If you have questions to ask send them in and they will be referred to specialists.

states in the Union designated by the United States Census Bureau at Washington, D. C., as the death registration area. Five of the remaining states have no vital statistics law at all, while in the rest laws are now under test. Official records of death are necessary in proving death for probating wills, selling estates, establishing claims for insurance and pensions, and proving ancestry and heredity. For public health work and the study of disease they are indispensable in analyzing the causes of death, relative death rates, ratio of deaths to births, duration of life, rates of life insurance, and relative healthfulness of different states and communities. In England registration of births and deaths has been required as a part of the legal and official record of each individual since 1837.

The United States, as a whole, has

mate the infant death rate, to find the ratio between births and deaths, and to ascertain at what age and from what cause the largest number of people are dying. It was when the people of the United States saw from published reports based on vital statistics that 300,000 children under five years of age die yearly that action was taken to lower this needlessly high death rate. Without vital statistics we might have gone along for years without realizing that half of these deaths are preventable.

In order to make any fair comparison regarding the healthfulness of two cities, communities, or states, it is necessary to keep accurate statistics for a considerable length of time. Through lack of adequate and uniform vital statistics laws in the past it has been impossible to make anything but vague and general statements regard-

Notes on State Farm Bureaus

FARMERS of California announce through their authorized grain-growing and marketing counties the completion of one of the most perfect organized campaigns ever started in the agricultural districts of that state. They have taken over a new two million dollar business terminal elevator at Oakland and are organizing for the establishment of county elevators and warehouses in all parts of the state. Fifty thousand farmers are enlisted into county and state marketing exchanges. They expect to export their market products direct to the consumer.

A strong horticultural department and state-wide sugar beet growers' department has been authorized by the Californian executive committee.

Farmers of Illinois, through the Illinois Agricultural Association, have taken the same stand regarding the wheat strike as has the Michigan State Farm Bureau. Their official statement on the subject is: "From that day,

the Illinois Agricultural Association has been definitely working on the great subject of marketing grain in a sane way. It is concentrating its ef-

forts at present in the grain marketing committee appointed by the American Farm Bureau Federation to comprehensively study the whole question and report a plan of establishing a saner grain market, based upon its findings. Until this plan comes forth and definite ways and means of putting it into operation are devised, spasmodic though well meaning, efforts by widely separated groups along very divergent lines, are destined to be futile and largely 'stop-gap' in their nature and results."

A statement by the Illinois Agricultural Association on the state police is interesting in view of the fact that there is much discussion in Michigan concerning that subject at the present time and the State Farm Bureau has issued a statement to the press regarding the findings of its investigations. Illinois says:

"The open county of Illinois in which farm families live; the small villages within which are located business houses, banks, churches, schools and many homes, all essential and contributing to the open country life; the smaller cities wherein are varied in-

How Uncle Sam Marries Plants

By Earle William Gage

FEW realize that Uncle Sam operates and owns the world's largest specialized farm, located in Alexandria county, Virginia, including four hundred acres of the most fertile land to be found in this country, if not the world. Here the Bureau of Plant Industry of the United States Department of Agriculture carry on plant experiments resulting in larger production of essential feeds, as well as create new methods against enemy plant diseases. The farm is better known as the Arlington Experiment Farm.

Last season forty branches of the bureau carried on various plant experiments on this farm, each test being carried on a special plot of ground. In one garden some two hundred varieties of lettuce were watched, that the best all-around variety might be discovered. Then there were seventy varieties of sweet potatoes in another competition. The best commercial sweet potatoes grown in the United States are not dependable yielders, and the farmer may toil all summer long, only to learn that he has a crop of stringy roots. The sweet potato plot was planted with a view of discovering a potato variety dependable, and the scientists hope to select a variety that will add fifty bushels per acre to our present crop, which will be an enormous increase over our normal production considering that we now crop more than two million acres to this potato.

Hosts of strangers arrive at the large farm each season from Europe, Asia and South Africa, as well as the islands of the sea. In fact, new plant varieties come here annually from every part of the world, either in the form of cuttings or seeds. It is here that marriages take place to add to the number of bushels per acre, and these would be called romantic, if humans are concerned, as was the love affair of Romeo and Juliet. In one particular case the Romeo is a Siberian wheat of superb northern vigor, built up through centuries of resistance to extreme cold. Juliet is of our own west, of a strain famous for its golden abundance, but for all her beauty, susceptible to cold with kinsfolk who have perished on the bleak western prairies by the thousand. What is wanted, therefore—to increase our yield of wheat per acre—is a progeny which shall combine Romeo's hardihood and Juliet's abundance.

Thus the marriage takes place, with a chief scientist as the best man and other scientists as the ushers. The time set for the ceremony is an ideal one as any human bride could wish, since it is in the midst of the bloom season. Juliet's bridal toilet has one peculiarity, though. The ends of the stamens are cut off, and the pollen from the Romeo bloom is sprinkled in its place.

The cost of such a marriage is sometimes considerable. In the development of certain varieties of grain the expense of the mating, including the succeeding tests, has amounted to as much as \$10,000. On account of the heavy outlay the first offspring of Romeo and Juliet are placed in a cage for protection from the birds—a wire net-

ting eight feet from the ground, so as to give the cultivator room to move about, is placed over the progeny of the Siberian and the American, and the sides are also inclosed by the netting.

The Arlington Experiment Farm has fifteen hundred different grain seeds. In the fruit section there are seven hundred varieties of apples, one hundred of grapes, and one hundred of peaches. In the flower section, to mention two kinds, are found eight hundred varieties of roses and four hundred of peonies.

Each year the supply of tomatoes, and consequently the price, has been affected by the tomato wilt, a mysterious disease which has swept over whole states especially devoted to the cultivation of this crop. In Georgia, for example, in 1918, the losses reported from this cause were fifty per cent of the entire crop; Virginia's crop was

of varieties, a better seed, or by finding a cure for a disease which is making heavy ravages in existing excellent varieties. In the new tomato plant the scientists' plan of campaign is well illustrated. Cures were sought for the tomato wilt. This involved a long and exact process. First the tomato wilt germ must be found and isolated. This called for patient laboratory work at the large plant of the bureau of plants in the Washington headquarters of the department of agriculture. There was one infallible proof—that the germ would produce the wilt in a healthy plant. This done, efforts were then made to control it by chemical sprays.

Sometimes success is complete in such experiments, as when a few years ago the bureau discovered a lime-sulphur mixture which would destroy orchard scale of the most malignant type, a pest that ruins not only the life of the tree if unchecked, saps the life out

the interest of food production in the United States, was mated to an aristocrat; and after several years of progressive experimenting with the progeny the scientists of the plant bureau think they are safe in announcing a wilt-proof tomato.

Plant breeding is but one of a group of experiments carried on at the Arlington Experiment Farm. Soils from various states are tested here, not by the chemist, but where they can be watched continuously in open-air environment. The soil as it comes from the different states is placed in stone cylinders, in layers, just as it was taken from the ground. The plant is grown in the cylinder, set upright in the ground. Records are kept of each test, and the final test shows what each soil needs in the way of fertilizer to make it produce the best results. These records are completed for leading varieties of crops.

A row of laboratories is part of the equipment of the farm. One of these is presently conducting experiments in the prevention of waste farm crops.

PIGS ON RAPE.

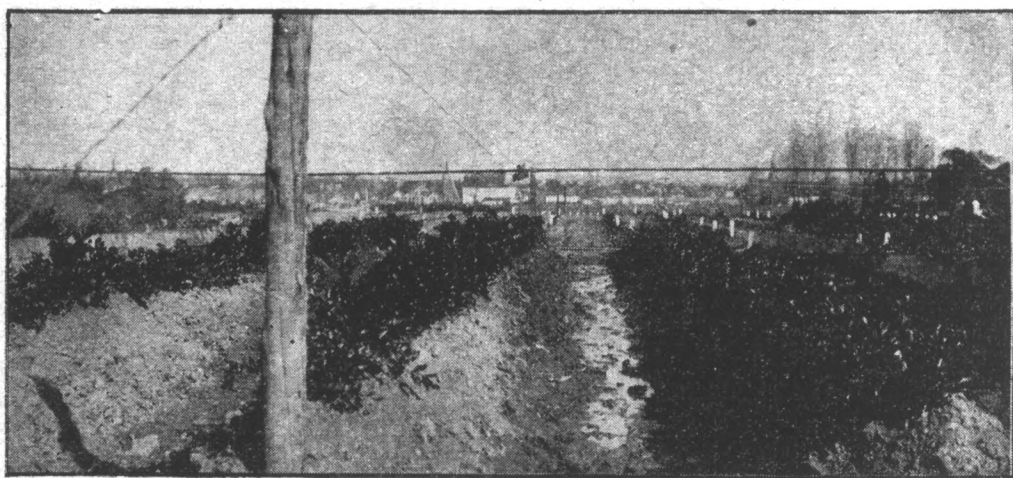
THAT at least 500 pounds of gains in pigs may be accredited to the acre of rape forage for a season has been determined in tests at the Ohio Experiment Station. The best results from rape pasture were secured when the pigs were given a full feed of corn, nine parts; tankage, one part, by weight; the amount accredited in this case being 628 pounds to an acre of rape.

It is usually supposed that pigs when fed corn alone on rape pasture would consume more of the forage than when supplemented with tankage. However, the pounds accredited for pigs on rape pasture with corn alone, but on full feed, was only 459 pounds. With limited feeding however, where only three-fourths' feed of corn was given, the gains amounted to 544 pounds for the season. Limited feeding with the standard rate of supplementing corn by nine parts to one of tankage, gave 522 pounds of gain to the acreage of forage.

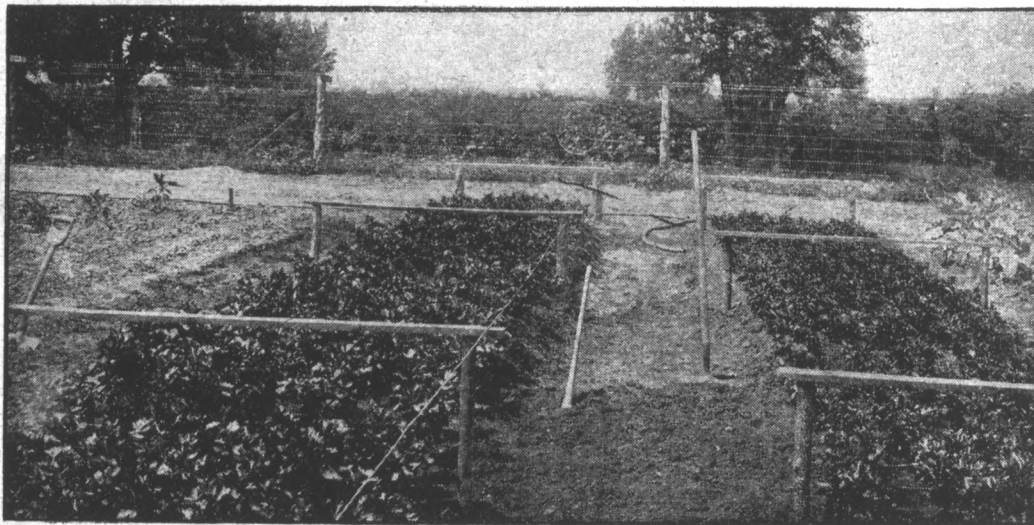
The pigs used in this experiment averaged about fifty-one pounds each and, of course, the ones receiving corn, nine, tankage, one on pasture, made the highest daily gain, 1.47 pounds. Limited feeding of corn alone on rape forage brought a daily gain of 1.06 pounds. The lot of the same weight fed in dry lot with a ration of corn, 9, tankage, one, made an average gain of only nine-tenths of a pound; hence there is a difference of more than half a pound per day per pig in favor of balanced ration on rape pasture.

These tests show that it pays best to feed supplements of corn on rape pasture. When hogs are being raised for breeding stock, it will be cheaper to grow the hogs on a limited grain ration on rape pasture as the concentrates required per 100 pounds gain are less. However, it pays to use some tankage in the ration. In this experiment the pigs fed corn alone while on rape pasture required 325 pounds of concentrates to every 100 pounds of gain made.

C. M. BAKER.



The Overhead Irrigation System is Used to Give Plants Every Advantage.



In this Plot Celery Varieties Are Being Crossed to Produce Improved Strains.

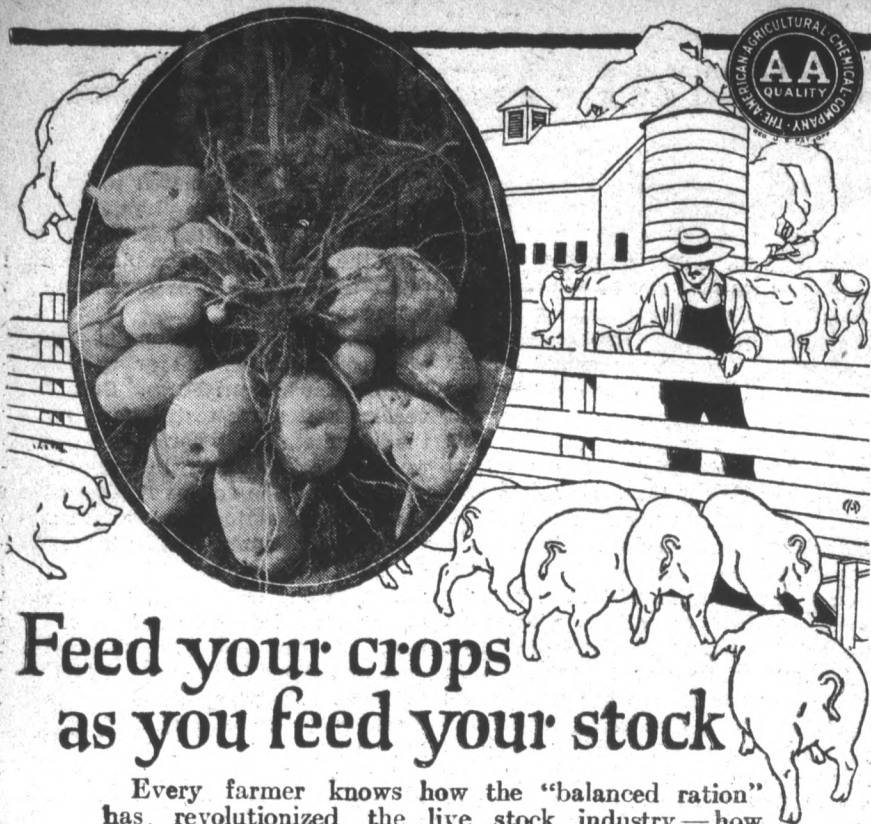
cut by ten thousand bushels; Maryland's by twenty-five thousand bushels, and so on throughout the United States.

On the Arlington Experiment Farm there is a ten-acre plot of tomatoes which defied attack by the wilt disease. Diseased plants have been brought in contact with the growing field, and the tomatoes showed themselves wilt-proof to the end of the test. This season seeds from wilt-resisting plants will be sent to all the tomato-growing sections of the country, and the ultimate result, it is anticipated, will be a saving of millions of dollars and a decided increase in the yield of tomatoes per acre.

There are two chief methods of procedure followed by the plant scientists. To increase the yield per acre is the great problem. This may be done by evolving, through the mixing

so that the fruit crop is ruined. But in this case no cure was found for the tomato wilt. Therefore the other line of attack was adopted. A plant was found which would resist the disease. At length, after hunting far and wide, a tomato plant was found that would not take the blight no matter how exposed.

But success was yet a long way off, for this particular plant yielded a small crop of little scrawny tomatoes, utterly unsuited for commercial or domestic uses, a vegetable ne'er-do-well and loafer which had the one quality of a magnificent constitution. The scientists, because of his physique, resolved to make a desirable vegetable citizen of him. The first step upward must be a suitable marriage. A bride in a different world was sought, a rape pasture required 325 pounds of concentrates to every 100 pounds of



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Michigan at the International

(Continued from page 720).

sufficiently mature plants following field selection with a careful selection of best ears. Mr. Troyer produced an average of one hundred and nine bushels on a twenty-acre piece of bottom land.

The first prize in the hard red winter wheat (a variety not produced in Michigan) was taken by John Howell, of Montrose, Colorado.

The writer was particularly interested in getting a statement from the grower of the best sample of highest quality wheat in the United States, as to how he produced his crop and what led him to enter it for competition. Mr. Howell stated that four years ago at the Grain Show at Wichita, Kansas, he failed to bring home a prize, but carried with him a handful of grain of Black Hulled Turkey, the winning entry. From this start Mr. Howell has made careful selections, and on his farm produced at the rate of fifty-five bushels per acre, on a large field-scale during the past year. His determination and care in selection and production enabled him to take highest honors in a comparatively short time.

Mr. A. W. Jewett, Jr., of Mason, was responsible for the taking of several important prizes for the state of Michigan. Mr. Jewett is without doubt one of the best crop exhibitors of the country. In the clover hay class Mr. Jewett took second place, (thirty-five dollars), closely pushing the winner of the first prize. He also won fifth (twenty-five dollars), in alfalfa, and second in timothy hay, (thirty-five dollars), pushing the winner of first prize. In corn, oats, wheat, rye, peas, barley, and timothy, and clover seeds, Mr. Jewett took one or more prizes in each class.

Visitors at the exhibition evidenced much interest in the Michigan Agricultural College exhibit, and Crops Specialist H. C. Rather in charge of the exhibit, was kept very busy answering questions relating to Michigan. This exhibit aimed to develop the central idea, "Michigan Mobilized to Maintain High-quality Seed." On the left, by the use of samples and enlarged pictures, the varieties contributed by the Michigan Agricultural College Plant Breeding work were shown. These were listed as follows by Professor Spragg:

Worthy oats—1911.
Rosen rye—1912.
Red Rock wheat—1913.
Michigan Winter barley—1914.
Robust beans—1915.
College Wonder oats—1916.
College Success oats—1916.
Wolverine oats—1917.
Michigan two-row barley—1918.
Michigan Black barley—1918.
Michigan hardy alfalfa—1919.

In the center was shown the work of the Michigan Crop Improvement Association in increasing these varieties and leading corn varieties, under careful inspection and certifying same for sale by growers and through the Farm Bureau Seed Department. A miniature train carrying carloads of seed of the above listed varieties, with estimated amounts, represented the quantities which the Farm Bureau Seed Department has for the world's seed markets. The Potato Growers' Exchange and the Potato Growers' Association were represented by a splendid pyramid of Petoskey potatoes. The work of the crops department along special projects in crop improvement, such as the Manitou Island Rosen rye project and the Hughes annual white sweet clover work were shown.

Professor A. L. Bibbins, of the Farm Crops Department of the Michigan Agricultural College, served as one of the judges, and brought further honor

to Michigan by being elected vice-president of the National Crop Improvement Association. Mr. J. W. Nicolson, manager of the farm bureau, one of the founders of this association, was again elected secretary-treasurer.

Great interest was taken by visitors from other states in the development of farm bureau work in Michigan, particularly in the seed marketing work, and the sale of registered and guaranteed seed produced by the Crop Improvement Association through the Seed Department of the Farm Bureau. It is apparent that plans made for this work have developed further in Michigan than in other states.

The International Grain and Hay Show brought together a great number of high-quality entries of corn, small grains, seed, and hay from all over the United States and Canada. This year's exhibit was remarkable for the close competition that existed and the large number of entries made. Without doubt the holding each year of such a contest in Chicago will have a marked influence on the country's crop production—an influence comparable to the great work accomplished by the International Live Stock Exhibit in bettering the herds of the country. The Chicago Board of Trade is doing good work in offering a substantial premium list and Superintendent A. J. Christie should receive sound support from all quarters in putting the exhibition on a permanent basis.

The widespread planting of seed of the winning varieties in districts where adapted will lead to standardization of production along safe lines, and should increase the proportion of the best grades of grain that come to the market. Standardization of production is necessary for standardization of market products.

SUCCESSFUL CHERRY GROWER.

(Continued from page 721).

in this way to buy his clothes and prepare for an operation which will be performed in Ann Arbor through the kindness of a doctor interested in his case, and dozens of other cherry pickers earned from fifteen to forty dollars a week.

The old hazzard farming has long since departed. In the old days, the fruit farmer was satisfied if he just managed to "get by," but since the advent of the farm specialist and the farm bureau, it has meant financial success as well as cooperation in many ways.

In the Morgan orchards, by scientifically improving the quality of the crops, such success was made from the very first, that it set many of the unbelievers thinking, and others followed the example set by B. J. Morgan's perseverance.

Difficulties have always faced the orchardist in the north, not alone from the quality of the soil, and the cold winters which killed the peaches, but from the shortage of help, especially in cherry season. Hundreds of college students have come to the help of the fruit farmer during the past two or three years and the crop has been saved.

Grand Traverse cherries were a one million dollar crop in 1919, and will be a sixty per cent crop this year, which is as large as last year and will be of much better quality. Spraying and cultivating has accomplished this success in the Morgan orchards, and those who have watched the farm grow from a run-down tract overgrown with briars, into the great and paying enterprise which it has become, realize the value of hard work and per severance.

Fighting Leaf Hoppers

Results of Some 1920 Experiments

IN an endeavor to secure some practical information on leaf hopper control in upper peninsula conditions, the Menominee County Agricultural School conducted a series of experiments on Green Mountain and Rural Russet potatoes during last summer.

Two acres were planted on sandy loam soil on May 29. The land used

ing pronounced occurred until the last week in September, when observations showed the field to be about half dead with the tip-burn injury.

Fields B and C remained green until the potatoes were ripe, and the vines died down naturally. Although they did show some tip-burn injury it did not seem to affect the plant seriously.

Field C, treated with nicotine sulphate, had a much healthier green color throughout the summer than did the field sprayed with 4-6-50 Bordeaux.

The field of potatoes in field A was fifty-one bushels, half of which were just about marketable size; field B eighty bushels, nearly all marketable size; field C eighty-two bushels, nearly all marketable size; field D thirty-three bushels, a few of which were of marketable size, showing that the relative yield is in accordance with the damage done by the leaf hopper.

It should also be kept in mind that these potatoes were grown on a very sandy loam, a factor which will account for the comparatively low yield for upper peninsula conditions.

The above results seem to indicate that 4-6-50 Bordeaux is quite as effective as nicotine sulphate. It should be kept in mind, however, that the lime in the Bordeaux mixture acts as a repellent to the hopper, while the nicotine sulphate is a contact spray, namely, one that must strike the insect before it will kill. Due to the fact that the lime in the Bordeaux acted as a repellent, many of the leaf



A 4-6-50 Bordeaux Mixture was Applied Here.

for planting was taken from a portion of the field where soil conditions were uniform. This two-acre plot was divided into four areas, which for simplicity will be called field "A," "B," "C," and "D."

Field A was treated with Bordeaux mixture in the proportion of four pounds of lime, four pounds of copper sulphate, and fifty gallons of water, (4-4-50). Field B was treated with Bordeaux mixture (4-6-50). Field C was treated with nicotine sulphate (black leaf forty) in the proportions of 1-800. Field D was left as a check plot.

Arsenate of lead was added to the first and third sprays to control the bugs and was also used on the check plot so as to make the experiment one of leaf hopper control only.

Spraying operations began when the potatoes were about six inches high, and an application applied about every two weeks thereafter, weather permitting. The leaf hopper put in an appearance about the third week in June and tip-burn began to show a few days later on the check plot, field D. This tip-burn injury began to get steadily worse for about four weeks, at which time not a green leaf or stock remained.

Field A showed some tip-burn injury the last week in July, but nothing



This Plot was Treated with Sulphate of Nicotine.



How the Check Plot Looked.

hoppers likely left the field and went to the check plot, a factor which would increase the injury done in the check plot, over the leaf hopper under ordinary conditions. The addition of this small amount of lime to the 4-6-50 Bordeaux pays for itself many times over, and it seems that if the lime acts as a repellent, it might be a wise move to use 4-8, or even 4-10-50 in spraying for the hopper.

The experiments seem to indicate that the sprays applied about three days after the first appearance of the leaf hopper and about two weeks thereafter were the most effective, and it is believed that if a Bordeaux mixture of 4-8-50, together with nicotine sulphate 1-800, and arsenate of lead to kill the bugs were applied at about this time, the ravages of the pest would likely be kept well under control. This same treatment would hold true if a second brood of leaf hoppers appeared. Another feature of the experiment,

Crude Oil and the Automobile

IN 1913 (when there were 1,009,000 automobiles in the United States) oil producers drilled about 25,000 wells. The average paid for crude was 95c per barrel.

In 1914 producers had a little discouragement. The price for crude oil fell off to 81c average, and they drilled only 23,000 wells. These wells, however, proved exceptionally prolific and crude prices dropped to an average of 64c a barrel (40c in the Mid-Continent field). As a consequence of the over-production, the bottom dropped out of the gasoline market and low prices prevailed.

The low prices of crude made exploration of new fields unprofitable, and in 1915 only 14,000 wells were drilled. This halt in production enabled demand to creep up on supply, and caused crude to advance until it reached \$1.10 per barrel.

Encouraged by the better prices offered, producers put down 24,000 wells in 1916. The unprecedented demand aroused by the war caused petroleum prices to soar, and, notwithstanding the activities in the producing field, prices have continued to advance because demand exceeded supply.

In August, 1920, the number of new oil wells brought in for that month alone was 3,513—the highest oil production mark in the history of the United States. Yet so great was demand that Mid-Continent crude stood firm at \$3.50, and Pennsylvania crude at \$6.10 per barrel, the present prevailing prices.

The market price for crude is not apt to go off appreciably while demand continues to increase as during 1920.

Since 1913 the number of motor vehicles in the United States has increased to approximately 7,459,607, and the forecast for 1921 is 10 million motor vehicles in the United States.

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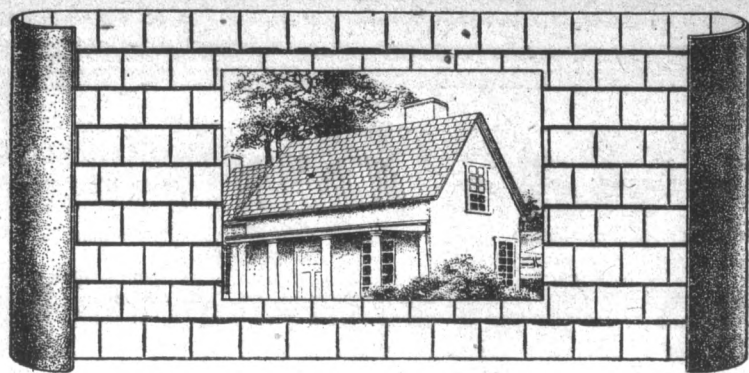
How well it is succeeding is indicated by the fact that an eminent authority states that the Burton process, originating in the laboratories of the Standard Oil Company (Indiana), has produced 40 million barrels of gasoline from heavy distillates, and has thus saved approximately 150 million barrels of crude oil that would otherwise have been necessary to produce an equivalent amount of gasoline.

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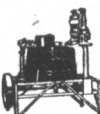


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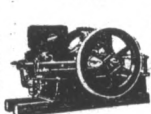
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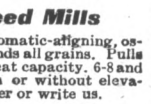
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which was very noticeable, was the resistant power of the Rural Russet potatoes from leaf hopper. Rows of Rural Russets in the same fields with the Green Mountains remained green much longer than any of the Green Mountains, and yielded a lot better.

Observations the past summer seem to prove that potatoes planted about June 15 are subject to very little, if any, damage from the leaf hoppers; due to the fact that the hopper attacks the earlier planted potatoes and does not molest the late crop. This seems to be the most practical method to pursue so far as cost is concerned, but if everyone in the community planted their potatoes late, it would be hard to tell what the effect of the leaf hopper would be.

State Horticultural Society

Fruit Growers Hold Fiftieth Annual Meeting

THE semi-centennial meeting of the Michigan State Horticultural Society opened at the Hotel Pantlind, Grand Rapids, Tuesday morning, November 30. The attendance at the morning session was rather light, but later trains brought in fruit growers from all parts of the state until the interests were represented, both commercial and scientific growers being present.

President James Nicol, of South Haven, presided at the first session, which was largely given up to a round table discussion of the past season. C. H. Connors, of Brunswick, N. J., gave an address Tuesday afternoon on "Peach Breeding."

"The first peach pit was planted in Michigan near St. Joseph in 1775, and from that planting sprang a large number of orchards, with the first record of budded varieties in Michigan in 1834," Mr. Connors told the members. The older varieties of peaches have almost disappeared because of the advent of more recently introduced varieties," he continued.

"The new peaches are really inferior in quality, but are superior in adaptability to various conditions under which they must be grown, are harder in bud and are able to stand shipping for long distances in better shape. But even these new varieties are lacking in some of the elements that would go to make up an ideal commercial peach, so we are trying to improve them. Up to 1850 most of the peaches were raised from seed alone, but about that time the varieties were largely propagated by budding. We now have 2,181 varieties of peaches described by name."

The other speaker, Professor C. P. Halligan, of the Michigan Agricultural College, said in part: "While we may have every reason to expect that this combination of marketing conditions will never again be so adverse, we do not have good reason to believe that the same conditions will not obtain to a certain extent when the trees have stored up enough energy to produce another bumper crop. We may expect light crops for the next year or two, but the time is sure to come when we will face the problem of marketing a bumper crop."

At the morning session Wednesday, George W. Hawley, of Hart, was elected unanimously to the presidency of the Michigan State Horticultural Society. Mr. Hawley is the retiring vice-president of the society and succeeds James Nicol, of South Haven, as president.

Other officers chosen were: Secretary, T. A. Farrand, of Eaton Rapids; treasurer, J. Pomeroy Munson, Grand Rapids. C. P. Halligan, of East Lansing, E. J. Ver Duyn, of Novi, and Robert A. Anderson, of Covert, were elected to the executive board.

In the Michigan Agricultural College senior speaking contest, held in connection with the State Horticultural Society meeting, A. R. Delamarter, of Cheboygan, won first prize. His subject was "Orchard Fertility." Other prize winners were: Second, N. R. Carr, of Cleveland, Ohio; third, Verne L. Harris, Lansing, and fourth, H. D. Allen, of Grand Rapids. The winner is a farmer's son, his parents owning a

large land tract near Cheboygan. Mr. Delamarter declared orchard fertilization is a matter of necessity, with only experience as a guide to application. He asserted, because of the variety of problems, the experimental station can only point the way for the grower to follow and that the grower must determine the absolute solution to his obstacles. He said all commercial growers should use part of their orchard for fertility experiments. The second prize winner, Mr. Carr, discussed "Advertising Apples," and the third place was given to Verne L. Harris, whose subject was "Beautifying Lawns."

The society passed five resolutions, one in support of the Michigan state constabulary, which they declared a "bulwark of safety against fruit thieves." Another petitioned the State Farm Bureau to send a representative before the interstate commerce commission hearing on reduction of freight rates on peach shipments. A third resolution was one calling on Michigan congressmen to bend their efforts toward changes in the Volstead prohibition act as it applies to cider manufacturers. At the present time the act holds the manufacturer responsible for cider which, though it is unfermented before leaving his hands, it becomes hard later. This the society termed "unjust." The fourth resolution protested against the methods used in the distribution of cars from Chicago and asked the interstate commerce commission to confer with Michigan farmers before deciding on the method of freight car distribution for 1921. A fifth resolution demanded a change or repeal in the pure food laws which the resolution alleged permitted manufacturers of synthetic or artificial fruit juices to put their wares on the market without properly marking to identify their nature.

At the Wednesday afternoon session C. A. Bingham, secretary of the Michigan State Farm Bureau, explained how that organization was related to the fruit interests. Mr. Bingham said in part: "Many of the executive committee of the State Farm Bureau are fruit growers so I feel that we are trying to do as much for the fruit interests as for any other. A large share of the results must come from local effort and as a result of local conditions. In speaking for the State Farm Bureau I believe, we are all in favor of doing the best we can for the fruit interests at all times. We are studying legislation and trying to go at it in a way to get legislation that will give results. So far as the relationship of the fruit growers to the State Farm Bureau is concerned may be easily explained. It is your organization and will perform what services you and yourselves agree that it should perform. One thing I wish to touch upon is some of the service we have accomplished and some that might be accomplished. The freight car situation has been relieved in such a way that the railroads themselves acknowledged they could not have accomplished. In getting ice and icing the cars we have saved hundreds of cars of fruit from spoiling. Another thing is the purchasing of supplies and material (Continued on page 730).

KEEPING DOWN COAL BILLS.

TOO much coal is burned by the average householder in heating his house, say engineers in the Division of Rural Engineering of the United States Department of Agriculture, who have recently completed a study of how to heat the farmhouse efficiently. That too much coal is burned is due primarily, studies show, to lack of knowledge of how to regulate the heater. It is not enough to install a heater, fill the bins with coal, and then expect it to heat the house properly. The first season after installing a heater should be devoted to a study of fuels and their burning in the particular heater.

Some of the things in general which the engineers who have been in charge of this work advise the furnace operator to look after if he wishes to heat his home comfortably with a minimum amount of coal are: Be sure the chimney is large enough for the size of the house and, if possible, have it straight up and down with a lined round flue. Study the dampers and use them intelligently in regulating the fire. Experiment with different kinds of coal until the best kind or the best mixture for your special heater is found. Do not use the poker too often unless the coal is of the kind that fuses, forms a crust, and interferes with the draft. Do not leave ashes in the ash pit; clean them out each time after shaking. Insulate pipes and warm-air ducts; it saves heat. Maintain, if possible, a humidity between forty and fifty per cent; moist air heats more quickly and is much more healthful.

ALPENA CRANBERRY MARSH.

YEARS ago wild cranberry marshes in Michigan supplied most of that fruit for the markets of the state, but they have quite generally disappeared and a few sporadic efforts at raising cranberries as a commercial proposition have been failures. Now, however, an Alpena concern is marketing a fair crop of the fruit and expects, within a year or two, to have a tract of fifty acres in bearing. A part of this was planted several years ago but the majority of it only within the last four or five years and it is not yet all in the best of condition. The marsh is flooded, when necessary, by a system of irrigation ditches supplied by water from Devil's Lake and the water drains directly into Lake Huron. The company has four hundred acres of marsh land which it expects to bring under cultivation.

REFINED SUGAR DECLINES.

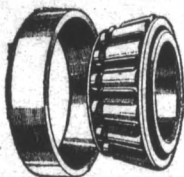
QUOTING a wholesale price of eight and three-quarter cents on refined sugar, a refining company named the lowest price in many months. Other refiners are quoting nine to nine and a half cents.

The largest "carry over" of old crop sugar in the history of the industry is reported, with new crop arrivals only a few weeks away. Louisiana, Porto Rico, Hawaii and other sugar producing sections all have large crops to market. The prohibition of sugar exports by the Cuban government will hold that crop from market for a time at least.



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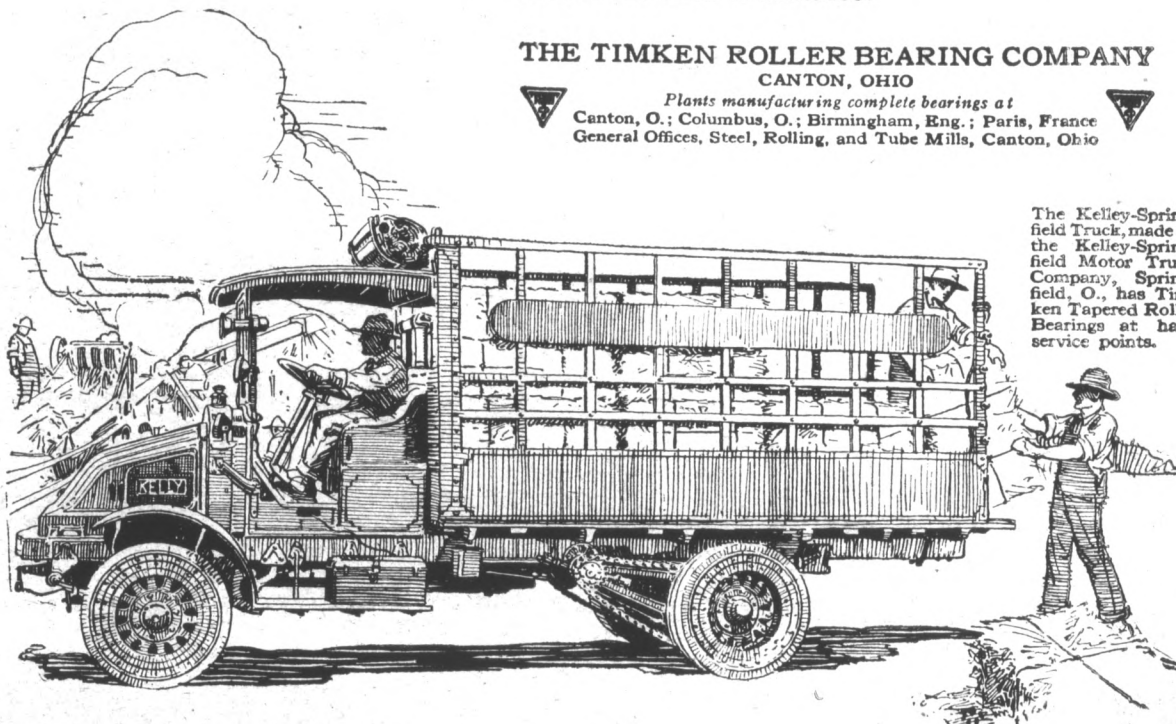
that getting farm products from the farm to city markets, elevators, and like distributing points in the shortest possible time, is a real saving which should be entered on the credit side of the balance sheet?

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Suiting the Man to the Task

Some Suggestions from the Upper Peninsula

By L. A. Chase

I BELIEVE I do not misrepresent them under one department of the opinion of the upper peninsula, state government to bring about cooperation and economy of effort, and to obtain the best equipped men for the respective jobs under unified control and leadership. The south state farmers and other folks will benefit, for this section is the great storehouse for many materials which they require, and which are likely to go up in smoke or otherwise be wasted or undeveloped, if more is not done to protect them than at present is attempted. People here feel that it is a big job well worth the most earnest consideration of the state as a whole.

Does the present arrangement work as well as a combination of the work of fish propagation and protection in one department would work? Then the enforcement of our game laws and the protection of our forests is entrusted to one department. One hears it said here that such unlike duties should be assigned to distinct forces of men, each selected and trained for the special work it has to do; that as matters now stand, the game warden's department is more interested in game protection than in forest protection, and that the work of forest protection suffers, as is shown by the recent very serious and wide-spread forest fires throughout the western half of this peninsula.

This section wants more settlers. It has millions of acres of good, undeveloped lands which it would like to see under the plow or in pasture. The office of immigration commissioner, it is observed, is attached to the secretaryship of the public domain commission and consequently does not function actively nor possibly in full compliance with the law which created the office. These people would like to see Michigan go at the land settlement problem as earnestly as some other states have done. It peevs them that Michigan should play second fiddle in this matter. And as for the public domain commission itself, it is noted that it consists of six state officials, all very good men who would like to do the right thing, but all chosen for duties unlike that belonging to the public domain commission and all too busy with their manifold official duties to give close personal attention to the work of this commission. So these people would like to see the personnel of the domain commission made up in conformity with its special line of work.

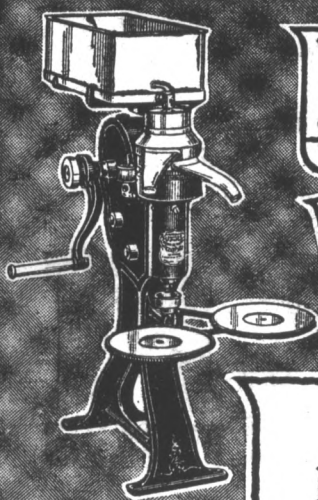
Then there is the soil survey. It seems to be going on under the aegis of the agricultural college without close cooperation with the Michigan Geological Survey and the experts of the University of Michigan, the Michigan College of Mines and other agencies especially qualified and interested; and it seems to be a job big enough to engage all the best brains of the state. Then a fish expert friend points out that Michigan never has had a fish survey—and the Michigan Fish Commission assures me that this is so. Then there are great areas, such as the Taquamenon Swamp, capable of being drained, and in which drainage would uncover excellent agricultural land; but the project is too big for local drainage districts to handle. This suggests the advisability of a state drainage department to consolidate the drainage operations throughout the state, work out a comprehensive drainage system, and carry out the larger projects. Something like this has already been advocated.

All these matters are phases of the big problem of conservation, and it should be possible, it is held, to group upper peninsula in order that our local

ON November 23, an Ionia county farmer started a carload of apples and pears for Marquette. The car arrived on the fourth morning following. This farmer came to Marquette in order that he might personally attend to the disposal of his fruit to his customers. The carload sold "like hot cakes," at \$1.75 per bushel. As there were five hundred bushels in the shipment and as his expenses for the car were about \$100 for freight, with perhaps \$50 or \$75 for his own personal expenses, it can readily be seen that the enterprise of this southern Michigan farmer paid him well. My understanding is that he could readily dispose of another carload or two if he had them here. There are numerous other cities and large villages in the upper peninsula where this experience could undoubtedly be duplicated—in Sault Ste. Marie, Newberry, Manistique, Escanaba, Menominee, Iron River, Crystal Falls, Iron Mountain, Ironwood, Bessemer, Wakefield, Houghton, Hancock, Calumet, Lake Linden, L'Anse, Ishpeming and Negaunee, at least in some degree. The sales are for cash. While the upper peninsula produces some excellent fruit, its urban population still is much more numerous than its rural population, and current production is far below local needs.

There are three schools in northern Michigan which operate under the Smith-Hughes law of the United States in regard to agricultural education. These are the Manistique and Escanaba high schools, and the Menominee County Agricultural School. While there are many township unit school systems in the upper peninsula, there are undoubtedly very few which effectively teach agriculture. I recently heard of one of these schools serving a rural community, which taught trigonometry and Latin but no agriculture. This is nonsense. I heard a student recently express doubt whether or not wheat is a cultivated crop. His case is probably far from unique. We need more agricultural schools and teachers. The plan to establish a department of rural education in the Northern State Normal School, next year, and the plan of cooperation between the Michigan Agricultural Colleges and the normal schools, whereby students may acquire the art of teaching at a normal school and agricultural practice at the college, seem to promise better things.

Representatives of six County Farm Bureaus of the upper peninsula, ten county agents from the same portion of the state, and representatives of the State Farm Bureau and extension department of the Michigan Agricultural College, met in Marquette, November 24, to bring about closer cooperation between the agencies represented. Perhaps the most important action of the meeting was the adoption of a resolution requesting the State Farm Bureau to establish a branch office in the upper peninsula in order that our local



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PREVIOUS to 1885 the world was apparently satisfied to draw oils by gravity through a faucet into a tin measure of questionable accuracy. In 1885 S. F. Bowser invented the first Piston-Type Measuring Pump. And since 1885 Bowser Equipment has been the *Standard of the World for Accuracy* in the commercial handling of oils and hazardous liquids.

It is apparent that the simple and efficient design of the Piston-Type Pump, when adjusted to perfect accuracy, discharges an unvarying amount of liquid at each stroke of the Piston.

◆ ◆ ◆

Four simple parts assure accurate measurement by this Type of Pump.

The **CYLINDER** which contains the liquid. The **CHECK VALVES** which hold the liquid in the Cylinder. The **PISTON** which propels the liquid through the Cylinder. And the **STOPS** that govern the stroke of the Piston.

The cylinder is of seamless brass tubing. It has a capacity of 231 cubic inches for each gallon—the United States standard of measurement.

Three Separate Check Valves effectively hold the Cylinder full of liquid. Each of these Check Valves is shaped like a section of a ball, so that falling in any position it completely closes the valve opening. This opening, or seat, has a very narrow edge which affords no room for a deposit of sediment.

The Piston Is 100% Efficient. The Oiled Leather Packing around the Piston Casting is held against the Cylinder Wall by the constant pressure of a heavy, coiled brass spring.

The stroke of the Piston begins at the bottom of the Cylinder and continues upward until it meets a positive mechanical *Stop*. This Stop determines the quantity of gasoline discharged. It is adjusted to absolute accuracy of measurement by actual liquid tests before it leaves the Bowser factory. *Every Type of Bowser Pump* has a scale or dial which indicates to the gasoline buyer when the full stroke of the Piston has been made.

A Bowser Pump so adjusted will consistently discharge the same accurate quantity of gasoline time after time, indefinitely. A blind man can do it.

The addition of a glass container COULD NOT increase the accuracy of this perfect measuring machine, but it would eliminate the factor of safety.

This is the third of a series on why The World's Largest Manufacturers of Measuring Pumps do not use a glass container for gasoline. Watch for the Bowser advertisement next Tuesday.

S. F. BOWSER & COMPANY, Inc.
FORT WAYNE INDIANA

OLDEST AND LARGEST MANUFACTURERS OF OIL STORAGE AND MEASURING EQUIPMENT IN THE WORLD
DETROIT OFFICE 1101 BOOK BUILDING

BOWSER

ESTABLISHED 1885

PISTON-TYPE MEASURING PUMPS

problems may be dealt with at close hand. The conference brought out the fact that there are 6,701 farm bureau members in the upper peninsula and that one hundred and thirty locals have so far been organized.

The Evening News of Sault Ste. Marie records a shipment of hogs, recently shipped to the South St. Paul stock yards from that city, which topped the market on the day of sale at \$12.75 per cwt. The hogs were fattened by the Soo Creamery and Produce Company on local pasture and buttermilk—a by-product of its plant. The company feels very much encouraged by its success.

STATE HORTICULTURAL SOCIETY.

(Continued from page 726).

terials for fruit growers. I am going to speak plainly about the local co-operative associations you have and their relation to the State Farm Bureau. The dealers are afraid to buy for fear that the State Farm Bureau will cut prices and leave them with their supplies on hand. They are also afraid of the local associations doing the same thing. That leaves a perplexing situation. The dealers and local associations are waiting for the State Farm Bureau to establish prices and we are not in a position to go ahead. If we fix a price with one or two manufacturers the others will cut prices and destroy the business the same as they have with other commodities such as fertilizer, feeds and so forth. If we make a contract with any one manufacturer we are up against this kind of a proposition. We can't force a man to use different brands from what he has used and if we do and he fails to get satisfactory results he will cuss the manufacturer, the farm bureau and the brand he uses. We have several solutions of the problem in mind and can take care of all those who are looking to us for help, but your local associations must work with us."

In discussing "Grape Fertilization and Management," H. A. Noyes, of Westfield, New York, said in part: "It is not the total amount of plant food that is all important, or cultivation or moisture. The plant, the soil and the conditions are the factors in crop production. I lay great stress on soil aeration to make available plant food and set the beneficial soil bacteria to work. In your Michigan vineyards you have an open soil that has good aeration and is low in certain plant foods. The big crops of the past few years have caused many growers to put up too many buds. The real trouble this year has been red grapes and this has been attributed to the thrip, but on some plots where we have used fertilizer there has not been much trouble from thrip. If you are content to grow one-half ton of grapes to the acre you will never need to fertilize, but if you put up more fruit buds and expect large crops the use of fertilizer is necessary. There are two ways of handling the vineyard. Cutting back the vines and taking what you can get or investing more and planning the management so as to get it back with more than is put in. We should use cover crops for two reasons: to use up excessive plant food liberated by cultivation in the early part of the season, and to improve the soil conditions for the next year. If you have a cover crop growing it prevents the loss of plant food elements and holds them in the soil for next year's crop. We are recommending the use of a 3-12-3 fertilizer for sandy and gravelly soils and a 2-14-2 fertilizer for heavier soils.

"Dusting vs. Liquid Spraying" was ably discussed by Professor H. H. Wetzel, of Cornell University, Ithaca, N. Y. "Your results here in Michigan substantiate what has been done in (Continued on page 741).

Increased terminal growth

Larger darker foliage

Plumper fruit spurs

Foliage held later in the fall

The Complete Dormant Spray

—makes vigorous fruit trees

THE FACT that many big commercial orchardists use Scalecide year after year can mean only one thing—that the use of Scalecide pays. These men must protect heavy investments; they must get results. They know every kind of spray material, yet they use Scalecide because it produces results which no other dormant spray can produce.

The invigorating effect of Scalecide is shown in the orchards of Tyson Bros., Flora Dale, Pa., now a part of the American Fruit Growers, Incorporated, where one York Imperial orchard has been sprayed with Scalecide for fifteen years. This orchard, when 18 years old, bore a crop of 30 bushels per tree. This was the tenth consecutive crop, each larger than the preceding.

Scalecide Requires Less Labor

One barrel of Scalecide, which makes 800 gallons of spray, will cover, until they drip, as many trees as three and a half barrels of lime-sulfur, which make 1600 gallons of spray. And of course you can apply 800 gallons of Scalecide with much less labor than 1600 gallons of lime-sulfur.

Scalecide Is Pleasant To Use

Scalecide is soothing, healing and antiseptic to the skin of man or beast, whereas lime-sulfur is caustic and disagreeable. Scalecide does not injure even the eyes. It does not corrode the spray pump nor clog the nozzles, and being an oil, it makes the pump run easier and last longer.

Avoid Disappointment—Order Scalecide Now

If there is a dealer in your section, ask him to reserve enough Scalecide for you. If there is no agent near you, write for our booklet, prices and guarantee, and give us the name of your dealer. Use the coupon below. Address Dept. 11.

B. G. PRATT CO. 50 Church Street NEW YORK CITY
Manufacturing Chemists

SCALECID

THE COMPLETE DORMANT SPRAY

"Makes a Tree Outgrow Its Troubles"

(Coupon)

B. G. PRATT COMPANY, 50 CHURCH STREET, NEW YORK CITY

Gentlemen: Please send me prices, copy of Guarantee and free booklet on Scalecide, "Figuring the Cost of Spraying." I have..... (number)

bearing trees;..... (number) young trees. I have been using..... (number) barrels of..... (kind of dormant spray)

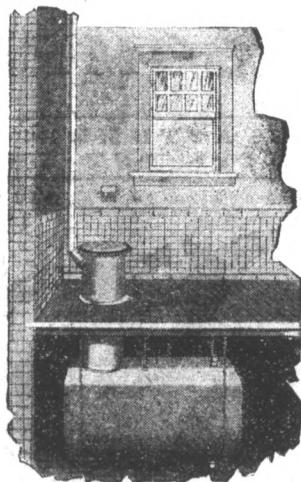
My dealer is:..... (Name) (P.O.) (State)

Name..... P.O..... State.....

City Comfort For \$38.75

Wolverine Chemical Vault System

Now Within the Reach of Every House



How to increase your home comforts on the farm has always puzzled you. The outside closet is the one great inconvenience.

Here is the solution.

Reduced material and labor costs now enable us to offer this wonderful convenience at less than half the price ordinarily charged for a vault system chemical closet.

Wolverine closets have been manufactured for six years and are now being used in more than 40,000 homes and schools in America.

Every outfit fully guaranteed to give satisfaction. There is no excuse for you to deny your family the real comfort of an indoor toilet when you can buy one at this special offer.

Write today for complete literature.

Five different sizes for home use.

DAIL STEEL PRODUCTS COMPANY,

320 MAIN ST.,

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WITTE

\$54.95

F.O.B. 2 H.P. PULLS 2 1/2 TONS

Direct from Factory to You
ALL SIZES AND STYLES
2, 3, 4, 6, 8, 12, 16, 22 and 30 H.P.
at proportionately Low Prices. Above price for 2 H.P. is for engine complete on skids ready to use. From Pittsburgh add \$5. Quick shipment. Write or wire for Big New Engine Catalog FREE.

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Most economical and satisfactory way of handling your corn crop. No delay, no extra help. Do it in your own spare time. Two sizes for individual use, 5 to 15 h. p. Also make three larger sizes for custom work. Over 20 years in the field. Write for catalog and Free Farmers Account Book. State h. p. of your engine.

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ROSENTHAL CORN HUSKER CO., Box 2, Milw., Wis.
Also Makers of Feed Cutters and Silo Fillers

Only \$2 DOWN ONE YEAR TO PAY

\$44 Buys the New Butterfly Jr. No. 2 1/2
Light running, easy cleaning, close skimming, durable.

NEW BUTTERFLY Separators are guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here, sold on

30 DAYS' FREE TRIAL
and on a plan whereby they earn their own cost and more by what they save. Postal brings free Catalog Folder. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO., 2165 Marshall St., Chicago

BROWN'S BARGAIN FENCE BOOK

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Send for my New BARGAIN FENCE BOOK showing the biggest line and lowest prices on all kinds of wire fencing. My latest direct-from-factory prices save you a lot of money. 150 STYLES—FREIGHT PREPAID. We use heavy ACID TEST GALVANIZED wire—outlasts all others. Book and sample to test—FREE by return mail. (1)

THE BROWN FENCE & WIRE CO., Dept. 149 CLEVELAND, O.

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KITSELMAN FENCE

Get It From the Factory Direct

PRICES 'WAY DOWN
We've knocked the bottom out of high cost of fence building. We Pay the Freight and save you money. Here's a man that

Saved 38 per cent

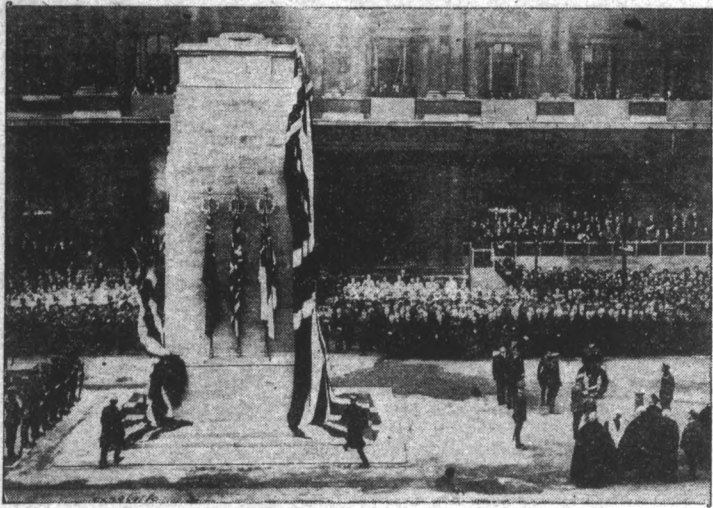
Mr. R. D. Dillard, Milton, Okla., writes: "I found all the Fence as good or better than I expected. I saved \$23.65 on my \$75.00 order."

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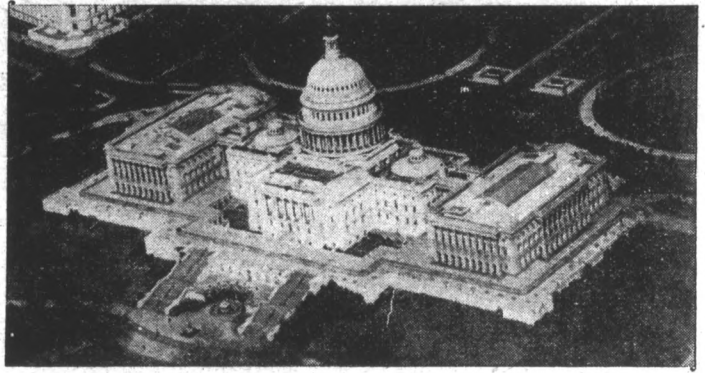
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WORLD EVENTS IN PICTURES



King George of England at the extreme right, is shown unveiling the huge cenotaph in London erected to the memory of the unknown dead of the great war. This is one of the ceremonies during the burial of an unknown warrior in Westminster Abbey.



Here is one of the best aerial photographs ever taken of the United States Capitol Building at Washington, D. C.



Belgian cue champion arrives in this country for match with Willie Hoppe for the world's title.



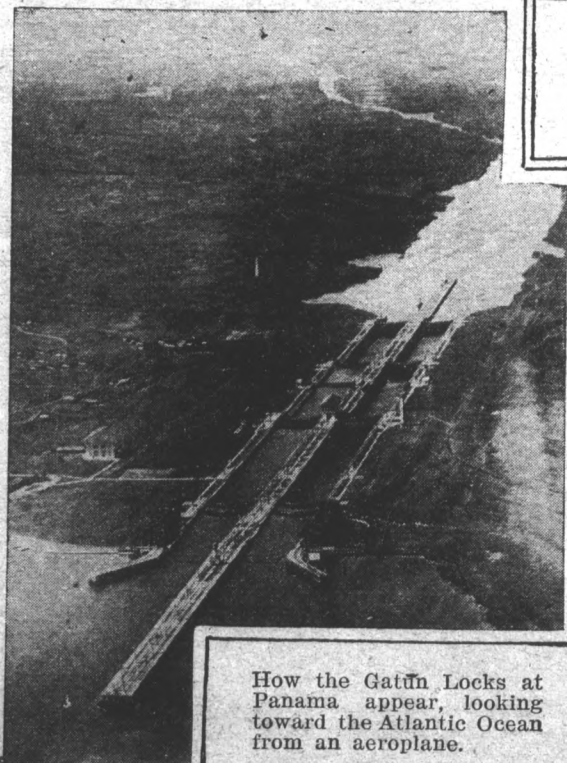
The ex-Empress of Austria is said to have sold her jewels to support her family.



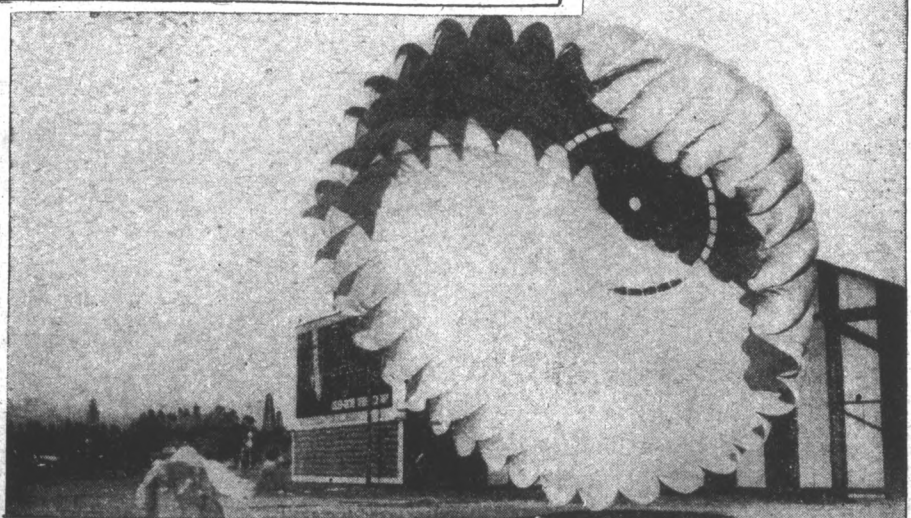
Nowadays colleges give attention to the physical. This girl wins cup for best physique at Mount Holyoke.



Miss Mary Washington Bond Morosini, great-great-grandniece of George Washington, is here shown at the U. S. Naval Rifle Range at Caldwell, N. J.



How the Gatun Locks at Panama appear, looking toward the Atlantic Ocean from an aeroplane.



Showing Mark M. Campbell as he landed with a new type of parachute, with which he leaped from an aeroplane 1,000 feet in the air.

Hear Rachmaninoff on the New Edison

THE photograph, from which this illustration is reproduced, was taken in Mr. Rachmaninoff's home in New York City. It shows the great Russian pianist playing the Second Hungarian Rhapsodie (Liszt), while the New Edison RE-CREATED his previous rendition of the same composition.

The three music experts who listened from behind the screen, were amazed and astonished at the absolute fidelity of the RE-CREATION to the artist's original performance. Once more, the New Edison's perfect Realism

triumphed in the test of direct comparison.

We are very glad to announce that Rachmaninoff has made recordings for one of the standard talking-machines. Now you can compare. Let Rachmaninoff show you which is the best phonograph.

Hear Rachmaninoff's Edison RE-CREATIONS at the store of your Edison dealer,—before you buy your Christmas phonograph. Look for your Edison dealer's announcement in your local newspaper.

THOMAS A. EDISON, INC., Orange, N. J.

EDISON RACHMANINOFF RE-CREATIONS

Now on Sale (Others to be Released Later)

No. 82169 Second Hungarian Rhapsodie (Liszt) Part 1.

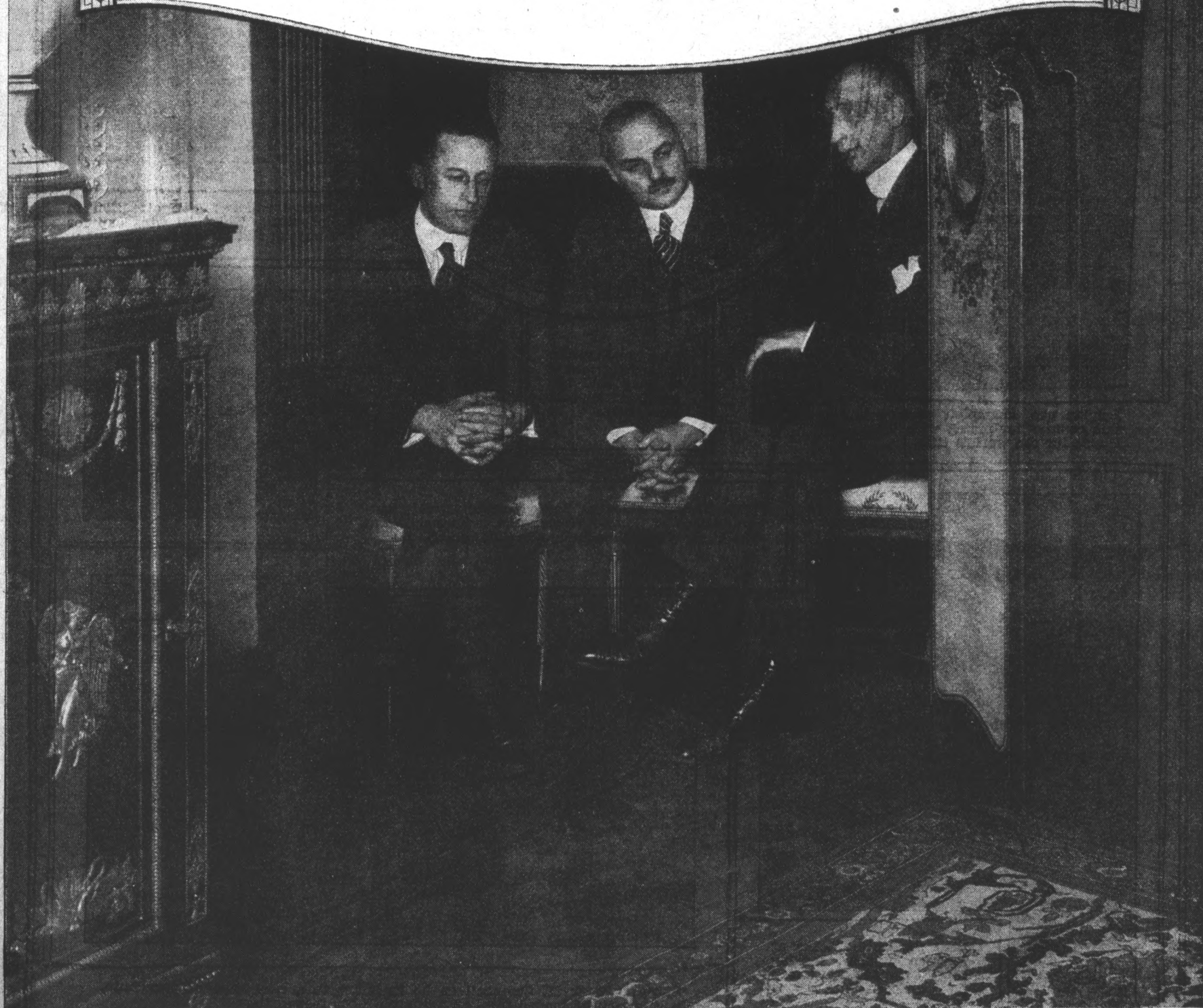
No. 82170 Second Hungarian Rhapsodie (Liszt) Part 3 (With Mr. Rachmaninoff's Cadenza)

No. 82187 Prelude In C Sharp Minor, Op. 3 (Rachmaninoff)

No. 82169 Second Hungarian Rhapsodie (Liszt) Part 2

No. 82170 Pastorale (Scarlatti-Tausig)

No. 82187 Polka de W. R. (Rachmaninoff)





THE VOICE OF THE PACK

By EDISON MARSHALL

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CHAPTER V.

DAN could see only Snowbird's outline at first, just her shadow against the moonlit hillside. His glasses were none too good at long range. And possibly, when she came within range, the first thing that he noticed about her was her stride. The girls he knew didn't walk in quite that free, strong way. She took almost a man-size step; and yet it was curious that she did not seem ungrateful. Dan had a distinct impression that she was floating down to him on the moonlight. She seemed to come with such unutterable smoothness. And then he heard her call lightly through the darkness.

The sound gave him a distinct sense of surprise. Some way, he hadn't associated a voice like this with a mountain girl; he had supposed that there would be so many harshening influences in this wild place. Yet the tone was as clear and full as a trained singer's. It was not a high voice; and yet it seemed simply brimming, as a cup brims with wine, with the rapture of life. It was a self-confident voice too, wholly unaffected and sincere, and wholly without embarrassment.

Then she came close, and Dan saw the moonlight on her face. And so it came about, whether in dreams or wakefulness, he could see nothing else for many hours to come.

Beauty, after all, is wholly a matter of the nearest possible approach to the physical perfection that many centuries of human faces have established as a standard. Thus perfection in this case does not mean some ideal that has been imaged by a poet, but just the nearest approach to the perfect physical body that nature intended, and which is the flawless example of the type that composes the race. Thus a typical feature is the most beautiful, and by this reasoning a composite picture of all the young girl faces in the Anglo-Saxon nations would be the most beautiful face that any painter could conceive. It follows that health is above all the most essential quality to beauty, because disease, from the nature of things, means thwarted growth that could not possibly reach the typical of the race.

The girl who stood in the moonlight had health. She was simply vibrant with health. It brought a light to her eyes, and a color to her cheeks, and life and shimmer to her moonlit hair. It brought curves to her body, and strength and firmness to her limbs, and the grace of a deer to her carriage. Whether she had regular features or not Dan would have been unable to state. He didn't even notice. They

weren't important when health was present. Yet there was nothing of the coarse or bold or voluptuous about her. She was just a slender girl, perhaps twenty years of age, and weighing even less than the figure occasionally to be read in the health magazines for girls of her height. And she was fresh and cool beyond all words to tell.

And Dan had no delusions above her attitude toward him. For a long instant she turned her keen, young eyes to his white, thin face; and at once it became abundantly evident that beyond a few girlish speculations she felt no interest in him. After a single moment of rather strained, polite conversation with Dan—just enough to satisfy her idea of the conventions—she began a thrilling tale to her father. And she was still telling it when they reached the house.

Dan held a chair for her in front of the fireplace, and she took it with entire naturalness. He was careful to put it where the firelight was at its height. He wanted to see its effect on the flushed cheeks, the soft dark hair. And then, standing in the shadows, he simply watched her. With the eye of an artist he delighted in her gestures, her rippling enthusiasm, her utter, irrepressible girlishness that all of Time had not years enough to kill.

He decided that she had gray eyes. Gray eyes seemed to be characteristic of the mountain people. Sometimes, when the shadows fell across them, they looked very dark, as if the pines had been reflected in them all day and the image had not yet faded out. But in an instant the shadow flicked away and left only light—light that went into him and did all manner of things to his spirit.

Bill stood watching her, his hands deep in his pockets, evidently a companion of the best. Her father gazed at her with amused tolerance. And Dan—he didn't know in just what way he did look at her. And he didn't have time to decide. In less than fifteen minutes, and wholly without warning she sprang up from her chair and started toward the door.

"Good Lord!" Dan breathed. "If you make such sudden motions as that I'll have heart failure. Where are you going now?"

"Back to my watch," she answered, her tone wholly lacking the personal note which men have learned to expect in the voices of women. And an instant later the three of them saw her retreating shadow as she vanished among the pines.

Dan had to be helped to bed. The long ride had been too hard on his

shattered lungs; and nerves and body collapsed an instant after the door was closed behind the departing girl. He laughed weakly and begged their pardon; and the two men were really very gentle. They told him it was their own fault for permitting him to overdo. Lennox himself blew out the candle in the big, cold bedroom.

Dan saw the door close behind him, and he had an instant's glimpse of the long sweep of the moonlit ridge that stretched beneath the window. Then, all at once, seemingly without warning, it simply blinked out. Not until the next morning did he really know why. Insomnia was an old acquaintance of Dan's, and he had expected to have some trouble in getting to sleep. His only real trouble was waking up again when Lennox called him to breakfast. He couldn't believe that the light at his window shade was really that of morning.

"Good Heavens!" his host exploded. "You sleep the sleep of the just."

Dan was about to tell him that on the contrary he was a very nervous sleeper, but he thought better of it. Something had surely happened to his insomnia. The next instant he even forgot to wonder about it in the realization that his tired body had been wonderfully refreshed. He had no dread now of the long tramp up the ridge that his host had planned.

But first came target practice. In Dan's baggage he had a certain very plain but serviceable sporting rifle of about thirty-four caliber—a gun that the information department of the large sporting-goods store in Gitchieopolis had recommended for his purpose. Except for the few moments in the store, Dan had never held a rifle in his hands.

Of course the actual aiming of a rifle is an extremely simple proposition. A man with fair use of his hands and eyes can pick it up in less time than it takes to tell it. The fine art of marksmanship consists partly in the finer sighting—the instinctive realization of just what fraction of the front sight should be visible through the rear. But most of all it depends on the control that the nerves have over the muscles. Some men are born rifle shots; and on others it is quite impossible to thrust any skill whatever.

The nerve impulses and the muscular reflexes must be exquisitely tuned, so that the finger presses back on the trigger the identical instant that the mark is seen on the line of the sights. One quarter of a second's delay will usually disturb the aim. There must be no muscular jerk as the trigger is

pressed. Shooting was never a sport for blasted nerves. And usually such attributes as the ability to judge distances, the speed and direction of a fleeing object, and the velocity of the wind can only be learned by tireless practice.

When Dan first took the rifle in his hands, Lennox was rather amazed at the ease and naturalness with which he held it. It seemed to come naturally to his shoulder. Lennox scarcely had to tell him how to rest the butt and to drop his chin as he aimed. He began to look rather puzzled. Dan seemed to know all these things by instinct. The first shot, Dan hit the trunk of a five-foot pine at thirty paces. "But I couldn't very well have missed it!" he replied to Lennox's cheer. "You see, I aimed at the middle—but I just grazed the edge."

The second shot was not so good, missing the tree altogether. And it was a singular thing that he aimed longer and tried harder on this shot than on the first. The third time he tried still harder, and made by far the worst shot of all.

"What's the matter?" he demanded. "I'm getting worse all the time."

Lennox didn't know for sure. But he made a long guess. "It might be beginner's luck," he said, "but I'm inclined to think you're trying too hard. Take it easier—depend more on your instincts. Some marksmen are born good shots and cook themselves trying to follow rules. It might be, by the longest chance, that you're one of them—at least it won't hurt to try."

Dan's reply was to lift the rifle lightly to his shoulder, glance quickly along the trigger, and fire. The bullet struck within one inch of the pine.

For a long time Lennox gazed at him in open-mouthed astonishment. "My stars, boy!" he cried at last. "Was I mistaken in thinking you were a born tenderfoot—after all? Can it be that a little of your old grandfather's skill has been passed down to you? But you can't do it again."

But Dan did do it again. If anything, the bullet was a little nearer the center. And then he aimed at a more distant tree.

But the hammer snapped down ineffectively on the breech. He turned with a look of question.

"Your gun only holds five shots," Lennox explained. Reloading, Dan tried a more difficult target—a trunk almost one hundred yards distant. Of course it would have been only child's play to an experienced hunter; but to usually disturb the aim. There must be no muscular jerk as the trigger is indeed. Twice out of four shots Dan

AL ACRES—Modern Alarm Clocks Are Uneffective Indeed, When Compared With the Type Used by the Ancients, So Percy Thinks.

—By Frank R. Leet



hit the tree trunk, and one of his two hits was practically a bull's eye. His two misses were the result of the same mistake he had made before—attempting to hold his aim too long.

The shots rang far through the quiet woods, long-drawn from the echoes that came rocking back from the hills. In contrast with the deep silence that is really an eternal part of the mountains the sound seemed preternaturally loud. All over the great sweep of canyon, the wild creatures heard and were startled. One could easily imagine the Columbian deer, gone to their buckbrush to sleep, springing up and lifting pointed ears. There is no more graceful action in the whole animal world than this first, startled spring of a frightened buck. Then old Woof, feeding in the berry bushes, heard the sound, too. Woof has considerably more understanding than most of the wild inhabitants of the forest, and maybe that is why he left his banquet and started falling all over his awkward self in descending the hill. It might be that Lennox would want to procure his guest a sample of bear steak; and Woof didn't care to be around to suggest such a thing. At least, that would be his train of thought according to those naturalists who insist on ascribing human intelligence to all the forest creatures. But it is true that Woof had learned to recognize a rifle shot, and he feared it worse than anything on earth.

Far away on the ridge top, a pair of wolves sat together with no more evidence of life than two shadows. One of the most effective accomplishments a wolf possesses is its ability to freeze into a motionless thing, so the sharpest eye can scarcely detect him in the thickets. It is an advantage in hunting, and it is an even greater advantage when being hunted. Yet at the same second they sprang up, simply seemed to spin in the dead pine needles, and brought up with sharp noses pointed and ears erect, facing the valley.

A human being likely would have wondered at their action. It is doubtful that human ears could have detected that faint tremor in the air which was all that was left of the rifle report. But of course this is a question that would be extremely difficult to prove; for as a rule the senses of the larger forest creatures, with the great exception of scent, are not as perfectly developed as those of a human being. A wolf can see better than a man in the darkness, but not nearly as far in the daylight. But the wolves knew this sound. Too many times they had seen their pack-fellows die in the snow when such a report as this one, only intensified a thousand times, cracked at them through the winter air. No animal in all the forest has been as relentlessly hunted as the wolves, and they have learned their lessons. For longer years than most men would care to attempt to count, men have waged a ceaseless war upon them. And they have learned that their safety lies in flight.

Very quietly, and quite without panic, the wolves turned and headed farther into the forests. Possibly no other animal would have been frightened at such a distance. And it is certainly true that in the deep, winter snows not even the wolves would have heeded the sound. The snows bring famine; and when famine comes to keep its sentry-duty over the land, all the other forest laws are immediately forgotten or ignored. The pack forgets all its knowledge of the deadliness of men in the starving times.

The grouse heard the sound, and, silly creatures that they are, even they raised their heads for a single instant from their food. The felines—the great, tawny mountain lions and their smaller cousins, the lynx all devoted at least an instant of concentrated attention to it. A raccoon,

TEXACO

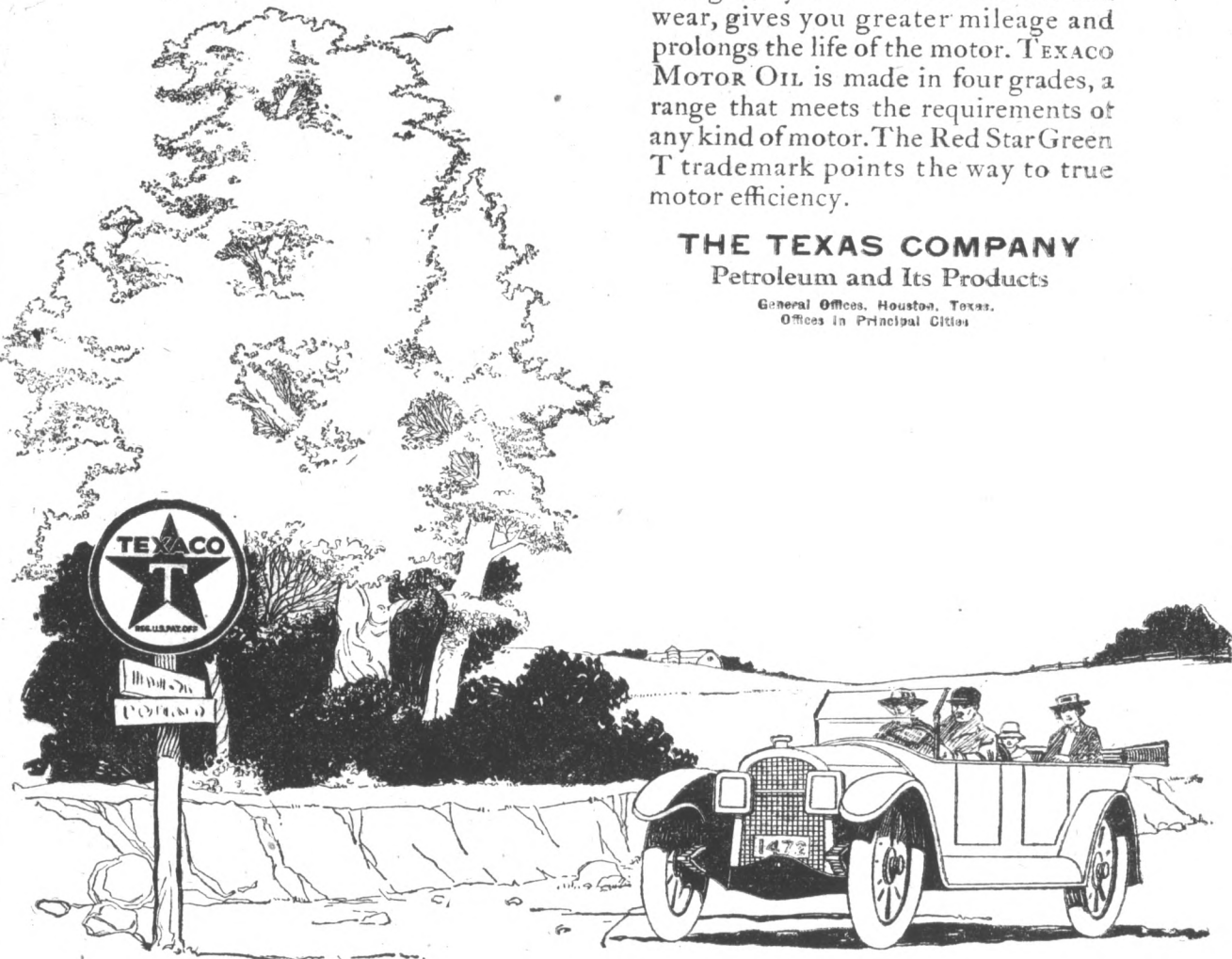
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sleeping in a pine, opened its eyes, and a lone bull elk, such as some people think is beyond all other things the monarch of the forest, rubbed his neck against a tree trunk and wondered.

But yet there remained two of the larger forest creatures that did not heed at all. One was Urson, the porcupine, whose stupidity is beyond all measuring. He was too slow and patient and dull to give attention to a rifle bullet. And the other was Graycoat the coyote, gray and strange and foam-lipped, on the hillside. Graycoat could hear nothing but strange whinnings and voices that rang ever in his ears. All other sounds were obscured. The reason was extremely simple. In the dog days a certain malady sometimes comes to the wild creatures, and it is dreaded worse than drought or cold or any of the manifold terrors of their lives. No one knows what name they have for this sickness. Human beings call it hydrophobia. And the coyotes are particularly susceptible to it.

Ordinarily the name of coyote is, among the beasts, a synonym for cowardice as well as a certain kind of detested cunning. All the cowardice of a mountain lion and a wolf and a lynx put together doesn't equal the amount the Graycoat carried in the end of his tail. That doesn't mean timidity. Timidity is a trait of the deer, a gift of nature for self-preservation, and no one holds it against them. In fact, it makes them rather appealing. Cowardice is a lack of moral courage to remain and fight when nature has afforded the necessary weapons to fight with. It is sort of a betrayal of nature—a misuse of powers. No one calls a rabbit a coward because it runs away. A warlike rabbit is something that no man has ever seen since the beginning of the world, and probably never will. Nature hasn't given the little animal any weapons.

But this is not true of the wolf or cougar. A wolf has ninety pounds of lightning-quick muscles, and teeth that are nothing but a set of well-sharpened and perfectly arranged daggers. A cougar not only has fangs but talons that can rend flesh more terribly than the cogs of a machine, and strength to make the air hum under his paw as he strikes it down. And so it is an extremely disappointing thing to see either of these animals flee in terror from an Airedale not half their size—a sight that most mountain men see rather often. The fact that they act with greater courage in the famine times, and that either of them will fight to the very death when brought to bay, are not extenuating circumstances to their cowardice. A mouse will bite the hand that picks it up if it has no other choice.

A coyote is, at least in a measure, equipped for fighting. He is smaller than a wolf, and his fangs are almost as terrible. Yet a herd of determined sheep, turning to face him, puts him in a panic. The smallest dog simply petrifies him with terror. And a rifle report—he has been known to put a large part of a county between himself and the source of the sound in the shortest possible time. If a mountain man feels like fighting, he simply calls another a coyote. It is more effective than impugning the virtue of his female ancestors. To be called a coyote means to be termed the lowest, most despised creature of which the imagination can conceive.

And besides being a perfect, unprincipled coward, he is utterly without pride. And that is saying a great deal. Most large animals have more pride than they have intelligence, particularly the bear and the moose. A mature bear, dying before his foes, will often refrain from howling even in the greatest agony. He is simply too proud. A moose greatly dislikes to pull through the winter somehow or appear to run away in the presence of other

enemies. He will walk with the dignity of a bishop until he thinks the brush has obscured him; and then he will simply fly! And there was a dog once, long ago, which, meeting on the highways a dog that was much larger and that could not possibly be mastered, would simply turn away his eyes and pretend not to see him.

A coyote is wholly without this virtue, as well as most of the other virtues of the animal world. He not only eats carrion—because if one started to condemn all the carrion-eating animals of the forest he would soon have precious few of them left—but he also eats old shoes off rubbish pile. Unlike the wolf, he does not even find his courage in the famine times. He has cunning, but cunning is not greatly beloved in men or beasts. Most folk prefer a kindly, blundering awkwardness, a simplicity of heart and spirit, such as are to be found in Wolf the bear.

But Graycoat has one tendency that makes all the other forest creatures regard him with consternation; he is extremely liable to madness. Along in dog days he is seen suddenly to begin to rush through the thickets, barking and howling and snapping at invisible enemies, with foam dropping from his terrible lips. His eyes grow yellow and strange. And this is the time that even the bull elk turns off his trail. No one cares to meet Graycoat when the hydrophobia is upon him. At such time all his cunning and his terror are quite forgotten in his agony, and he is likely to make an unprovoked charge on Wolf himself.

Now Graycoat came walking stiff-legged through the thickets. And the forest creatures, from the smallest to the great, forgot the far-off peal of the rifle bullets to get out of his way.

(Continued next week).

LIFE.

BY JESSIE E. CHURCH.

When my heart with youth is brimming,

And my life is all to me,
With my work and with my family,
Why should I unhappy be?

Ah! 'tis but the old, old story,
Love—and love alone can say,
Why my heart just now is yearning
For someone who's far away.

'Tis a feeling here within me
That does haunt me day and night;
That perhaps in days gone by
Things have not been always right.

When imagination wanders
On these thoughts which come and go,

All the sunshine turns to shadows,
And my spirits sink so low.

But, when pride and reason conquer,
And my true sense does return,
All such thoughts are cast behind me,
And my love is left to yearn.

Sunshine Hollow Items

By Rube Rubicon

A cow stepped on Wallace Fulton's toe the other morning when he was milking. It has all swelled up and Wallace says he is afraid its going to be ptomaine poisoning.

At the school meeting Morgan Peabody asked Dorothy Tuttle if he could see her home. Dorothy told him she thought he could get a very nice view from the top of the flag pole. Morgan is always trying to take Dorothy to a dance. Dorothy says Morgan is just good enough dancer to get off people's feet after he steps on them, and that's all.

Peter Ouht has lost another job. He is now trying to invent something but says that life is very discouraging. Mrs. Ouht, who used to be Sara Moan-ey, has a new washing machine and can now take in more washings than ever. So Peter says that they will proud. A moose greatly dislikes to pull through the winter somehow or appear to run away in the presence of other

Songs of Thirty Centuries

Our Weekly Sermon—By N. A. McCune

NOT to be enigmatic, this sermon is to deal with the Psalms. A psalm is a sacred song or poem. Many of the psalms were written for music. They were used in the temple of worship, and in smaller gatherings. Tradition says, that over the couch of David, there hung a harp. The midnight breeze, as it came softly through the window, played sweet music on the strings. At these times, the poet king was constrained to rise from his bed and wed words to the music that the breeze played upon the harp.

The Psalms have been defined as the whole music of the heart of man, swept by the hand of his Maker. With the reading of a psalm we are baptized and with a psalm we are buried. With the words of a psalm on his lips, our Lord died on the cross. To the singing of psalms martyrs have drowned out the cries of their persecutors. Great minds have been occupied with translating the psalms, men of letters have said the psalms were their greatest inspiration, and statesmen like Gladstone have said that they were upheld in hours of crisis by the calm faith that breathes from the page of the psalter. Says Ambrose, one of the early church leaders, "Anyone possessed of his five senses should blush with shame if he did not begin the day with a psalm, since even the tiniest birds open and close the day with songs of holy devotion."

A church council decreed that no one should be raised to any high office who could not recite the whole book of psalms. In the early history of English Christianity, Kentigern began each day by standing breast high in a running stream, and reciting the entire psalter. In Wales, in a large convent, the psalms were recited day and night in relays, so that during the twenty-four hours continuous praise should rise to God. Gladstone said, "All the wonders of Greek civilization heaped together are less wonderful than the simple book of psalms—the history of the human soul, in relation to its Maker."

THERE are several varieties of psalms. There are nature psalms, patriotic psalms and psalms of life. Let us take a few specimens of these. Of nature psalms, the eighth is the best known. It is a description of the heavens by night. "When I consider thy heavens, the moon and stars which thou has ordained, what is man, that thou art mindful of him?" Psalm 29 is the description of a thunderstorm, beginning in the north and sweeping south. To get the swing and grip of this, it should be read aloud. Psalm 148 pictures the entire creation from the humblest creatures up to kings and philosophers, as a mighty chorus rendering praise to Almighty God. To the Hebrew writers, nature was a book. On its pages they read the evidence of a good God.

The patriotic psalms refer usually to certain historic events. Take the forty-sixth: "God is our refuge and strength, a very present help in trouble." This, almost to a certainty, refers to the siege of Jerusalem by the Assyrians. The story is told in the thirty-seventh chapter of Isaiah. There was no hope for the holy city, unless God intervened. He did intervene. The Hebrew patrol next morning counted eighty-five thousand dead Assyrians, around the city walls. This forty-sixth psalm has been a tower of strength to God's people for centuries. When the clouds were blackest, Luther used to read it and take fresh courage. His hymn, loved and sung by millions, is nothing more nor less than this

good old psalm, done into verse: "A mighty fortress is our God, A bulwark never failing, Our helper He, amid the flood Of mortal ills prevailing."

During the Indian mutiny, in 1857, Psalm 46 was the stay of General Havelock. He used to read it to his men, when they knew not whether another day might find them dead, at the hands of the infuriated natives. Psalm 137 is a threnody, written after the exile, when the Hebrews were far away in a strange land. They had been deported by their conquerors, and they knew they would never see their beloved Jerusalem again. The psalm has been called the world's most pathetic bit of literature. "By the rivers of Babylon, there we sat down, yea, we wept, when we remembered Zion. Upon the willows in the midst thereof, we hanged up our harps."

WHEN one turns to the psalms of life, he rises to still greater heights. Psalm 90 is a hymn of human mortality. It sobs like the sea, and moans like the wind in the pines. "Lord, thou has been our dwelling place in all generations. Before the mountains were brought forth, or ever thou hadst formed the earth and the world, even from everlasting to everlasting thou art God." Isaac Watts hymn, which is considered by some hymnologists to be the greatest Christian hymn ever written, it is a paraphrase of this psalm. When an American bishop was talking to a regiment of British soldiers one night just before a drive, he asked them what he could do for them. Many asked for the Communion. Then said the bishop, "What shall we sing?" They replied, "Sing, 'O God, our help in ages past.'" They did. The next morning they went over the top and never came back.

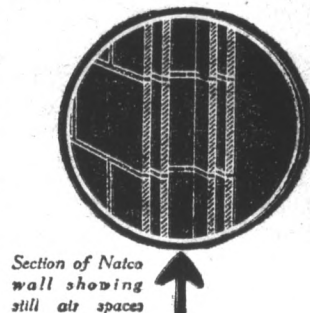
"O God, our help in ages past, Our hope for years to come, Our shelter from the stormy blast, And our eternal home."

So the four or five verses run on. It is a great hymn, and simply reflects the power and pathos of the psalm from which it is taken. The twenty-third psalm is the "most complete picture of human happiness that ever was, or ever can be drawn."

A VOLUME might be written on verse five of Psalm 31: "Into thy hand, I commend my spirit." These were the last words of Jesus on the cross. They have been the parting words of a host of God-fearing souls. Christopher Columbus had had the world's honors, then suddenly he had been imprisoned on a false charge. He died in a garret, with no comfort aside from his Christian faith. His last words were, "Into thy hands I commend my spirit." John Hus was burned at the stake, after being betrayed by those he thought were his friends. As the flames wrapt themselves about him in fierce embrace, he cried out, "Into thy hands I commend my spirit." Mary Queen of Scots has always been an interesting figure, in history. Boys and girls have dreamed about her beauty. She died at the block. After mounting the scaffold, and removing her black satin robe and long white veil, she appeared in a suit of crimson velvet. Taking the rings from her fingers and handing them to her weeping maids, the handkerchief was tied over her eyes. She knelt and felt for the block, whereon to lay her head. Her last words were, "Into thy hands I commend my spirit." Whole libraries have been written about the psalms, but better than reading them, is to read the psalms themselves.

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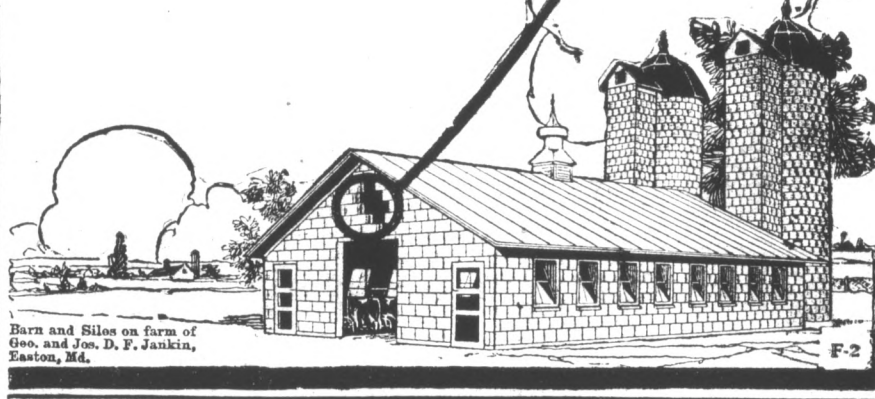
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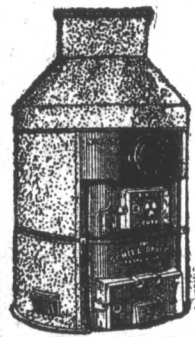


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Woman's Interests

Diet Suggestions for Indoor Folks



PROBABLY a large per cent of the ordinary ills are traceable to indigestion. Eating hastily, eating at irregular hours, eating between meals, a poorly balanced ration, any or all tend to upset digestion and start a train of bad consequences which result in no more than headache, but is as likely to end up in Bright's disease. Indeed, so important do many physicians consider a proper diet that one has gone so far as to say that if we start the infant right, and see to it that the growing child and adult never sins against his digestive tract, he will never be sick. That is probably carrying the matter beyond the limits of possibility but it would certainly do no harm to experiment along his line of reasoning.

Man is essentially an out-door animal. Probably that is why the folks who are outdoors a great deal engaged in active work do not suffer so much from indigestion as those who work inside. At any rate, the men and women engaged in sedentary occupations are usually the ones who betray symptoms of indigestion in some form. Such persons should make a special study of their food requirements and of all the factors which go to make for good digestion.

Aside from the food itself, many points must be considered. First is thorough chewing to break the food into small pieces and thoroughly mix the starches with saliva. Regular hours for meals is as important as the right selection of food. Growing children and convalescents often need more than three meals a day, but the mid-meal lunches should always be taken at the same hour each day and should be a light food which does not

require a long time to digest, as cocoa or milk and a couple of crackers, or an egg beaten with grape juice or orange juice. Plain bread and butter sandwiches for growing children, preferably whole wheat bread, are to be chosen rather than cake, doughnuts, bananas or candy.

Food taken when one is over-tired,

MY LADDIE'S CALLS.

BY L. M. THORNTON.

A hundred times he calls me
Dear little lad of mine,
Sometimes with face all teary
Sometimes with eyes ashine.
Each grief that needs a solace
Brings closer yet my boy,
And always, first, comes mother
To share each passing joy.

A hundred times he calls me
'Twixt morn and night to see
A blossom in the garden
A bird's nest in a tree.
A bump on cheek or forehead
Where wee feet tripped and fell
A rose thorn scratch that nothing
But mother's kiss makes well.

A hundred times he calls me,
Dear little lad, and so
I miss the lonely moments
So many women know.
For sweeter than the voices
Of all the singing spheres
The calls of little children
That gladden mother's ears.

angry or excited is as good as wasted, as digestion is retarded under these conditions. If you must eat choose warm, fluid foods, as soup, gruel, corn meal or oat meal—cocoa, egg noggs, or a custardy pudding.

A wise selection of foods is, of course, essential. Persons engaged in

sedentary occupations usually do well to avoid rich, greasy foods, much cream, and concentrated foods, such as cheese, candy and nuts. Such persons should choose roast beef and mutton rather than pork, sausage and fried ham, light puddings rather than pastry, and partake only sparingly of cakes and candy. They should never eat candy except at the close of a meal, and then only a small piece.

Breakfast starting with half a grape fruit or an orange, a not too acid orange or a peach or pear, followed by a small serving of cereal, two small pieces of toast or a muffin, an egg or three or four slices of bacon and coffee, is a good start for the day. If dinner comes at noon, beef or mutton, not too liberal a portion, a medium-sized potato, a cooked vegetable and a raw vegetable as lettuce, endive, celery, celery cabbage, bread and butter and a light dessert, is sufficient. For supper, or lunch, cream soup, or macaroni and cheese, rolls and butter, stewed fruit and a plain cooky, and coffee or tea with cream should offer no difficulty of digestion.

Below are suggested menus for a day:

Breakfast:—Baked apple with two tablespoons of light cream, cup of farina, or cream of wheat with rich milk, two small pieces of toast, one poached egg, coffee with cream.

Dinner:—Beef broth and crackers, roast beef and gravy, one cup mashed potatoes, one serving of carrots, lettuce with French dressing, rice pudding, tea or coffee with cream.

Supper or Lunch:—One cup cream of tomato soup, two slices of whole wheat bread and butter, stewed peaches, sugar cooky or small piece sponge cake, tea with cream.

Some Facts About Goitre

By Emma Gary Wallace

GOITRE, even though it be a small and almost imperceptible one, spoils the symmetry and the natural beauty lines of the neck. It is a matter of statistics that many more women than men suffer from goitre. Just the reason of this is difficult to determine. Some medical authorities have attributed it to the fact that women are apt to drink more freely of water than men, and that the water of some localities is inclined to produce goitre. There is no doubt about it, that goitre is an endemic malady in part at least. That is, it is peculiar to certain regions, and it is thought is produced by characteristics of the soil, or water found in those places. However, it is likely to occur sporadically anywhere, and the individual who watches for goitrous symptoms will see many of them, especially now when the present styles reveal the full form of the neck.

Goitre is a disease of the thyroid gland. It is not understood clearly just the economic purpose in the human system of this gland, which is located in the front of the neck, but it is clearly established that when this small body becomes unhealthy, the whole system suffers in many ways.

Goitre is of several different kinds. Some types yield to treatment much more readily than others. The impression that goitre is of no consequence except that it is uncomfortable and disfiguring, is in error, for it may be either the symptom or the result of deep-seated, underlying trouble. It is often found that a goitrous mother will bear children who will show this peculiarity. If they do not develop it in infancy, it may appear at the time of puberty.

Goitre sometimes follows physical debility or those illnesses which weaken the tissues. It is also peculiar to some regions, and people affected with it may experience relief by removing to a different climate. The mountainous regions of the Alps, the Andes, and the Himalayas, certain parts of England, the Rhone Valley, Northern Italy, the Indian Punjab, and some parts of our own west, show a great deal of goitre. Severe strain or unusual exertion, especially of a type which strains the muscles or tendons of the neck, is sometimes traced as the cause of goitre. Fright, worry, extreme excitement, child birth, and over-work, are also among the contributing causes. Tuberculosis or a tubercular ten-

dency is frequently the cause of goitre and, again, goitre may favor the growth of tubercular germs and lead to the development of that disease. It sometimes follows rheumatism and the fevers.

All in all, it is evident that goitre is a sharp departure from health, and that the condition should not be neglected because it rarely grows better of itself. The reason of this is that the enlargement may be caused by increasing follicles of the gland, by inflammation or engorgement of the veins, and as the goitre increases in size, it presses upon the veins of the neck, interfering with circulation, and often causing what appears to be heart trouble. Breathing is often impeded and the eyes protrude. It is usually remarked that people seldom die of goitre, but those who take pains to follow up goitrous cases, have discovered that the health is undermined, and the resistance to disease so lowered that those so afflicted succumb readily to pneumonia, influenza, grippe, heart and kidney troubles. In the more aggravated cases of goitre, the disturbance of the breathing often leads to excessive sweating, to a disturbed condition of the stomach and

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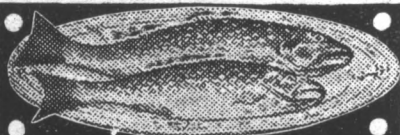
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bowels, to swelling of feet and ankles,
and a peculiar changed appearance of
the nails. In cases of this kind, both
the mental and moral tone become af-
fected, and the patient is likely to
show alternate spells of depression and
unusual buoyancy.

Medical treatment of the right na-
ture often proves very effective in cur-
ing goitre. An electrical treatment has
also been used with some success. In
the more severe cases, operation is
resorted to, but this should only be
done under the advice of skilled sur-
geons, for interference with the knife
may be dangerous. Safety lies in re-
cognizing the trouble as soon as it be-
gins to develop, in building up the
general health, and reducing the goitre
by suitable treatment.

Goitre is more common in the young
adult and the middle-aged, occurring
most frequently from fifteen to thirty
years in women, and thirty to forty-
five years in men. One medical writer
declares that the oldest goitre patient
he ever saw was forty-four years of
age, and the youngest two and a half
years; while another declares that he
has seen it as late as sixty-eight years
of age.

Among the complications of goitre
are included hysteria, chorea, and even
epilepsy. The treatment calls for rest
and freedom from excitement, a sim-
ple, wholesome diet of which milk
forms a large part, strict attention to
body hygiene, and medical supervision
extending over a sufficient period of
time to gain satisfactory results.

SORGHUM RECIPES.

Household Editor.—Noticing in a re-
cent issue that you could find no re-
cipes for sorghum, I am sending some
that I use often. The recipe for pump-
kin pie was brought from Connecticut
by my mother more than fifty years
ago, and was used by her mother and
grandmother.

Connecticut Pumpkin Pie.

To properly prepare pumpkin, peel
and cut in inch cubes and cook in an
open kettle, adding very little water
to start it cooking. Stir frequently,
and when tender, simmer on back of
range and continue stirring frequently
until the pumpkin is very dry and a
dark brown color. The following recipe
will be enough for four pies:

Two cups of pumpkin, three eggs,
one teaspoonful of ginger, one and
one-half cups of sorghum syrup, two
quarts of whole milk. Bake in a steady
oven for forty-five minutes.

Sorghum Cookies.

One large cup of buttermilk, three-
quarters cup of melted shortening, one
cup of sorghum, one egg, one level
teaspoon of soda dissolved in one ta-
blespoon of hot water, two teaspoons
of baking powder sifted into three and
one-half cups of flour, spices to taste
and one teaspoon of lemon or vanilla
extract. These may be rolled out and
cut, or may be dropped from a spoon.

Fruit Cake.

Use your favorite recipe and substi-
tute a scant cup of sorghum for a cup
of sugar.

Mince Meat.

Mince meat is richer with sorghum
sweetening. Use slightly less than you
would of sugar. Good sorghum is
sweeter than sugar.

Dried Apple Sauce.

Sorghum combines well with dried
apples or prunes, but it spoils the
flavor of some fruits, so it is well to
experiment on a small amount at first.

Molasses Candy.

Sorghum substituted for molasses in
your favorite recipe makes delicious
pull candy or "suckers" on sticks.

Mrs. G. R. H.

In making your Christmas carmels,
it is well to remember that a pinch of
yeast powder put into caramels after
they have begun to boil will make
them smoother and more creamy.—
M. A. P.

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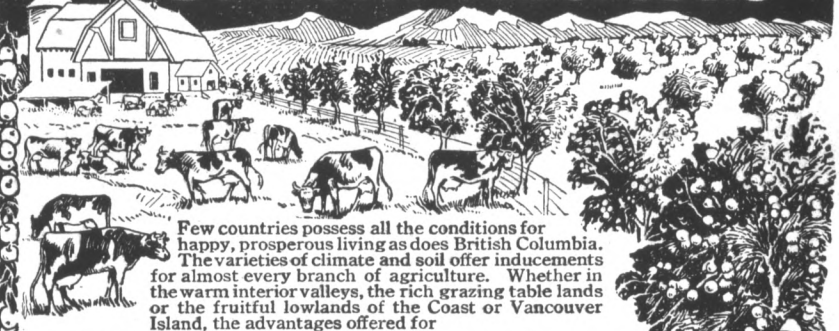
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Our Boys' and Girls' Department

Some Observations on Canning

Mrs. G. W. Goodale Not Only Learns the Advantages of Canning in Tin, But also Why Girls' Clubs Frequently Lack Enthusiasm

THE canning of meats will be one of the outstanding projects to be taken up this winter by many of our club leaders and home demonstration agents.

It is a difficult matter to get people's confidence in the success of canning in tin cans, said Mr. Stewart, Wayne county club agent. "We are going to prove, however, that it really is more economical in every way to can in tin than in glass. In the first place, they have to pay between ninety cents and \$1.25 a dozen for glass jars, while tin cans can be purchased for \$3.80 a hundred. Then, too, it saves time and labor, for where one can place only fifteen glass jars in a boiler for processing, three dozen quart cans may be taken care of at one time.

Heretofore the farmer has been obliged to salt his meats to keep them through the winter. By the cold-pack method, it will be shown how the farmer can have fresh and wholesome meats all winter. Mr. Stewart referred to the owner of a chain of restaurants in Detroit, who buys up hundreds of pounds of chicken at a time, places it in tin cans by the cold-pack method and is able to serve a chicken dinner at ten or fifteen minutes notice. He does the same with vegetables and claims he is able to save hundreds of dollars, besides much time and labor in this manner.

Every housekeeper, not alone the farmer's wife, would find it profitable to can her own products. For instance, it is estimated the cost of tomatoes in a quart can amounts to about three cents, the cost of the can is four and a half cents, while the fuel and labor

is set at about one-half cent, making a total of nine cents for the cost of a can of tomatoes which at the grocer's would cost twenty-five to thirty cents.

Take baked beans. This is generally a favorite dish but is often times not prepared by the wife, for the sole reason that it takes too much time and effort. A family might have, say twenty-five dinners consisting of baked beans during the winter. Each time the housewife must go through the same long process of preparing the dish for the table. Why not get a half bushel of beans at a season when they are most reasonable, cook them over one fire, can them and have them ready just to heat up whenever a meal of baked beans is desired.

If properly sterilized, tin cans may be used over and over again. There are sealers on the market, which not only trim off the edge of a used can but which will seal new covers on the old can.

No spoilage will be experienced in canning in tins such as are found in canning in glass. This spoilage is due to what is called flat sours and this is especially true in the three most popular vegetables put up by cold-pack canning, these being tomatoes, peas and corn. In classifying by the length of time usually taken in processing, the most difficult vegetables to can are corn, peas and lima beans. These three, along with several others, such as beets and string

beans, often develop flat sours. This is always experienced by those who can in glass rather than by those who can in tin, due to the fact that it is not possible to cool the glass-canned product so quickly after processing as can be done in tin. In tin, they are plunged into cold water, thus being able to cool quickly. The flat sour organism, a form of bacteria, can stand a great deal of heat, and when it is sealed it can be processed at a sufficiently high temperature to destroy it. It develops most rapidly at one hundred and ten to one hundred and fifteen degrees Fahrenheit.

By heating cans up quickly and cooling quickly, little difficulty will be had with this organism in fresh products canned as soon as possible after picking and this practice will finally solve all the troubles with flat sours.

Mr. Stewart hopes to get farmers interested to such an extent that they will can goods for commercial purposes. He believes this ought to be an impetus to girls' canning clubs also. More interest has been shown in the boys' live stock clubs than in the girls' canning clubs because in the end there was a financial gain to be realized by the boys, while the girls simply canned their goods for home consumption. Hereafter the girls' clubs will be instructed in canning their products so that they can be readily marketed.

As usual during the winter months, the extension workers will be busy with boys' and girls' clubs in manual training and handicraft for the former and in garment making for the latter. This takes in boys and girls between the ages of ten and eighteen years.



Prospective Rural Teachers at the M. A. C. Getting Ideas in Boys' and Girls' Club Work.

It Is Teamwork That Counts—By Uncle Ed

WHEN I was a boy—sometime ago, by the way—the only team we had on the place was a yoke of oxen. Father went into the army, and because we boys were little shavers he did not think we could do much with those big oxen, so he sold them just before he went away, for one hun-

dred dollars. So we boys had to get right at it and raise a pair of steers. When they were nothing but calves we got a man to make a light yoke of basswood, and such times as we did have breaking those steers. But we broke them all right; and we took the best care of them we could. They outgrew that little yoke and we took the old big yoke father had left when he sold his oxen. It was just about all we could do to lift that big yoke to the necks of the steers; but we were growing bigger and stronger, too, as well as the steers, and got so we could do anything with them. So well broke were they that I often used to sit on the top of a big load of bark and drive right down through the nearest village five miles away to the tannery. Five dollars a cord was the price for our bark in those days.

Yoked Up Together.

But what I wish to say now is, that until those steers were yoked up together, they were not worth a cent to work on the farm. It took the yoke to make them valuable to us. And it is the same way with boys and girls. They need to get into the harness with one another to do the best work. Have you not seen pictures of men in far off countries, showing them plowing with one ox, or maybe it was a cow, hitched to a plow? It always looks

pretty slow, doesn't it, and really it is as slow as it looks. Team work is what counts. So the thing I am speaking for is that every boy and girl ought to get into touch with other young folks. There is an inspiration about it that counts for a great deal.

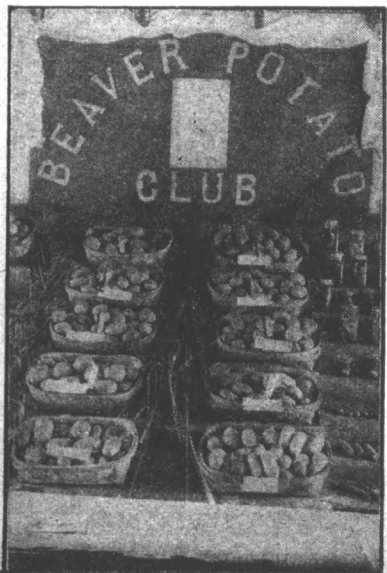
How It Works.

Take it in growing calves or hens or fruit or anything else on the farm. You may work along alone for a long time and not get the real fun out of it, or the inspiration that you would if you were competing with some other boy or girl of the community. The calf that beats—that is the calf you want most. It is the calf you will work for with all your might. And it will not be altogether out of strife, the friendly strife of competition, that you will do this, although at first that is quite an incentive. The time will come, however, when the thing that seems most worth working for is not to beat somebody else or win a blue ribbon, as to feel that you have a calf or whatever it is that is the finest possible. There is the highest possible incentive to action. To win because winning is worth while in and of itself.

What Counts for Most.

You will have a good many pleasant times and get a great deal of enjoyment out of the meetings of the boys' club, of course. It is a good thing to

meet that way and compare notes and get all the new points you can; but after all, the thing most worth while is to be yoked up to a great purpose in life. The boy or girl who is not hitched up to do some one thing is not very likely to do any very good or great things in this world. There is the need of a big dream, a sweet hope, a will to work with and for one's fellows to make us really successful. Just as the steers could not and would not work apart from each other, you and I need to get close to our fellows and pull with them. Team work is what



Boys' and Girls' Exhibit at Hillsdale County Fair.



Miss Kotesky Doing Her Bit.

counts everywhere, in society, in good farming, in politics, no matter what it is, we all need to get right into the harness and work for all there is in us.

There are all sorts of things to do in this world, and there is a place for us all. Let's find our place and do our level best. That is what counts for true manliness and womanliness.

STATE HORTICULTURAL SOCIETY.

(Continued from page 730).
other states," said Mr. Wetzel. "Dusting is a practice that is not only coming, but is here now. Twenty-nine experiments in that many widely varying localities present more experimental evidence than is ordinarily given in most cases regarding your business. In these experiments spraying reduced scab fifteen per cent; dusting fifteen per cent. Spraying reduced worms five per cent; dusting four per cent. These differences are so small as to make the conclusion that there is not much difference so far as the effectiveness is concerned. If these experiments are carried on for the next hundred years under the same conditions there will be no great difference in results. But if dusting machinery is improved as rapidly as it has been during the past few years and dusting materials receive as much attention as spraying materials have had, there will be fewer spraying machines used. As a rule, the average fruit grower prefers as few machines and as few materials as he can get the best results with. If he has to have a spraying outfit for scale and other diseases it will complicate the machine problem, but some of the later experiments indicate that dust materials may be used for the same purposes as spraying materials. Many potato growers are going to practice dusting in 1921. The 1920 results have been very satisfactory. The average grower does not appreciate the value of timeliness in spraying. The man who is spraying more than four or five times is losing time and materials. It is a case of keeping your eyes open and knowing when to do the work. The most effective spraying is done just in time to become dry before the rain. One modern type duster will do the work of six sprayers.

At the Thursday morning session E. W. Stillwell, investigator in markets of the federal departments at Washington, condemned the present Michigan apple grading law as totally insufficient. "You men," he declared, "should insist upon either the amendment or repeal that law. Under its provisions the apple grower of the state has absolutely no comeback when f. o. b. shipments are rejected on the grounds that they do not come up to standard. The Michigan law is so vague in defining standards for different sorts of apples that it can be interpreted to the satisfaction of different individuals." Mr. Stillwell urged passage of uniform federal grading laws. "The best way of promoting standardization," he said, "is by the creation of a bureau with power to compile adequate laws and enforce them after they are passed."

Following this address a motion was put to the society and carried naming F. L. Granger, chairman of a committee of his own selection to confer on ways and means of "putting teeth" in the state apple grading law.

"Michigan's fruit growers again face the same exasperating traffic conditions they did during the past season," said F. E. Coombs, traffic commissioner of the Michigan State Farm Bureau in an address Thursday morning. Mr. Coombs blamed the Michigan railroads because of their lax methods in handling the car situation during the past season. "The farm bureau," he said, "unofficially has been representing the fruit and potato interests of the state, though those interests have never

aligned themselves with that organization. The State Farm Bureau, the Michigan Traffic League and the Michigan Manufacturers' Association are lining up in an effort to get better conditions in 1921."

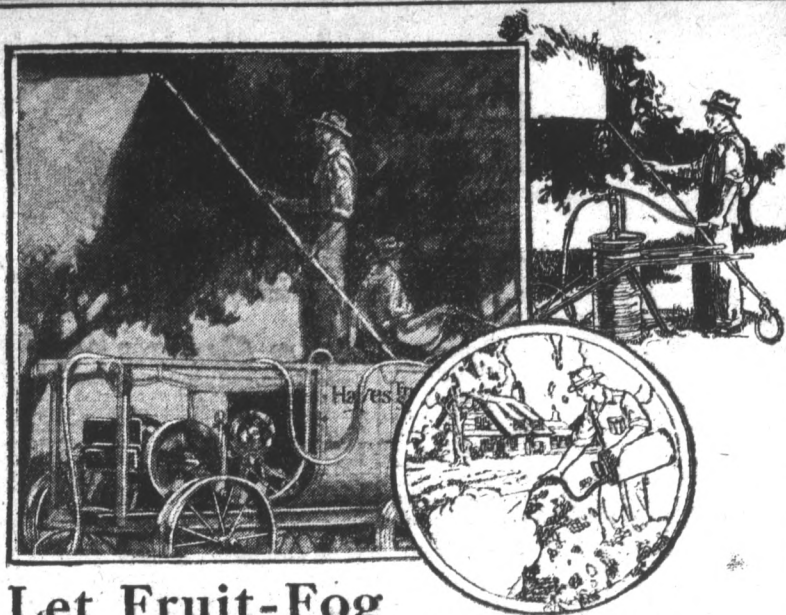
At the afternoon meeting M. B. Goff of Sturgeon Bay, Wisconsin, gave one of the best addresses of the meeting on the subject of "Marketing Problems." Among the points made by Mr. Goff were the following: "We know now how to grow good fruit, but how to sell it is the burning question. We have many small communities growing fruit and we cannot delay much longer some of these questions without many growers being put out of business. Under the existing conditions and trade channels it is impossible to market fruit at a profit. For example, the scarcity of sugar and the difficulties under which canners were working the past year. We must also consider the problems as regards the marketing of canned products. Another problem is the fact that consumption is not taking the supply in sufficient volume to make the business pay. There are many ways of increasing the consumption of fruit. The California growers have forced the consumption of their fruit, but the consumption of other fruit is decreasing. Peach and cherry growers have received low prices this year. In many cases less than the cost of picking, packing and putting them on the market. Under the most efficient system of fruit growing this year many growers have met serious losses. Labor is to be cheaper in the future, but we don't want it to go too low for prices are governed to a large extent by the prices of labor. In many instances consumers have learned that if they stop buying prices must come down, and unless we can keep down production charges we are going to meet a critical situation the coming year. If growers' organizations could put before the consumers the fact that big shipments were coming to their cities and that prices would be reasonable it would, in my mind, help things to some extent. The fact that the commission trade handled things so well as they did in many cities the past year is a tribute to the trade, even if they do have other faults. Before these problems can all be settled we must go through a period of development. It surely cannot be accomplished in any short time. Before going after the trade we must go after ourselves. The condition now confronting us is more our fault than the fault of the commission men, canners or retailers. If we were in their places would we try and push the goods of growers who put inferior goods upon our hands? I don't believe the trade is too blame for selling Oregon and Washington apples on the Grand Rapids markets. It is simply because you do not dominate your home market with quality. If these goods are pushed on your markets it is not because the trade is trying to push them, but because you are not putting up your apples in as good shape. Until we investigate our own methods and goods and put up a class of fruit equal to that put up by others we cannot pass the blame to anybody else."

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OVER \$54,000 worth of food was preserved this season by 1,250 girls entered in food clubs conducted by local organizations cooperating with the Ohio State University.

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The value of products raised or produced by the 9,500 youngsters engaged in pig, corn, calf and other club projects conducted under the same auspices, has not been determined as yet.



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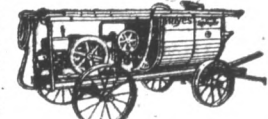
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2c a Gallon Milkoline comes in condensed form, and you do the diluting on your own farm. When fed as directed Milkoline mixture (one part Milkoline to 50 parts water or soil) costs only 2c a gallon. Full feeding directions free. It is shipped in convenient kegs and barrels which we supply free. The prices are as follows: 5 gal. \$7.50; 10 gal. \$12.50; 15 gal. \$16.50; 22 gal. \$22.00; 55 gal. \$49.50. It pays to buy in barrel lots because you save 60c a gal. over the 5 gal. quantities.

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You are safe in ordering any quantity of Milkoline today. Feed one half the shipment to your hogs and poultry in a thirty day test, then if you aren't entirely satisfied return the unused part to us at our expense and we'll immediately refund every cent you paid us. We are so confident that you will find Milkoline the best money maker on the farm that the S. W. Boulevard Bank of Kansas City substantiates this offer. You are the sole judge. Send money order, or check, to us or our nearest dealer and we will ship immediately. Our booklet, "How to Hustle Heavy Hogs to Market" will be sent free on request—your name on a card will do.

Saginaw, Mich.

December Poultry Hints

A CRATE with a slide door at one end is handy for catching poultry when treatment for lice is necessary. Place the coop against the small trap-door in a hen house and the birds will run in until the crate is full. Then they are easily caught and the operation can be repeated until all the hens in the house have slipped through the small door into the crate.

Electric lights and heavy feeding will help to produce winter eggs but such methods must not be used on the breeding stock which is expected to produce hatching eggs next spring. Hens that lay heavily all winter do not produce eggs in the spring with strong germs. That is why many farmers who make no effort to obtain winter eggs do produce eggs in the spring which hatch out a large per cent of vigorous chicks.

Fresh air in the poultry houses helps to keep the hens healthful. Sunshine on the floor helps to dry the litter and destroy disease germs. Birds usually keep healthy under natural conditions and they are something more than machines. You never see sparrows sitting around in the fence corners with colds and roup. The crows and hawks appear healthy and vigorous. Nature can teach the poultryman much about the management of hens.

When flocks of young poultry are from vigorous stock and well fed, but appear unthrifty, the trouble may be due to worms. The department of agriculture recommend the following

Reports of lowering prices for lumber and building material are encouraging to poultrymen who need new houses. Possibly a building boom next spring may cause lumber prices to rise again. The poultrymen and farmers who wish to build new houses can profitably study the market and try to make purchases at the right time. It is quite an interesting speculation and nobody seems to know just what is going to happen.

Money can be saved in feeding poultry through the owning of the useful feed grinders which are now sold. This year the corn crop is generally good and corn meal for the mash can be produced at home. A bone-grinder in the course of a year will turn out quite a few pounds of poultry feed from the bones that might be wasted. At slaughtering time there is often a large stock of bones which can be used to stimulate egg production.

Many a hen comes out late in the fall with a fine brood of chicks from a stolen nest. Sentiment usually lets them live, although they are seldom profitable. The best plan is to have plenty of good nests in the poultry houses and clean up places on the range where nests can be hidden. It also pays to keep the hens out of the barn or spend some time in locating nests that are stolen. With eggs worth about five cents each, a dollar's worth can soon be lost in stolen nests. A man who might worry all day if he dropped a silver dollar in the straw stack might not care half as much if

POULTRY

PULLETS! PULLETS!

We have the largest, most up to date S. C. W. Leghorn farm in Mich. 40 acres devoted entirely to the breeding of quality White Leghorns 2,000 layers kept the year around.

We still have a few hundred ready to lay pullets bred from our heavy winter laying strain for sale.

Prices quoted on application Baby Chicks and 8 weeks old Pullets in season.

Order Now.

Macatawa White Leghorn Co., Inc.
Holland, Mich.

400 PULLETS

Now Beginning To Lay.

There are still about 400 of the S. C. White Leghorn Pullets originally offered. These Pullets, six months old first week in December, drooping red combs, pure white. They are now beginning to lay, and will pay for themselves.

Yearling Hens. We have 27 Anconas and 16 White Wyandottes, the last for this season. These are fine birds.

Write us if you are interested. All our stock is reliable. We guarantee everything. Have you our 1920 Catalog? If you want to make sure of these Pullets, you should write now.

Cockerels We have 50 fine Barred Rock Cockerels from our well bred Barred Rock Colony. Send for description.

STATE FARMS ASSOCIATION,
Kalamazoo, Michigan

BARRED ROCKS

Cockerels, Pullets, April hatched, get Norman's superior strain direct. Catalogue 25c. Circular free. **NORMAN POULTRY PLANT,** Chatsworth, Ill.

Barred Plymouth Rock cockerels large birds from a prize-winning laying strain \$5.00 each. **J. A. BARNUM,** Union City, Mich.

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

BARRED Plymouth Rock cockerels for sale, some Bunch thirty birds from prize-winning stock \$4 and \$5. **George H. Campbell,** R. 5, Box 70, Ypsilanti, Mich.

BRED-TO-LAY S. C. W. White Leghorns from pedigreed B. males mated with hens selected by M. A. C. expert as extra heavy layers. Selected cockerels at a bargain. **Pullets** The Ferguson Co., R. 6, Ann Arbor, Mich.

CHICKS

for 1921 Bred-to-Lay S. C. W. Leghorns. Booking orders now for early hatches. \$10.50 per 50, \$20 per 100, \$35 per 500. Safe delivery postage paid. **SUNNYBROOK POULTRY FARMS,** Hillsdale, Mich.

CHICKS! Standard bred White Leghorns and Brown Leghorns. Bred to lay, large white eggs. 50 chicks \$7.50; 100, \$15.00 and 500, \$72.50. Safe arrival guaranteed. Parcel post brings them to your door. Catalog free. **Wolverine Hatchery,** R. 2, Zeeland, Mich.

Fowler's Buff Rocks Cockerels, hens and pullets. Write for prices. **R. B. FOWLER,** Hartford, Mich.

50 Buff Orpington cks., fine stock \$5 and \$8. 2 good yearling cocks, \$5 each. Cash with order, guarantee satisfaction or refund. **J. E. SECKINGER,** Manchester, Mich.

Cockerels and Hens: Leghorns, Minorcas, Reds, Rocks, Orpingtons, Wyandottes, Houdans. **Tyrone Poultry Farm,** Fenton, Mich.

Large White Rock Cockerels of the Tetchel strain. Price \$3.00 each. **MRS. CLIFFORD JORDAN,** R. 2, Charlotte, Mich.

Rhode Island Whites If you have ever said there is no money in raising poultry try the R. I. White, stock for sale, order ahead. **H. H. JUMP,** R. 5, Jackson, Mich.

White Holland Turkeys White African Guinea \$0 acres of them. Reference C. H. Burgess, Prof., Poultry Mich. Agri. College, Farm for sale. **Alden Whitcomb,** Byron Center, Mich.

Additional Poultry Ads. on Page 741

BREEDERS' DIRECTORY

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

Wildwood Farms Angus

Effies Lass 238203 sold on May 6th for \$7100. She was sired by Black Monarch 3rd. We are offering for sale Editor of Wildwood 295059 a full brother in blood lines to Effies Lass also four more choice bulls which are old enough for service and sired also by the champion show and breeding bull Black Monarch 3rd.

Our herd is under State and Federal Supervision.

WILDWOOD FARMS

ORION, MICHIGAN

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

WOODCOTE ANGUS

Imported Herd Bulls
ELCHO OF HARVESTOUN (45547)
by Jason of Ballindalloch (38048)
EDGARDO OF DALMENY (45501)
by Escort of Harvestoun (38006)
Woodcote Stock Farm, Ionia, Mich.

The 2nd Annual

Mich. Aberdeen Angus Breeder's Ass'n Sale will be held at M. A. C. East Lansing, on Jan. 14, 1921. This space is contributed by Geo. Hathaway & Son, Ovid, Mich. A few females and an aged bull to spare at private sale.

Reg. Aberdeen Angus bulls and heifers from 6 to 18 mos. old of the very best of breeding, also Berkshire Swine, boars ready for service and pigs both sex singles, pairs or trios, will accept Liberty Bonds. **RUSSELL BROTHERS,** Merrill, Mich.

For Sale Having decided to sell part of my herd of pure bred Aberdeen Angus cattle, consisting of males and females of different ages. **ANDREW P. EITEL,** Vermontville, Mich.

Four Guernsey Bulls out of Adv. Reg. dams, viceable age. Also two heifer calves three months old. All by prize winning May Rose sire. Special prices if two or more are taken, write or visit. **ST. AUSTELL FARMS, PAUL LOVE,** Jackson, Mich.

Guernsey Bull Busto of Smallidge Farm, born Feb. 2nd, 1920. Sire Bennie of the Ridge, who's dam Trixie of the Ridge holds first place in class EE, in Michigan. Granddam Abbie of Riverside is champion of Mich. Dam May Kings Ezalia of Eau Claire an A. B. cow. **E. J. SMALLIDGE,** Eau Claire, Mich.

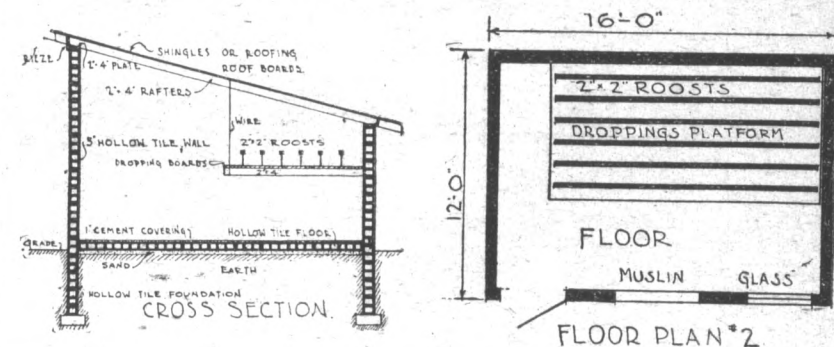
GUERNSEYS—Federal Inspected. Headed by only son of Carrie of Hillhurst, exchampion of A. A. class. 5 bulls under 10 mos., 1 a dandy whose dam in class D has given over 50 lbs. milk. No females to spare. **G. W. & H. G. RAY,** 4 mi. east of Albion, Mich.

GUERNSEY BULL CALVES whose sire's dam made 19,400.20 milk, 908.05 fat. Their mother's sire's dam made 15,109.10 milk, 778.80 fat. **T. V. HICKS,** Battle Creek, Mich.

Registered Guernseys

a 6 months old bull (100%) satisfaction for \$100. A nice heifer calf \$150. **J. M. WILLIAMS,** North Adams, Mich.

Plans for Construction of Hollow Tile Poultry House



cure for a flock of one hundred hens. Steep a pound of chopped tobacco stems for a couple of hours with the water just covering them. Starve the birds for a day and then give them the tobacco mixture in about half their usual ration of ground feed. Two hours later dissolve eleven ounces of epsom salts with water and mix with one-quarter of their usual ration of ground feed. Ten days later the treatment should be repeated.

The treatment for worms need not be given until the birds have been examined for lice and disease and the owner is sure that they have enough of a balanced ration to eat. After giving the worm medicine it is necessary to clean up the houses and yards. Plowing the range to bring up clean soil is also a help. Then plant a crop of green food for the hens. Puddles and wet manure heaps around poultry yards seem to help in producing worms that infest poultry, so it pays to have the range clean and well drained.

Pure-bred poultry have a practical value aside from their pleasing appearance and the chances of selling hatching eggs and breeding stock. The broilers from such a flock are more uniform in weight and appearance than a mixed crate of birds of several types. The eggs will be more uniform and bring a better price on the best city markets. It will be easier to improve the egg production by the use of males from bred-to-lay hens.

twenty eggs were found in a state of decomposition in the same stack.

The purchase of good breeding cockerels is the cheapest way of improving the farm flock next to raising them from good quality hatching eggs. One male influences a large number of eggs each year and he can sometimes be used to advantage for two or three years. A buyer of a first-class cockerel need not swat his bird after the first year's breeding operations are over. Fine quality male birds are often too valuable to market as meat. Some dairymen may be satisfied with cull roosters though they own a fine dairy bull. And possibly a hundred of their hens compare very favorably as profit producers with one or two of their cows.

More custom hatcheries should be profitable in sections where there are none at present. If the business can be managed by some member of the family not encumbered with too much field work he should be able to do much hatching work for the community and sell many day-old chicks. This chick business has come to stay and people like to buy them. When they use ordinary common-sense in their brooding methods they usually have a fair average luck. A hatchery costs money and prospective operators of such a business should start on a small scale rather than plunge heavily and the egg production by the use of males then have second-hand incubators for sale in a couple of years.—K.

BARLEY FOR SHEEP.

Is whole barley a good feed for sheep and lambs? I have been feeding it with oats but have lost two or three lambs. I am at a loss to know the cause.

St. Joseph Co.

W. A. B.

I don't believe that barley caused the death of your sheep and lambs, unless of course, you over-fed them. This might be done with any grain. A mixture of oats and barley ought to be a splendid ration for ewes. I would prefer it to oats alone for sheep. Of course, it is not necessary to have this barley ground. There might be some other cause of the death of your lambs other than your barley. If you have any more trouble I should want to consult a veterinarian and see if I could not discover the reason, but I am sure that it could not have been the barley if the barley was properly fed.

C. C. L.

OAT HAY FOR DAIRY COWS.

Would like your advice as to feeding fresh cows. I have plenty of oats, cut green for hay, (just as they were going into the dough), and corn fodder. Also have ground oats and corn for grain, and can use small potatoes if advisable. Have no ensilage or clover hay. Would timothy and alsike help to balance roughage?

Midland Co.

E. C. P.

As long as you have good oat hay to feed with corn fodder it will not be necessary to get timothy or alsike, although alsike is a very good dairy food, but if you have plenty of oat hay and corn fodder it will not be necessary to buy alsike for your cows. If you have no ensilage to feed, a feeding once a day of small potatoes will be a splendid thing. This furnishes a succulent food and you will get better results from your dry fodder by feeding the potatoes. Nothing is better than ground corn and oats for dairy cows for a part of the ration, but when fed alone it makes your ration deficient in protein to give the best results. My advice would be to add to your grain ration two pounds of cottonseed meal or two pounds of oil meal per day.

C. C. L.

NATIONAL WOOL MARKETING PLANS.

THE Fleece Wool States Organization will dissolve and put its efforts with the American Farm Bureau Federation in solving wool growers' problems. This was the sense of a motion passed at its annual meeting at which the wool committee of the American Farm Bureau Federation was present.

The Fleece Wool States Organization is in sympathy with the plans of the American Farm Bureau Wool Committee. The tentative plan is to employ a secretary who will coordinate the work of the state wool pools, planning central storage houses and selling through the agency.

The present plan calls for the establishment of warehouses at Chicago, Columbus, Ohio, Galveston or Houston, Texas, Syracuse, New York, and Lansing, Michigan, these warehouses to be incorporated under the federal warehouse act. This will make it possible for producers to secure money on warehouse receipts. The committee agreed that producers should be under obligation to consign their wool to the national pool for a period of not less than three years.

The wool marketing committee will get prices at which blankets, robes and other woolen fabrics can be manufactured from stock of wool now on hand. This information will be given to the state organizations so that they might have some of their wool made up for members if they so desire.

Repairs on farm machinery ordered now will be on hand when needed in the spring.



Weigh Your Feed— Weigh Your Milk

That's the way to put your dairy on a business basis—find out exactly how much you are feeding each cow and exactly how much milk she is giving. It has been our advice to dairymen for eleven years.

Pick out one cow—any cow you choose—and let the gain in her milk yield prove how cheap Larro really is.

If you don't get more milk than before, and if you don't make more profits from Larro (never mind what you paid for it), take the two empty sacks and any Larro you have left back to your dealer and get your money back.

Write for names of Larro users in your neighborhood and your nearest dealer.

The Larrowe Milling Company

503 Larrowe Bldg., Detroit, Mich.

Larro-feed

Many Imitations Prove Its Superiority

GUERNSEYS —REGISTERED BULL CALVES

Containing blood of world champions.
MICKS' GUERNSEY FARM, Saginaw, W.S. Mich.

For Sale 2 Registered Guernsey cows, 3 registered bulls ready for service, call or write JOHN EBELS, R. 2, Holland, Mich.

Registered Guernsey bulls two ten months old excellent breeding stock of them.
GEO. W. REEVES, R. 7, Grand Rapids, Mich.

Long Distance HOLSTEINS. HERD-SIRE PRINCE OF A FIVE dams av. 1186 lbs. butter and 2471 lbs. milk in 1 yr. Bulls all sold. State and Federal Supr.
A. FLEMING, Lake, Mich.

Get Started With Holsteins

The most popular dairy cattle.
We can supply you with good healthy Holstein cows or heifers, singly or in car lots.

HOLSTEINS FOR PROFITS

Send for information
The Michigan Holstein-Friesian Association

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

NOTICE

The Winwood Herd

on Nov. 1st will move their Herd of Pure Blood Holsteins to their new home, 1 1/2 miles south of Rochester, Mich. and for the next 30 days we will sell what bull calves we have cheap as we will be unable to get our buildings complete before winter. So get busy if you want a son of Flint Maplecrest Boy at your own price.

JOHN H. WINN, (Inc.)
Roscommon, Michigan

OUR HERD SIRE Model King Segis Glista

By a 30 lb. son of Lakeside King Segis Alban De Kol. His dam Glista Fenelle 32.57 lbs. Her dam Glista Ernestine 35.96 lbs. His three nearest dams average over 33 lbs and his forty-six nearest relatives average over 30 lbs. of butter in seven days. Write for prices on his sons.

Grand River Stock Farms
Cory J. Spencer, Owner Eaton Rapids, Mich.

The Traverse Herd

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

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

Superior Holsteins

Bulls all sold but are now booking orders for our expected fall crop of

Bull Calves
sired by my new herd bull, a grandson of
May Echo Sylvia

My sire's two nearest dams average over 35 lbs. butter and 800 pounds milk in seven days.

A. W. COPLAND

Birmingham, Mich.
Herd under state and federal supervision

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

Holsteins of Quality

for sale. Heifers from 8 to 24 months old. All registered and sold subject to tuberculosis test.
E. A. HARDY, Rochester, Mich.

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

HOLSTEINS Two young registered cows. Registered bull ready for service, not related. A splendid bargain for someone.
M. E. OSBORNE, Sun Haven Farm, Standish, Mich.

"Top Notch" Holsteins

Buy a "milk" Bull of Quality from the Breeder of the world's only cow to produce 800 lbs. milk in 7 days, having an 800 lb. daughter.
Our advertised bulls are selling fast.
Here are two good ones:

No. 1. King Vale Colantha De Kol, No. 307701
Born Oct. 11, 1919.
A "TOP NOTCH" individual, backed by fifteen dams who average 30.73 lbs. butter in 7 days.
Price \$175.00 f. o. b. Howell.

No. 2. Cornucopia Wayne Segis King, No. 316401
Born Dec. 6, 1919.
His 4 nearest dams average 25.33 lbs. butter in 7 days. Dams, a 22 lb. cow with a daughter who produced 34.74 lbs. milk and 148 lbs. butter in two consecutive years. Price \$125.00 f. o. b. Howell.

No. 1 Bull about one quarter white.
No. 2 Bull about half and half.

McPherson Farms Co. Howell, Mich.
Our herds under U. S. Supervision.

An Introduction

Mr. Dairy Farmer, Mr. Holstein Breeder Meet
KING FLINT

ALL THREE are working to a common purpose—to increase the production of Michigan Dairy herds. We believe all three should work together.

We feel sure that no Michigan bull has ever been better equipped for the work.

We have it on high authority that there are none better individually.

His three nearest dams each averaged to produce 100 lbs. butter and 2100 lbs. milk per month for a full lactation period with an average of 3.8% fat.

His dam is one of Michigan's greatest families—three full sisters that have produced over 30 lbs. butter in seven days, two of them producing over 700 lbs. milk, and two of them producing more than 1000 lbs. butter and 21000 lbs. milk in ten months.

His sire is the direct descendant of three generations of 30 lb. cows and two generations of 1200 lb. yearly record cows.

His first three sisters to enter yearly test will each produce more than 800 lbs. butter and 17000 lbs. milk as heifers.

Let King Flint Help You Improve Your Herd Through One Of His Sons

A son of this great young sire suited to head any herd in Michigan, grade or purebred, can be secured in Genesee County and we want them all to stay in Michigan.

Write us about your herd, tell us what you need and what you feel you can afford to pay and let us help you find just what you want in Genesee County, the center of Michigan's long distance dairy cattle.

Genrida Farm
Walter T. Hill
Davison, Mich.

Elmcrest Stock Farm
G. L. Spillane & Son Co.
Chio, Mich.

Reg. Holsteins For Sale. A few choice cows and heifers. 28.3w St. Johns, J. R. HICKS, St. Johns, Mich.

Federal Accredited Herd Bull For Sale
Old enough for service. Dams records, 7 da. milk 467.80, butter 20.85, 305 da. milk 16,115.3, butter 648. She has 2 A. R. O. daughters. His sire a 24 lb. grandson of Colantha Johanna Lad. Price \$200. Write for particulars. Vernon Olough, Parma, Mich.

Cluny Stock Farm

Offers the best selection of young bulls from 8 to 12 months we ever raised; out of dams up to 29.76 for aged cows and over 26 lbs. for 2 yr. olds. Yearly records up to 24000 lbs. milk and 1000 lbs. butter. Sired by our Senior Herd Sire, Maplecrest Application Pontiac, whose dam made 35 lbs. butter in 7 days and 1344 lbs. butter and 23421 lbs. milk in a year, or by Dutchland Konigen Sir Rag Apple, our Junior Herd sire, whose dam is a 30 lb. 10 yr. old maternal sister of Dutchland Colantha Denver who made 36 lbs. in 7 days and 1315 lbs. butter and 23431 lbs. milk in 1 year. Several carry the blood of both these sires.

They are extra well grown, straight and right. One of these at the head of your herd is bound to increase production.

Send for pedigrees and prices.

R. Bruce McPherson, Howell, Mich.

\$100

Registered Holstein Bulls

Best blood in America. Ready for service, grandson of King of the Pontiacs. Herd sire King of the Pontiac Segis.

Herd under State and Federal Supervision.

JAMES B. JONES FARMS
ROMEO, MICH.

Here Is A Good One.

A yearling son of Maplecrest De Kol Hengerveld. The sire having three sisters, each with records of over 1200 pounds of butter in a year, two of them former world champions. Calf's dam sister to three each with records of over 1200 pounds for Pontiac Aggie Kornayke. This combination of breeding has produced more 1000 to 1200 pound cows than any other of the breed. If progeny counts, where can you equal it? Price \$150.00 for quick sale.

Hillcrest Farm, Mgr. F. B. Lay, Kalamazoo, Mich.

\$75 gets 6 weeks old gdson of Maple Crest Korn Heng. and Flint Heng. Salina 27.09 butter 561.2 milk in 7 days. Calf's dam is my best untested cow. Terms. M. L. McLAULIN, Redford, Mich.

Reg. Holstein-Friesian Bulls ready for service and priced to sell. Light in color and richly bred. B. B. REAVEY, Akron, Mich.

FOR SALE Eight head of Reg. Holstein cattle. Four cows 3 to 5 yrs. of age and four yearling heifers. F. O. PARDEE, R. 5, Manchester, Mich.

Registered Hereford Bull Bargains

In order to reach every farmer and breeder wanting good bulls I will offer for a limited time a few good ones at \$100 to \$125 ages 12 to 18 mo. (act quick). Farm six miles So. of Ionia, Citz. Tel. 122-4.

Jay Harwood & Son, Ionia, Mich.

Registered Holstein Heifer born Sept. 20, 1920. Sire a son of King Ona. Dam is a 2 yr. old daughter of a 24 lb. cow and a 30 lb. bull. Price \$125 delivered your station. EARL PETERS, N. Bradley, Mich.

Hereford bull for sale Woodland 2nd, 495678. Descended from Dale and other first class stock. A good sized bull, a sure breeder and priced to sell J. C. Thomas, Silver Birch Ranch, West Branch, Mich.

Herefords For Sale Fairfax and Disturber blood, reduction on all sires, choice females for sale. Write me your needs. Earl C. McCarty, Bad Axe, Mich.

The Wildwood Farm

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

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

For Sale Jersey bull calves of Majesty breeding from good producing stock. Herd on Government "Accredited List." Write for price and pedigree to C. A. TAGGETT, R. 2, Fairgrove, Mich.

Lillie Farmstead Jerseys 2 R. of M. bull calves, 150 Reg. year old this fall. C. C. LILLIE, Coopersville, Mich.

Jersey Bulls from R. of M. dams \$75 to \$150 each. NOTTEN FARM, Grass Lake, Mich.

Jersey bulls for sale: From Marguerite's Premier a grandson of Pognis 98th and R. of M. dams. SMITH & PARKER, R. 4, Howell, Mich.

Meridale Interested Owl No. 11131 heads my herd bull calves from this great sire and out of R. of M. dams for sale. Leon E. Laws, R. 6, Allegan, Mich.

Claradale Milking Shorthorns

Are Officially Supervised by Michigan Agricultural College. The two year old Fancy Duchess Maid 8.396 lbs. milk, 378 lbs. fat, 4.55 percent average, Rose Mist 8.709 lbs. milk 425 lbs. fat, 4.75 percent average, Fancy Ring 7724 lbs. milk 267 lbs. fat 8 mo's. Perl Duchess 27th 6964 lbs. milk 292 lbs. fat percent 4.21, 2'd calf. We have other good cows under state supervision, our records are made under every day farm pasture conditions twice a day milking only. We can price you bulls from 2 months to two year olds. Sired by the the Great Bulls Lord Burrington 5th. and Green Leaf Master Imp. Your success is our success. Come and see us, or write your wants to F. W. JOHNSON, Box 26, Custer, Mason Co., Mich.

BIDWELL SHORTHORNS
BUY A BULL

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

BIDWELL STOCK FARM,
Box D, Tecumseh, Michigan

O. I. C. BOARS

Choice individuals; shipped to you c. o. d. express paid and guaranteed right or your money refunded. All stock registered in buyer's name.

J. CARL JEWETT, Mason, Mich.

O. I. C. HOGS

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

CRANDELL'S PRIZE HOGS, Cass City, Mich.

Bloomdale Shorthorns

See our cattle get our prices and breeding before buying. Both bulls and females for sale.

CARR BROS. & CO., Bad Axe, Mich.

The Maple's Shorthorns

Kirklevington Lad, by Imp. Hartford Welfare. In service, bulls for sale.

J. V. WISE, Gobleville, Mich.

Milking SHORTHORNS. Clay bred bull calves Herds under Federal Supervision. Davidson & Hall, Beland & Beland, Tecumseh, Mich.

Richland Shorthorns

Imp. Lorne, Imp. Newton champion and Sterling Supreme in Service. We offer for quick sale: Five Scotch Bulls, best of breeding. Three whites at \$1000 each. One roan at \$500, one red at \$400. No females for sale. Public sale Chicago Oct. 28th.

C. H. PRESCOTT & SONS,

Tawas, City, Mich.

BRANCH COUNTY FARM

Breeders of

American Polled Shorthorn Cattle

For Sale two splendid bulls now ready for service, and two younger ones that will be ready for light service Jan. 15th. We also are offering at this time a few bred cows and heifers. Herd headed by Victor Sultan and Sultan's Gift. Prices very reasonable, write your wants. Geo. E. Burdick, Mgr., Coldwater, Mich.

Shorthorns Good Scotch bred bulls, cows and heifers priced right. W. B. McQUILLAN, R. 7, Howell, Mich.

Milking Shorthorns Breeding the best bulls from high producing cows. O. M. YORK, Millington, Mich.

MEADOW HILLS SHORTHORNS. Herd headed by Sil ver King, full brother of Lavender Sultan Purdue University's great sire. For sale females of all ages, a few young bulls. Geo. D. Doster, Doster, Mich.

Milking Shorthorns of best Bates breeding, bulls 6 to 8 mo. old for sale. E. H. KURTZ, Mason, Mich.

Milking Shorthorn 3 mos. heifer calf \$125 bred heifers and serviceable bulls at farmers' prices. Central Mich. Shorthorn Assn. Oscar Skinner Sec. Gowen, Mich.

Reg. Red Polled cattle choice young bulls from 6 to 18 mo. old for sale. FRANK KEBLER, R. 1, Grand Ledge, Mich.

Reg. Red Polled Bull calves for sale, from 3 mos. to 1 year old, sired by Famous Charming grand son of Charming 1919 International Grand Champion. WESTBROOK BROS., Ionia, Mich.

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Offer for sale. High grade milking cows, heifers and heifer calves. Also registered bulls from 1 month to serviceable age whose dams are on test and making good records. Write or better come and see the herd. OSCAR J. WINTER, Prop., Sebawaing, Mich.

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Registered Berkshires, Gilts, and Sows bred for April May and June farrow. A yearling Boar and a few younger. Spring pigs. Chase Stock Farm, Marlette, Mich.

BERKSHIRES Large growthy gilts, bred or open. Serviceable boars. W. H. EVERY, Manchester, Mich.

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2 BOARS, 4 SOWS. May farrow. Littermates, sired by Prince of Rudgate (236191) and out of Hilltop Model 2nd. (290816)

All of these pigs are good, growthy individuals that should be in the hands of some Berkshire breeder or farmer where they will have a chance to make good. Write or visit farm.

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Fine Registered Berkshire pigs for sale, prolific, large litters. O. H. WHITNEY, Merrill, Mich.

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THOS. UNDERHILL & SON, Salem, Mich.



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

Phillips Bros, Riga, Mich.

For Sale Duroc Jerseys of the big heavy boned type. CHAS. BRAY, Okemos, Mich.

Duroc sows and gilts bred to Walts King 29499 who has sired more 1st and 2nd prize pigs at the State Fair in last 2 years than any other Duroc boar. Everyone will be a money maker for the buyer. Cat. and price list. NEWTON BARNHART, St. Johns, Mich.

DUROCS spring boars. A few gilts bred for Sept. farrow at bargain prices. W. C. TAYLOR, Milan, Mich.

Duroc Boars ready for service. Sired King number 169250 son of the \$10,000.00 Champion Jacks Orion King 2nd fall large type and heavy bone out of good sows. THE JENNINGS FARMS, Bailey, Mich.

Duroc Jerseys Boars Boars of the large heavy boned type at reasonable prices. Write or better come and see. F. J. DRODT, Monroe, Mich.

Michigana Farm Durocs. Service boars and open gilts for sale at \$40 and \$50. These are real hogs. Satisfaction guaranteed. O. F. FOSTER, Mgr., Pavilion, Mich.

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

Duroc Jerseys Boars sired by Ed's Defender Col. and Thora Apple Col. The 2nd one yearling Boar by Orion's Fan King. FREY BROS., Caledonia, Mich.

Duroc Jersey boars from 6 mo. to 1 yr. old. Young sows old enough to breed for spring litters all in good condition and at fair prices. Safe delivery guaranteed. W. E. BARTLEY, Alma, Mich.

DUROC JERSEYS

Carey U. Edmonds, Hastings, Mich.

DUROC JERSEYS Boars and gilts by Mich. Pathfinder. E. D. HEYDENBERG, Wayland, Mich.

Durocs for sale Pigs \$12.00. Boars and gilts \$30.00. Only a few left. FRANK LAMB, Cassopolis, Mich.

Id'wild Stock Farms offer for sale the 1st boar pig at Adrian and Hilledale Farms. CLIFF MIDDLETON, Prop., Clayton, Mich.

Pleasant View Durocs. Service boars, bred sows and open gilts. W. O. BURLINGAME & SON, Marshall, Mich.



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SPECIAL prices on Fall, Winter and Spring boars during October. WEBER BROS., R. 2, Royal Oak, Mich.

Big Type Chester Whites Spring boars sired by Wildwood Jr. 2nd, Hill's Big Bone, Col. Wykoff, Smith's Giant and Champion X Jr. and out of good big dams. Cholera immune and satisfaction guaranteed. Also fall pigs, either sex, not related. N. L. HILL, Jr., Mackinaw, Ill. Tazewell, Co.

O. I. C's choice spring pigs either sex. Booking orders for fall pigs. We register free and ship C. O. D. A. J. BARKER & SON, Belmont, Mich.

O. I. C's 2 March boars \$40 each. Fall pigs by C. O. Big Callaway. O. J. THOMPSON, Rockford, Mich.

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

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

DR. H. W. NOBLES,

Sales Mgr. Coral, Mich.

O. I. C's One last fall boar wgt. 425, two last fall gilts, bred lots of spring pigs and this fall pigs either sex, good growthy stock 1/2 mile west of Depot. City's Phone 124. Otto B. Schulze, Nashville, Mich.

O. I. C's June and July boars and open gilts. Recorded and express paid for next 30 days each one a guaranteed feeder. F. C. Burgess, R. 3, Mason, Mich.

O. I. C. Serviceable boars. A few extra good boars at farmers' prices. H. W. MANN, Dansville, Mich.

O. I. C. Bred Gilts for Mar. and Apr farrow also a few choice service boars. CLOVER LEAF STOCK FARM, Monroe, Mich.

Closing out sale of big type Poland China hogs, which represent the work of 25 years of constructive breeding. Everything goes, including our three great herd boars, "Mich. Buster," "Giant Buster," "A Giant" "Butler's Big Bab," Two of the best yearling prospects in Michigan great length, big bone. Come get your pick. Jno. O. Butler, Portland, Mich.

Large type Poland China's spring boars ready to ship. Everything immune from Cholera. A. A. FELDKAMP, R. No. 2, Manchester, Mich.

6 boar pigs best I have raised in my 15 years of breeding sired by Big Bob Mastodon a son of the world's champion. Price \$50 and 50 fall pigs send orders now. C. E. GARNANT, Eaton Rapids, Mich.

Poland Chinas

Spring boars and gilts from the Sr. Champion boar at the State Fair at Detroit this year also Grand Champion at West Mich. Fair at Grand Rapids weighing 1025 lbs.

If you want something that will give you satisfaction let us sell you a boar or gilt.

ALLEN BROS., Paw Paw, Mich.

L. S. P. C.

Everything sold previously ad. 25 spring pigs placed on the bargain counter for mo. of Sept. pairs or trios not akin.

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Our herd is representative of the best in Big Types. Choice boars for sale now. Wesley Hile, R. 6, Ionia, Mich.

For Sale O. I. C. Swine. Strictly Big Type with good boars and gilts left of same type and blood lines, that won for us at Ohio and Michigan State Fairs. Priced very cheap. Write us before you buy.

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R. 1, MARLETTE, MICH.

My! Oh My! What An Opportunity
We are now offering a few choice big type Poland China Boars, from Big Smooth Jones, one of the best sires, from dams by such noted sires as Grand Master, Hillcrest Wonder, Mastodon Wonder and Hillcrest Bob.

You can't get better breeding. Individually they will please you. Price \$50.00. HILLCREST FARM, Kalamazoo, Mich.

L. T. P. C.

70 head of Poland Chinas at private sale. Am offering spring boars from \$40 to \$50 and fall pigs \$25 each. The first check will bring you the first choice. HART, FULCHER & CLINE, Address F. T. Hart, St. Louis, Mich.

Big Type P. O. a few first class, 200 lb. boars left also some fall boar pigs good enough to head any herd. Come and see or write. E. R. LEONARD, R. 3, St. Louis, Mich.

L. T. P. C. Spring boars and gilts now ready to ship. Something good at a right price. W. J. HAGELSHAW, Augusta, Mich.

Big Type Poland Chinas spring gilts bred to grand fall pigs registered and delivered to your town for \$20. DORUS HOVER, Akron, Mich.

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

Poland China Bred sows and gilts at bargain prices, also spring boars and fall pigs, either sex. CLYDE FISHER, R. 3, St. Louis, Mich.

Edgewood Hampshires
All bred gilts sold. Now booking orders for gilts bred for fall farrow, and pigs for pig club work only. Dewey Head, Edgewood Farm, Marion, Ohio.

HAMPSHIRE spring boars and fall pigs at a bargain book your order now for bred gilts. JOHN W. SNYDER, R. 4, St. Johns, Mich.

Hampshire Boars choice of three, best breeding service, \$50 each or will exchange for gilts or sows. A. P. BROWN, South Haven, Mich.

Hampshires Registered sow pigs, ten weeks old, \$20.00. Boars \$15.00. M. E. Osborne, Sun Haven Farm, Standish, Mich.

YORKSHIRES Boars ready for service. Yorkshires cross makes an excellent market hog. Waterman & Waterman, Packard Rd. Ann Arbor, Mich.

SHEEP.

Delaine Rams B. & C. type, having size, quality, best of breeding, priced to sell, write. S. H. SANDERS, R. 2, Ashtabula, O.

WHITTUM FARM SHROPSHIRE
A fine lot of imported and house bred yearling ewes and rams for sale. A fine chance to start a new flock or improve the old one call at the farm or write for just what you want. O. H. WHITTUM, Eaton Rapids, Mich.

Shropshire Rams lambs, yearlings and one 2 yrs. old, priced right. CARL TOPLIFF, Eaton Rapids, Mich.

Shropshires Yearling and rams, with quality, from imported stock. W. B. McQUILLAN, R. 7, Howell, Mich.

Shropshires yearling rams. Ewes of all ages. Priced right. W. B. KELLY, Ypsilanti, Mich.

Shropshire Rams yearling rams for sale. ARMSTRONG BROS., R. 3, Fowlerville, Mich.

Wool-Mutton Shropshire Good strong im bred, priced right. A. H. FOSTER, Allegan, Mich.

Registered Shropshire Rams and ewes all ages for sale. Well-wooled with size and quality. Priced to sell. H. F. Mouser, R. 6, Ithaca, Mich.

Registered Shropshire Ewes and rams. Jno. Grieve, R. 3, Fowlerville, Mich.

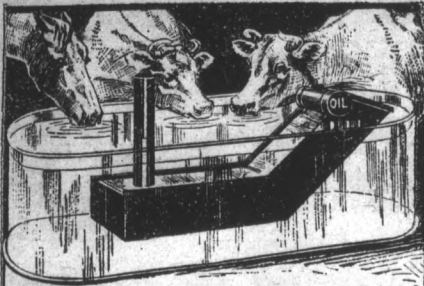
Reg. Hampshire Down ram lambs, one registered R. Shorthorn bull calf, 8 mo., spring and fall farrowed Berkshire pig. M. G. Mosher & Sons, Osseo, Mich.

Want a Sheep? Let American Hampshire Sheep Association send you dandy booklet with list of breeders. Write COMFORT A. TYLER, 22 Woodland Ave., Detroit, Mich.

Hampshires Registered rams and ewes all ages. Bred right, priced right. W. W. CASLER, Ovid, Mich.

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Percheron Stallions and mares at reasonable prices; inspection invited right. F. L. KING & SON, Charlotte, Mich.



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Greatest improvement ever made in tank heaters. Fits any tank. Burns from 14 to 16 hours on one gallon of kerosene. Any child can operate it with safety; no sparks, ashes or smoke. The heating chamber is entirely under water; no heat wasted. Guaranteed. Saves feed—pays for itself repeatedly.

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Made of heavy galvanized iron—large capacity (70 gal.); drinking trough on outside where hogs can reach it; oil burner directly under trough—guaranteed not to freeze. Keeps water warm for 2c per day. An abundance of fresh, clean water at right temperature. Keeps hogs healthy—fatten faster on the same feed.

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"The small and uniform size of the fat globules insures ease in digestion and assimilation."

"The Holstein milk, therefore, fulfills most completely all the requirements when food for infants and invalids is under consideration."

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Minneapolis, Minn.

NELSON Tank Heater



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It PAYS to GRIND ALL GRAINS

Look to the Grinders. They do the work! Bowsher's Cone-Shape grinders are the correct principle in Feed Mill construction. They mean larger grinding surface close to center of shaft; thus more capacity, lighter draft, longer life.

"Desire to express my appreciation of the long-lasting, trouble-proof Bowsher. Have used a No. 4 ten years with less than one dollar per year for repairs." B. W. Watt, Jacobusburg, O.

10 sizes; 2 to 25 H. P. Write for free catalogue.
D. N. P. BOWSHER CO., SOUTH BEND, IND.

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Booklet Free
\$3.25 Box guaranteed to give satisfaction or money back.
\$1.10 Box Sufficient for ordinary cases. (Includes War Tax.)
MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburgh Pa.

THE INTERNATIONAL LIVE STOCK SHOW.

(Continued from page 720).

as well as in carlots. Black Ruler was aptly named as he captured the breed as well as the grain championship. At the International last year he appeared in the senior calf class where the judge left him at the bottom of the line-up of thirty-four contestants. This year he is proclaimed by practically all critics as the most nearly perfect grand champion steer which any international show has seen. He was a superb, almost faultless example of the smooth, rotund bullock which constitutes the butcher's ideal. He was shown by Purdue University which has made a remarkable record in the last few years in the steer competition.

A junior yearling Hereford grade exhibited by the University of Nebraska, won championship of the grade and cross-bred steer show. This section failed to compare as favorably with the pure-bred steers as it usually does. The judge of the grade and cross-bred steers and of the grand champions was Watler Biggar, of Dalbeattie, Scotland, whose father had served in a similar capacity at the International seventeen or eighteen years ago.

The senior and grand championships in an extremely strong show of breeding Shorthorns went to the recently imported roan bull, Pellipar Iris, belonging to William Hartnett, of Chicago. This bull was quite outstanding, although the white junior yearling, Cloverleaf Royal, shown by W. C. Rosenberger, which won the junior championship, also put in a strong bid for the royal purple. Lady Supreme, exhibited by Frank Schofield, Hillsboro, Texas, completed her record of inviolable victory by winning the grand championship among the Shorthorn females. She is a grand specimen of Shorthorn matronliness and substance. Notwithstanding the lower sale prices, she brought \$5,200 in the Shorthorn sale. New breeders were given encouragement when the junior calf, Parkview-Augusta, exhibited by Gallmeyer Brothers, Mechanicsburg, Iowa, breeders who are new to the International show ring, won the junior championship. John Sibson, Buenos Aires, Argentine, awarded the Shorthorn ribbons. His was a most difficult task and although he was rather hard to follow throughout his alignments, it is granted that he generally picked the tops.

A surprise was sprung in the Hereford show when Repeater, Jr., exhibited by O. Harris & Sons, Harris, Mo., who has been a consistent grand champion at previous shows this year, and a remarkable example of Hereford individuality was outdone by Beau Best, shown by Wallace Good, Kansas City, Mo., for the senior championship. Beau Best has one of the most remarkable Hereford heads in point of breed character ever seen. Princeps Domino, shown by J. M. Camden, Versailles, Ky., won the junior and grain championship. The judge from Uruguay, R. Pareja Reissig, failed to appear and John Tomson, Dover, Kansas, was drafted for the task, which lasted through most of the week. The two-year-old Donna Woodford Fifth, shown by M. A. Parish, Reading, Pa., won the senior grand championship among the Hereford females while the junior honor was also won by Camden on Lady Woodford.

The Aberdeen Angus show established a high standing for the breed. John Philip, Craigellachie, Scotland, who acted as judge, chose for the grand champion among the bulls the imported Perintrain owned by Dr. J. I. Huggins, of Dandridge, Tenn., whose bull, Idolmere, won the same honor last year only to perish on his way to the southland after the show. Queen Milly of Sun Dance III, shown by G. C. Parsons, St. Mathew, Ky., added new laurels to her crown by winning the female grand championship. Perintrain, as well as Pellipar Iris, the grand champion Shorthorn bull, was a native of the Emerald Isle. The shows of Galloways, Polled Shorthorns, Milking Shorthorns and Red Polls were all entirely up to International caliber.

(Continued on page 741).



Good Hogs Made Better

All hogs that grow fast and produce pork at a profit are good hogs. And the difference between good hogs and poor hogs—between profit and loss—is largely the difference in their health and vigor. You can hurry your hogs to market weight in shorter time—cash-in on them quicker—make good hogs better—make poor hogs profitable, by adding to their ration a small amount of

Pratt's Hog Tonic

Not a food—does not actually grow bone and flesh—but a tonic and regulator, that tones up the system and puts hogs in tip-top condition. Helps keep disease away, makes hogs healthy and hearty. Then they stand up under the strain of heavy feeding and turn all their feed into pork. If you've never used Pratt's Hog Tonic you don't realize how fast a hog can grow if given a fair chance.

Here's what we know about Pratt's Hog Tonic—and our money-back guarantee backs this statement: It makes hogs healthy—it keeps hogs healthy—its use brings more pounds of pork from each bushel of feed—it brings hogs to full market weight 30 days quicker—it improves breeding stock so big litters of strong pigs are the rule.

"Your Money Back if YOU Are Not Satisfied"

Make the test at our risk. Every day you delay means a loss to you—so start today.

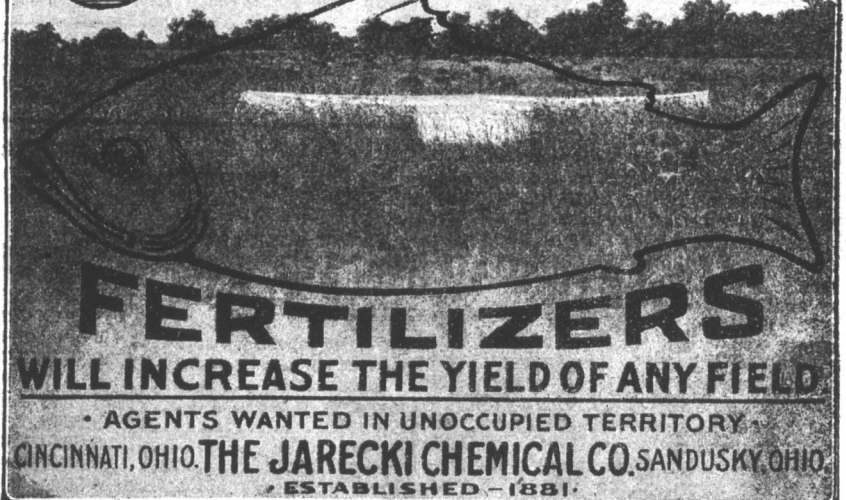
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Dr. DAVID ROBERTS' ANTI-ABORTION TREATMENT has been successfully used for nearly thirty years—it is past the experimental stage. Its effectiveness in preventing and overcoming Abortion in Cows is being satisfactorily demonstrated in hundreds of herds every year. Whether you own five head or five hundred, you can



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Ask for the "CATTLE SPECIALIST," sent free on request. Answers every question pertaining to ABORTION IN COWS. Tells how to treat your own herd at small expense. Write

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Fleming's Spavin Liquid overcomes lameness or money back. Leaves no scar. \$2.00 a bottle postpaid. Send for FREE Vest Pocket Veterinary Adviser! Describes Spavins and 200 other Horse and Cattle Ailments.

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DRAG SAW your wood with the reliable ALFRED KROH, 14 South St., Hillsdale, Mich.

Mention The Michigan Farmer When Writing Advertisers

LATEST MARKET REPORTS

GRAIN QUOTATIONS

December 7, 1920.

Wheat.

Detroit.—Cash No. 2 red \$2.04; December \$1.95; March \$1.93; No. 2 white and No. 2 mixed \$2.02.

Chicago.—No. 2 red \$1.99; No. 1 hard \$1.82@1.83; December \$1.70½; March \$1.67½.

Corn.

Detroit.—Cash No. 3 yellow, new 82c; No. 4 yellow, new 79c.

Chicago.—No. 2 mixed 79c; No. 3 yellow 77½@78c.

Oats.

Detroit.—Cash No. 2 white 58c; No. 3 white 56½c; No. 4 white 53½c.

Chicago.—No. 2 white 50¾@51¾c; No. 3 white 49½@50½c.

Beans.

Detroit.—Immediate and prompt are lower at \$4.10 per cwt.

Chicago.—White beans steady. Hand-picked beans choice to fancy \$4.50@4.75; red kidney beans \$9@10 per cwt.

New York.—Market continues dull. Choice pea \$5.50; do medium \$5.75@6; red kidney \$10.25@10.50 per cwt.

Rye.

Detroit.—Cash No. 2 rye \$1.60.

Seeds.

Detroit.—Prime red clover \$12.75; February \$12.90; alsike \$17.25; timothy \$3.50.

Toledo.—Prime red clover, cash and December \$12.75; alsike \$17.50; timothy \$3.50.

WHEAT

Broomhall, the leading European statistician in a statement this week admitted that the present supply of wheat for importing countries was sufficient only because the impoverishment of Germany, Poland, Italy and Austria made them financially unable to buy as much wheat as they actually needed. Theoretically the world's import requirements exceed the exportable surplus of North America, Argentina, Australia and India by over 100,000,000 bushels, but due to economies in the use of wheat, and financial conditions the full amounts cannot be taken. Drought continues in India, although moderate amounts of wheat are being cleared away from that country. Harvesting is well under way in Argentina. That country has an exportable surplus of 100,000,000 to 130,000,000 bushels compared with actual clearances of 193,000,000 bushels for the crop year now drawing to a close, and offers of new grain have been relatively higher than those from the United States. Australian conditions are very favorably with prospects of around 100,000,000 bushels for export. Her entire crop was reported sold for famine relief in China, with 11,000,000 bushels to Egypt. Were it not for the fact that the leading exporting countries all have fairly liberal crops this season the world's situation would be most acute. A crop failure in any of the leading exporting countries in 1921 might prove disastrous as far as Europe is concerned. In the last two weeks between 15,000,000 and 20,000,000 bushels of wheat has been sold for export of which at least half was domestic grain. Exports of wheat and flour from the United States during October totaled 43,000,000 bushels, a new record, and the exports for the first four months of the crop season were 146,000,000 bushels, also a record.

CORN

Movement of new corn so far this season is extremely light. Farmers continue to show a holding tendency as the price is most unsatisfactory. Feeding operations continue on a liberal scale. The opinion is general in the grain trade that corn and oats prices are down to hard pan.

SEEDS

Since the low prices for seeds were largely due to lack of confidence and to the sharp decline in all grain markets, partial correction of these conditions produced a slight upturn in the market for timothy and clover seed. Growers are selling sparingly but seedsmen will continue to buy only in small quantities as long as the outlook remains uncertain and money continues tight. Prices on December 4 were as follows: Toledo—1919 prime red clovers \$12.40 per bu; 1920 prime at

\$12.55; 1919 prime timothy \$3.35; 1920 prime timothy \$3.45; 1919 prime alsike \$16; 1920 prime alsike \$16.25.

FEEDS

Practically all kinds of by-product feedstuffs declined during the past week. Bran was marked down most severely. Fairly liberal stocks, with an increase in wheat feed production and continued absence of demand were the factors responsible. Latest quotations per ton (100-lb bags) in carlots are: Chicago—Bran \$36; standard middlings \$36; flour middlings \$42; cottonseed meal, 41 per cent \$42; cottonseed meal, 36 per cent \$37; gluten feed \$45; hominy feed \$42; old process oil meal \$54; tankage \$75.85.

Detroit.—Bran \$41; standard middlings \$41; flour middlings \$51; coarse corn meal \$38; cracked corn \$38; chop \$35 per ton.

HAY

Increasing receipts with buyers remaining out of the market because of reduced requirements and prices which are high compared with concentrated feeds have resulted in a dull and draggy hay market. Heavy shipments are expected from the far west and also from the southwest.

WOOL

So far as the American grower is concerned, the wool market remains in parts unknown. Sales continue abroad, but values remain low and upon the kinds of wool which middle western growers produce most extensively, the tendency still seems to be downward. The fine combing wools, however, sell to fairly good advantage. American buyers are taking part of the offerings in the Australian auctions, the low rate of foreign exchange making possible the importation of wool into this country at a considerably lower figure than is normally the case. The latest report from that country states that some of the choicest Merinos were bought by American buyers as high as \$1.28 clean landed basis. These were the best combing 64-70s and sterling exchange was figured at \$3.45. Super 70c brought \$1.15@1.25 clean landed basis, Boston. Choice

warp 60c were bought to bring to this country for about 90c clean landed basis. Some South American wools which are of comparatively low grade have been purchased to bring to this country at extremely low prices. Very little of the wool held by the state wool pools has thus far been sold.

EGGS AND POULTRY

Poultry and egg prices hold at a profitable level. Values for the former were slightly easier the last week. The U. S. Bureau of Markets report receipts of eggs by cases at the four leading cities since January 1, 1920, to be 12,025,884 compared with 13,806,458 during the corresponding period of 1919. Receipts of poultry during the same period in 1920 were 159,490,012 pounds, compared with 187,679,734 pounds in 1919.

Chicago.—Eggs, fresh firsts 75@76c; ordinary firsts 68@73c. Poultry, spring chickens 25½c; hens, general run 20@25c; roosters 18c; geese old and young 27c; turkeys fancy 35c.

Detroit.—Eggs, fresh candled 78@80c. Live poultry, spring chickens 25@26c; leghorns 20@22c; hens 24@25c; small hens 18c; roosters 18c; geese 25@26c; ducks 30@32c; turkeys 37@38c.

BUTTER

Butter markets appear not to have hit bottom yet. Under-grades were money losers as storehouses refuse in many cases to make further loans and sales are often forced. Fresh butter receipts were lighter this week than last, fortunately, or the decline in prices might be more severe and the losses heavier. The storage situation grows worse each day, particularly for those holding poor faulty butter. Danish offerings were heavy in New York this week, with two more cargoes in. Closing prices on 92 score butter on December 3 were as follows: Chicago 50c; Philadelphia 54½c; New York 51½c; Boston 52c.

POTATOES

Trading began to slow up over a week ago, growing gradually worse until business almost reached a stand-

still. Old-time operators say they never experienced a slower market. Prices declined at Chicago to the low range of \$1.40@1.70 per cwt. for Northern whites, with Rurals selling at around \$1.90. However, by December 3 the market showed material gain in strength, prices advancing from 5@15c per cwt. on all stock. Shipments have dropped off. Detroit.—Michigan stock is quoted at \$3.25@3.50 per 150-lb sack.

APPLES

Apple market continues unsteady and weak. Boxes have suffered more during the past week than barrels, attributable largely to heavy offerings of "C" grade stock. A-2½ Baldwins f. o. b. New York shipping points reached \$4@4.25 per bbl, while prices in eastern consuming markets were higher at \$4.50@5.75.

DETROIT CITY MARKET

Market is very slow. Potatoes generally selling at \$1.25; apples 50c@1.50; cabbage 40@50c; carrots 50@75c; onions, dry \$1; parsnips 75c@1.25; pears 60c@1.25; squash 75@90c; turnips 75@1.50; eggs \$1@1.10 per dozen; poultry 27c per lb. whole-sale basis.

STATE FARM BUREAU MARKET REPORT.

Wheat is moving more freely to elevators. The trend of the market is upward. Lake traffic will close shortly, which will prevent more Canadian wheat coming to our markets on low water rates. Wheat now moving to Chicago by vessel not expected to have a depressing effect on the market. Corn market is higher, in sympathy with other grain. The Rye market is firmer, and advanced about three cents during the week. Hay market is dull and draggy. Terminal market overloaded. The belief that cold weather in large hay-consuming sections should open up outside shipping around January 1 is based on reports of stores of hay on hand in feeding sections. The bean market is firmer. The first car of Grimm alfalfa is being unloaded at the Lansing warehouse. Seed of high quality and purity. Much Grimm will be off color this year due to unseasonable rains and snows in Grimm producing sections. Seed purchased by the farm bureau is of the highest quality obtainable.

BUY A BARREL OF FLOUR.

A "Buy a Barrel of Flour" movement designed to force mills to enter the market for wheat and thereby advance the price of that grain was started at Chicago the past week, at the Farmers' National Grain Dealers' Association. It is reported that the millers may cooperate in the movement and try to make it a national affair. The wheat situation is rapidly getting to the point where a statement from a man of national prominence and importance known for straight line thinking along economic lines to the effect that the United States was in grave danger of over-exporting wheat and there might not be sufficient flour to go around before the new crop is harvested, the price might be advanced in a sensational manner by the concentrated purchase of flour.

NEWS OF THE WEEK.

(Continued from page 718). and West Virginia.—An organized fight against the Volstead dry law will be made by wet interests.—Intermittent explosions of six and ten-inch shells at Fort Hamilton injured many persons and did much damage to residence property in Brooklyn.

Tuesday, December 7.

PRESIDENT-ELECT HARDING announces that he probably will call a special session of congress soon after his inauguration.—The Detroit United Railway offers to lease its local lines to the city on a six per cent basis.—President Wilson's message is sent to congress.

COMING LIVE STOCK SALES.

Aberdeen Angus—Michigan Aberdeen Angus Breeders' Association at M. A. C., East Lansing, Michigan, January 14, 1921.

Live Stock Market Service

Markets for December 8.

DETROIT Cattle.

Market strong to 25c higher.

Best heavy steers \$ 9.50@10.50
Mixed steers and heifers 8.50@ 9.75
Best handy wt bu steers 7.00@ 8.75
Handy light butchers 6.25@ 7.00
Light butchers 5.00@ 6.00
Best cows 6.50@ 7.75
Butcher cows 4.50@ 6.00
Common cows 3.75@ 4.50
Canners 3.00@ 3.50
Choice bulls 6.00@ 7.00
Bologna bulls 5.50@ 6.00
Stock bulls 4.50@ 5.00
Feeders 7.00@ 8.00
Stockers 5.50@ 7.00
Milkers and springers.... 65@ 100

Veal Calves.

Market steady on good grades; all others very dull.

Best \$13.00@14.00
Others 4.00@12.50

Hogs.

Market steady to 10c higher.

Mixed hogs \$10.00
Pigs and lights 10.25

Sheep and Lambs.

Market dull and 25c lower.

Best lambs \$11.00@11.25
Light to common 4.00@ 7.50
Yearlings 8.00@ 8.50
Culls and common 1.50@ 2.50

CHICAGO

Hogs.

Estimated receipts today are 25,000; holdover 9,283. Market strong to 10c higher. Bulk of sales at \$9.70@9.95; tops \$10.05; heavy 250 lbs up medium, good and choice \$9.75@10; medium 200 to 250 lbs medium, good and choice at \$9.80@10.05; light 150 to 200 lbs common, medium, good and choice \$9.65@10; light lights 130 to 150 lbs common, medium, good and choice \$9.35@9.85; heavy packing sows 250 lbs up smooth \$9.50@9.75; packing sows 200

lbs up rough \$9.25@9.50; pigs 130 lbs down medium, good and choice \$8.75@9.

Cattle.

Estimated receipts today are 10,000. Market steady to strong; calves are 25c lower. Beef steers medium and heavy weight 1100 lbs up choice and prime \$13.50@15.75; do medium and good \$9.50@13.50; do common \$7.50@9.50; light weight 1100 lbs down good and choice \$11.25@15.40; do common and medium \$3@11.75; butcher cattle, heifers, common, medium, good and choice \$4.85@12; cows, common, medium, good and choice \$4.75@10.50; bulls, bologna and beef at \$4.50@9.25; canners and cutters cows and heifers \$3.50@4.75; do canner steers \$4@5.50; veal calves light and handyweight, medium, good and choice at \$10@10.75; feeder steers common, medium, good and choice \$6.50@10.25; stocker steers common, medium, good and choice at \$4.50@8.75; stocker cows and heifers common, medium, good and choice at \$4.25@6.25; western range cattle, beef steers medium, good and choice \$8@11; do cows and heifers medium, good and choice \$5.40@9.

Sheep and Lambs.

Estimated receipts today are 16,000. Lambs 15@25c lower; sheep steady. Lambs 84 lbs down medium, good, choice and prime \$10@11.15; do culls and common \$7.50@9.50; spring lambs medium, good, choice and prime \$7.50@9.50; ewes medium, good and choice \$4@5; ewes cull and common at \$2@3.50; breeding ewes full mouths to yearlings \$4.50@6; yearling wethers, medium, good and choice \$9.50@11.25.

BUFFALO

Hog prices here today are slightly higher than Tuesday, \$11.25 being the prevailing quotation, lambs are higher at \$13; best calves bring \$15.50; the cattle market is steady.

International Live Stock Show

(Continued from page 745).

The barrow show was large in numbers and there was no lack of excellence. The Chester White breed show was the weakest of the leading breeds, nevertheless its breed champion, shown by the Iowa State College, won the grand championship so that the honors were well distributed. Although this barrow was very smooth and trim, he lacked some of the stretch, scale and avoidupois of some of his competitors for the grand championship honors. The Poland China champion weighed 720 pounds. The Berkshire champion also was an excellent sort. The trend toward placing the barrow ribbons upon the "big type" was still more noticeable this year. Naturally the best individuals were found among the more mature barrow classes as this modern type does not round out into the most ideal barrow conformation until some age has been attained.

The International is out of season for the most successful show of breeding swine. Nevertheless, all of the leading breeds were represented with high-class displays. The Duroc Jersey grand championships both were awarded to Ira Jackson, Tippecanoe City, Ohio, on Foust's top Col. and Joe's Orion Nellie V, both of which have been prominent prize winners elsewhere this year. H. A. Derenthal, of Wykoff, Minn., won both of the Chester White grand champion prizes. A. J. Adams, Litchfield, Mich., was in the Chester White competition with a full herd, and won a number of prizes, including third on senior yearling boar, fourth on senior boar pig and junior boar pig, second on aged sow, junior yearling sow and senior sow pig, fifth on junior sow pig, third on boar and three sows over one year, fourth on young herd, second on produce of sow and third on get of boar. The Poland China show was stronger than usual at the International. Both grand championships again went to a single exhibitor, E. E. Mack & Sons, Thomasville, Ga., being the winner. Rookwood Farm, Ames, Iowa, and Wendover Farm, of New Jersey, divided most of the honors in a splendid show of Berkshires. The Hampshire show aroused enthusiasm among the advocates of that breed. The large Yorkshire show was judged by E. N. Ball, Hamburg, Mich., who also showed Tamworths, winning championship on the boar, Huron King.

As in the horse and hog rings, the sheep display gave evidence of closer culling, resulting in smaller classes of more uniform excellence throughout. The wether grand championship again went to adorn the banner of the Pines Farm, West Point, Indiana, on a yearling Southdown purchased from the United States government flock. The combination of the government Southdown flock breeding and Tom Bradburne fitting seems to be invincible as the grand championship has been captured several times on such an entry.

The sensation of the show of breeding sheep was the Hampshire display universally declared the best show of the breed ever held in America. Most of the prizes, however, fell to the imported entries of Walnut Hall Farm, Donerail, Ky., and J. N. Camden, Versailles, Ky. The yearling ewe class numbered twenty-five. The championships and the flock prize were won by Camden. This flock entry was probably the most remarkable aggregation of Hampshire individuality ever brought together in an American show yard.

Both Shropshire championships went to the flock of Donald Woodward, of Leroy, N. Y. The Oxford show was up to International standards, the most outstanding individual being the aged ram, home-bred, shown by R. J. Stone Sons, Stonington, Ill. The Southdown show fell below the records of the last two years in point of numbers. Both championships went to Robert McEwen, London, Ontario.

Competitors in the Rambouillet show declared it the hottest contest in the International in at least five years. Orth and Matthews, Ada, Ohio, won the ram championship on their two-year-old. The F. S. King flock, Laramie, Wyoming, produced the champion ewe and also carried off the flock prize.

The grand championship in the show for carlots of cattle was awarded to E. P. Hall, Mechanicsburg, Ill., who has won that honor five times. The cattle were Angus yearlings. His two-year-olds also won the championship for their age and reserve to the grand championship. A record which Mr. Hall established on a preceding occasion.

Hampshires triumphed in the carlots

of hogs by winning the grand championship. This carload was shown by J. M. Ballard, Marion, Indiana, and it was reported that they were so growthy that it was necessary to show them out of the proper class for their age. The Southdowns were victorious in the sheep carlot division. Heart's Delight Farm, Chazy, N. Y., showed a carload of grade Southdown lambs which won the championship.

FARM BUREAU NEWS.

THE hay department of the State Farm Bureau is organizing its work with the view to doing business direct from producer to consumer. The need of an organization friendly to the farmer to handle hay in this year of overproduction is accorded by the hay department in a bulletin sent out last week which says:

"Last week the terminal markets were giving out the information that hay was scarce and their views were that prices would be considerably firmer, gave the shippers the impression that hay should be loaded quick and sent to the market. Today, from these same markets, we have the information that their tracks are badly congested and the market has declined from \$3.00 to \$4.00 per ton, with prospects of still further losses to the shippers before the congestion is cleaned up.

"Has it ever occurred to you that statistics show less than ten per cent of the hay going into the terminal markets grades No. 1 (?), the majority grades No. 2 and No. 3. The range of price between No. 1 timothy and No. 3 is often as great as \$7.50 per ton. Should this be? It should not."

Thomas B. Buell, manager of the Elevator Exchange has tendered his resignation to take effect immediately. Mr. Buell has taken the responsibility of the management of Mrs. Dorr D. Buell's farm, and this, combined with the management of his own farm, and numerous business connections, he says makes it impossible for him to continue with the Elevator Exchange. Directors of the departments expressed their regret at Mr. Buell's departure, at an informal meeting, in these words: "This meeting expresses the appreciation to Mr. Buell of the pleasant relations his co-workers have had with him and the work that he has done in the interest of the farm bureau, and expresses its regret at his departure from active work in the organization and assures him that our interest goes with him in whatever he may attempt in the future."

VETERINARY.

Shy Breeders.—I have two Jersey cows which came fresh last spring. Since then they have been in heat and regularly served by our herd bull, every three weeks, both fail to get with calf. F. S., Waterloo, Ind.—Dissolve two ounces of bicarbonate of soda in one quart of tepid water and with a fountain syringe flush vagina three hours before cow is served.

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CHAS. HOFFER, Columbia City, Indiana



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Cockerels White Leghorn, Black Minorcas, Buff Minorcas, Rhode Island Reds, at reduced prices to make room. Hatching eggs in season. **Paradise Poultry Yards, Box 565, Halfway, Mich.**

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100 Rose Comb R. I. Red cockerels at \$3 each. Good in color, type and size and from heavy laying stock. 5 for \$14. Satisfaction guaranteed or your money back. We have hundreds of good cockerels worth up to \$25 each and make this special offer to move some of them quickly. Order at once from this adv. as this offer may be withdrawn at any time. **INTERLAKES FARM, Box 39, Lawrence, Mich.**

FOR SALE Rose Comb Brown Leghorn cockerels \$2 each. White China Geese. Both sexes. **D. E. SPOTTS, Hillsdale, Mich., 238 Lewis St.**

JOHN'S Big Beautiful Barred Rocks are here hatched quick growers, good layers, sold on approval \$4 to \$8. Circulars photos. **John Northon, Clare, Mich.**

Rhode Island Reds R. C. Standard bred cocks and cockerels \$3 to \$5 each. **Address BURT Sisson, Inlay City, Mich.**

S. C. Black Minorca Cockerels, from pen headed by our \$50, 11½ lb cock bird. These cockerels will be very large with quality. **R. W. Mills, Saline, Mich.**

Silver, Golden and White Wyandottes. A few good cockerels for sale at \$5.00 to \$15.00 each. **O. W. BROWNING, R. 2, Portland, Mich.**

Trapnested Pedigreed White Wyandotte cockerels from hens with records of 24 to 286 mated to cock from a 281 egg hen. **C. R. HANES, Schoolcraft, Mich.**

White Wyandottes cockerels from winners. \$3 and \$5 and worth it. **J. H. ADAMS, Litchfield, Mich.**

White Chinese Geese, White Pekin Ducks, R. C. Br. Leghorns, Order early. **Mrs. CLAUDIA BETTS, Hillsdale, Mich.**

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The Michigan Farmer, 1 yr..\$1.00 Today's Housewife, one year.. 1.00	All for \$1.50
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The Michigan Farmer, 1 yr..\$1.00 McCall's Magazine, one year.. 1.50 Woman's World, one year.... .50	All for \$2.05
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The Michigan Farmer, 1 yr..\$1.00 Mothers' Magazine and Home Life, one year50 Little Folks' Magazine, 1 yr.. 2.00	All for \$2.25
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The Michigan Farmer, 1 yr..\$1.00 Christian Herald, one year.... 2.00 Woman's Home Companion, 1 year 2.00	All for \$3.75
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