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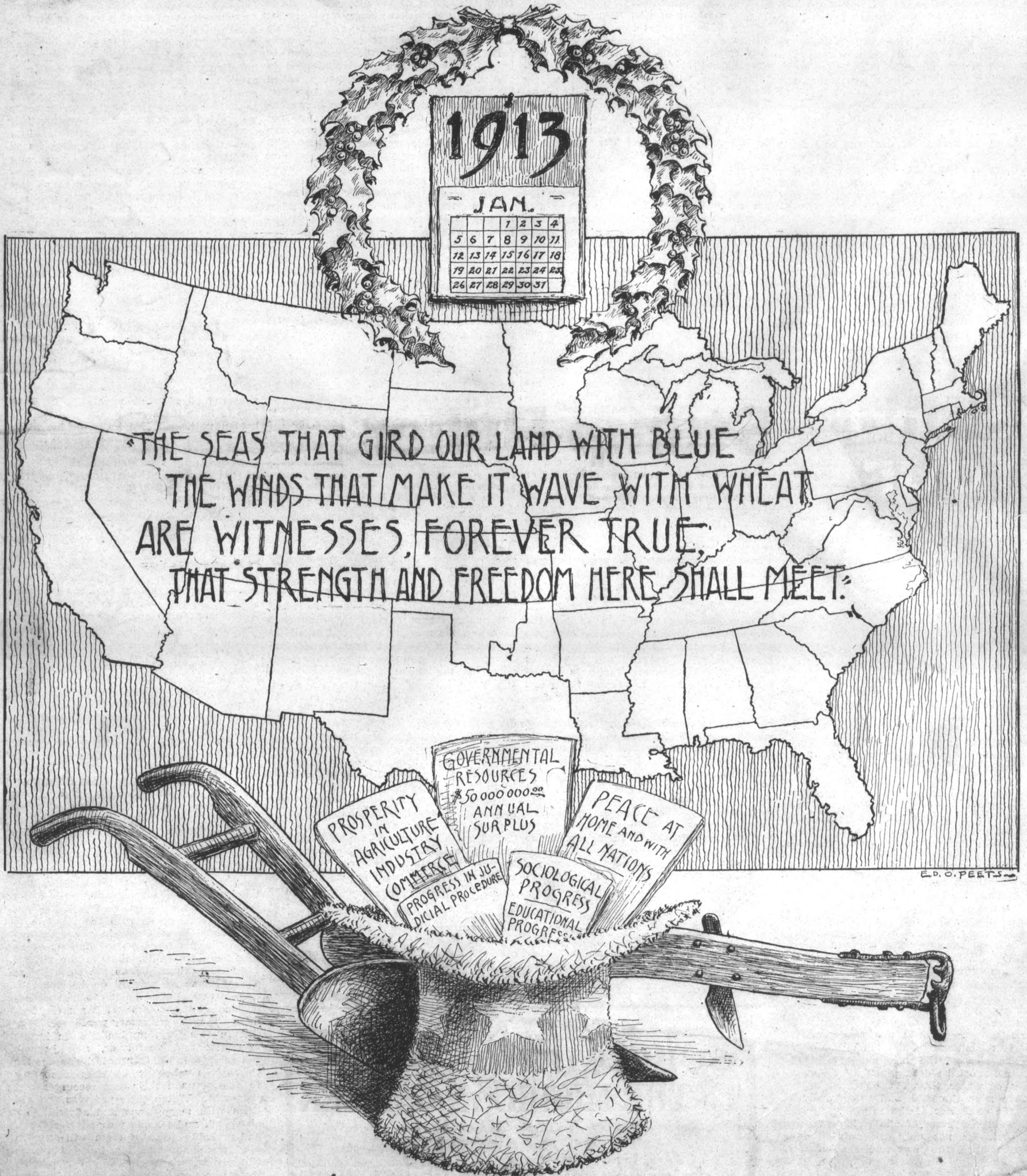
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Read "The Nomid System of Distributing Farm Products" beginning in this issue.

Maintaining Farm Fertility--II.

It is obvious that work in the direction of amending the physical qualities of land is the first guiding principle in successful crop growing. Thorough drainage and the incorporation of an adequate supply of humus-forming material with the soil is a thing to which we do not pay enough attention. One reason, undoubtedly, is the cost of labor, but a less justifiable reason is the habit we have of spreading our labor out over too wide an area. If every farmer could be induced to study some of the excellent effects of concentrating capital and labor on land, as has been practiced in England, Germany, Holland and Denmark, it would prove of incalculable benefit in illustrating some of the possibilities now lying dormant in our soils.

Thousands of acres of our naturally productive lands are almost useless for farming purposes because the moisture conditions are not right. This leads to drainage on one hand and the conservation of moisture on the other. Of course, every farmer is not in a position to get his soil in the best physical condition to conserve moisture, but he should plan his work so that what he is able to do from year to year shall fit nicely into a permanent system of drainage and form a part of it. Drainage and moisture conditions go hand in hand and if these conditions are right, it is easy to control the heat and texture of the soil by cultivation and plowing under humus-forming materials.

Drainage is a problem that requires study, observation and a lot of experience. Money invested in a good system of tile drainage pays good returns, but a vast amount of money has been wasted by putting in drains that had no outlet—drains that were not laid true to grade or drains that were laid too deep or too shallow. I wish to go over briefly some of the elementary principles of drainage. Every line of tile should have a sufficient outlet that is lower than the land to be drained. It should strike the running stream at an angle in the direction in which the stream is running. The outlet should be where the rise of the water over the mouth of the tile will not back up, or if so only for a short distance. Never empty a line of tile into the stream at right angles, or at an acute angle up stream, but always down stream, so that the movement of the water when it is covered has a tendency to draw the water out of the tile.

No tile should ever be placed in a stream by guess work, or even by a water level, except perhaps for a short distance where there is ample fall. Any considerable drainage system should be surveyed by a competent surveyor, grade stakes located and the grade followed the entire length of the drain. If for any reason one tile is laid below the proper level, the portion below will fill up with silt in a very short time, and the capacity of the whole line will be measured by the restricted capacity of the one tile. If it is half-filled up, then half of the capacity of the line above is lost; for its ability to deliver water will be determined by the portion of the one tile that remains unfilled. Any failure to find the accurate grades and lay the tile properly means the taking up of that portion above some time in the future and after more or less damage has been done to the entire system above the point of failure.

Essential Factors in Economic Drainage.

A man should understand the character of the soil which it is desired to drain. Soils may vary in this respect. Some are hard clay through which water passes very slowly. Others are gravelly or sandy soils through which water passes very rapidly. Some land requires drains as close together as 40 feet. In other soils drains laid 100 feet apart may be amply sufficient. If the drains are quite shallow the tile may be smaller, but there must be more of them. In more porous soils, the deeper the tile the farther they will draw the water from, and the fewer lines are necessary for perfect drainage of the land.

The size of the tile, particularly the mains, must be determined by the quantity of water they are expected to remove from the land, and to some extent to the character of the rainfall. In laying out a system of tile it is necessary to consider not only the rainfall that comes upon the land and its character, whether in showers or in floods, but whether the land is so situated that it must take care of the rainfall on adjoining lands. There are various factors

which influence the character of the land to be drained and the services of a skillful drainage engineer are often necessary, for it is a serious mistake to put in an eight-inch main when a ten or twelve-inch one is required. Again, the size of the tile will depend upon the fall. Where there is a fall of an inch to the rod or six inches to 100 feet, a much smaller tile is required than where there is a uniform fall of but a half or quarter inch to the rod. The greater the fall, the more rapid the stream and the smaller the size of tile required. Never put in laterals at right angles to the main line. If you do the lateral will dam up until the main line has begun to empty itself. Put them in at an acute angle and always down stream with the current of the main line.

Amount of Fall Required.

Sometimes the question of how much fall is absolutely necessary to drainage. A very slight fall will drain land with the tile well located. For a short distance tiles will work on land nearly level; but the movement will be slow. The pressure of the water in the soil will force water through tiles, even if there is apparently no fall, but the greater the fall the better. Very frequently it is necessary to make fall by sinking the main lines to a greater depth than would be necessary or desirable for the drainage of the land. Then, if the laterals enter the level place at three feet and the main lines laid three and one-half feet it is possible to secure six inches fall, or sufficient for twenty rods, although more fall would be much better.

Putting in a complete system of tile drainage costs a lot of money. In some instances it means an investment of from \$30 to \$40 to the acre, or more than the land is worth after it is put in. We must view tile drainage with the same business sagacity that we would any other farm investment. The trained business man with limited means seeks investments which are safe and bring quick returns. Unless we can secure similar results we should not invest in tile drainage.

Where Drainage is Most Needed.

The field that is fairly productive, that contains a slough, or a wet portion, causing a set-back in the work of the farm, should be given first attention. By draining those wet portions of the field the yield will be increased, without adding to the cost of tillage and seed. By trying out the work on a few wet acres, we can find out what tile drainage is worth in increasing the productivity of our farms and be prepared to do more intelligent work in laying out new systems and making extensions to our first.

The Proper Depth to Lay Tile.

In determining the depth to lay the tile we must carefully consider the type of soil and the fall of the land. On a coarse sandy or gravelly soil where the object of the drainage system is to remove the water from around the plant roots, I would lay the tile three or four feet deep, but on a fine clay soil the tile should be laid as shallow as is consistent with the fall of the land and the climate of the country; for on clay soil the chief object is to remove the water from the surface as rapidly as possible after every rain to prevent it injuring the crop, and to do this the water must have easy access to the tile. The water courses should become established and the whole system reach efficiency in two or three years.

For an eight or ten-acre field, where very little water from higher land settles, a five-inch main tile will carry off water fast enough to prevent injury to the crops. For the 12 or 15-acre field a six-inch main line should be large enough to carry still more water if we should desire to extend the system to other parts of the farm. A well-planned system of tile drainage should be as enduring and permanent as the land itself.

Where it is necessary to utilize open ditches for outlets great care is necessary to prevent them from filling so that the water might rise above the level of the outlets that flow into them. I have not attempted to tell all there is about tile drainage, but simply to present a few of the guiding principles, in the hope that if any of our readers are interested, they will ask for further information concerning any phase of the work.

New York.

W. MILTON KELLY.

FARM NOTES.

Anthracnose of Beans.

Can you give me any information about the common bean blight?
Lapeer Co. C. O. S.

This so-called bean blight is due to a fungous disease known as anthracnose. There is no treatment of seed or other remedy, except the selection of seed free from the spores of the disease. There is a popular impression among farmers that anthracnose is the result of unfavorable weather conditions. It is also a well-founded opinion that the cultivation of beans while they are wet would tend to produce this disease, commonly called blight. As a matter of course, however, this disease is not directly due to weather conditions, for if the spores are not present in the seed or in the soil the most unfavorable weather conditions will not cause its development. The working of beans after they are wet, however, provided they are affected with this fungous disease, distributes the spores about upon healthy plants at a time when conditions are favorable for them to adhere to and become established in other plants not previously affected.

Consequently the disease may be worse in a wet than in a dry season, even though the infection may be present in the seed which is planted. As above noted, the best method of treatment is to secure seed which is free from the brown spots which are more or less characteristic of this disease. This advice will also apply with regard to other destructive bean diseases, such as bacterial so-called, which is a very similar disease and from the standpoint of the farmer may be considered as practically identical with anthracnose, so far as results and treatment are concerned.

Soil Analysis.

I want to use some fertilizer next spring. Is there any place I can send a sample of the soil to have it analyzed? I will know what it needs.
Clare Co. D. L. F.

An analysis of the soil would not be a desirable guide as to the kind of fertilizer which might be most profitably used upon it for the reason that such analyses do not give information as to the availability of the plant food nutrients in the soil for the use of growing plants. This factor was overlooked some years ago when soil analysis first came into prominence as a possible means to the end of advising us as to the best formulas of fertilizer to use, and the surprising result was that the chemists found that practically all soils of value for agricultural purposes contained sufficient of the principle elements of plant nutrition to produce maximum crops for an indefinite term of years. But the availability of these plants foods is a very variable factor in different soils, hence the doubtful value of a chemical analysis as a guide in the use of fertilizers.

Apparently nature has taken this means to prevent soil exhaustion, viz., keeping the plant nutrients in the soil locked up in unavailable combinations and making them slowly available from year to year by natural processes. For this reason it is a far more satisfactory plan to try different formulas and quantities of fertilizers on the land itself, and in this way determine accurately which is most profitable to use. In a general way one can be guided by the kind of soil and the crop to be grown, but accurate information on the formulas and amounts of fertilizers most profitable to use can best be secured by experimental trials.

There is no authority on this subject so good as the soil itself, hence the wisdom of putting the question directly to the land.

KEEP THE BOYS ON THE FARM.

What shall be done to keep the boys contented, until their views of life and of their own abilities shall have become more practical? What the boy can do to the best advantage is a difficult question, in many cases, to decide. He has possibly, many idle fancies. In his youthful ardor he imagines that he may not be able to accumulate the wealth of a Vanderbilt or a Carnegie, or attain to the statesmanship of a Seward or a Gladstone, or the oratory of a Webster or a Waterson. He may have been a frequent visitor at the city home of some affluent relative. The elegance which he there beholds presents such a striking contrast to his home on the farm that he at once determines to adopt the trade or profession which enables one to live so luxuriously. The stations in life which our boys will be best qualified to fill is a question which should be decided only after mature deliberation and profound consideration. Nor should they be urged to follow any particular calling, however well fitted for it in our own estimation, contrary to their own inclinations. First, give them as good an education as is practicable, which will develop them, and aid very much in determining their proper sphere in life. Better, perhaps, let them act independently at first, and experience may teach them that they are acting unwisely. They must then be more ready to accept advice.

Make the Old Home Attractive.

Perhaps the father is living in the old house which was occupied by his father before him; everything about it is unattractive. He has been moderately successful in making money, and the old place suits him well enough. He imagines that he is contented and happy, without ambition for better things and the idea of making home attractive and pleasant for the children never enters his head. He is at a loss to understand why the boys dislike farming. He would like to have them follow along in the old beaten paths, to live in the same style and manage the farm as he has done. The boys say to themselves that there is a great deal of hard and unpleasant work on the farm, and but little about the home that is attractive to them. They go up to the village, where they may observe the neat little cottage of a mechanic, a pleasant, bright home surrounded by trees, shrubs and flowers, and everything inside and out wearing an air of comfort. He may be going to make an evening call upon one of the girls. Books, papers and magazines are to be seen, inviting perusal, and the conclusion is logical that such men are getting more enjoyment out of life than their father on the farm, with all his money. Now is it not advisable to make the home reasonably attractive? To accomplish need not require the expenditure of a large sum of money. Often the old place, with a moderate outlay may be transformed from an unsightly, uninviting home to one quite the reverse, and very likely the old people, when the change is made, will be equally as demonstrative in their satisfaction as will the children.

The home now made pleasant and attractive, the children will enjoy it, and show their appreciation of it by being more useful and taking a greater interest in all that is going forward on the farm. If they leave it they will always have pleasant memories of it and enjoy returning to it. Give them plenty of good reading matter—if means allow it—provide a good phonograph, with a lot of good records—the cost will be not large in comparison with the pleasure to be derived from them—in the gratification of seeing the boys spend their evenings at home rather than in the village.

Another thing: Teach the boys, before they become of age, to do business for themselves. Let them go to market occasionally and dispose of the farm produce and make necessary purchases. They will in this way, gradually form habits of thrift and usefulness, and become better fitted to transact business for themselves when it becomes necessary to depend upon their own resources and judgment. Watch their progress and aid them with suggestions and advice. But above all, make home pleasant for them, and probably some of them will stay on the farm and care for the old people when they are compelled to relinquish their many duties, grown harder by time and added years.

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Observations On Northern Michigan Agriculture.

THE northern counties of the lower peninsula of Michigan are not interested in soil conservation and forestry. The forest fires that sweep through are disheartening when reforestation is attempted or suggested on cut-over lands. There are notices posted on trees on the roadside warning campers and hunters to put out camp fires, and altogether those devastations are something that strikes fear and terror. Many owners of cut-over areas would be glad to have the pines grow up and where protected the growth of young trees is quite notable. The very nature of the pine, with its falling cones and needles, makes the menace of fire great. On the forest reserves in the west, fire strips are cut through, which makes it possible to maintain the burning to a restricted area. Sheep are not objected to in the forest reserves, except when overstocked.

Sheep in the Northern Counties.

There is always a glamour of greatness about a sheep ranch and the word ranch is associated with greatness when it is simply the Spanish word for farm and the area may be very small. The aggregate of the small flocks of sheep is greater than the large ones and Michigan today has opportunities for men of small means to embark in the sheep business. There is practically unlimited range on the cut-over lands and on the so-called plains, which are light sandy tracts with considerable jack pines growing.

The settler who will secure a home farm on the hardwood soils to grow feed for winter will very closely correspond to the western sheepman with his home ranch and alfalfa. There will be a much longer feeding period in Michigan but some countervailing advantages. An experimental flock of moderately close wool ewes, mated with Shropshire or Oxford rams, ranged in the summer and fed in the winter, would do more to solve the problem of these sections than anything else I know of. Any country where grass grows and deer abound, if dry, will produce sheep. In fact, that is the historical development of countries first grazing and then agriculture since the days of Abraham and Job. Sheep would be of necessity close herded, to protect the crops of settlers as well as to afford protection to the sheep from dogs and lambs from foxes. At this point is the connection between sheep and forest fires, viz., that grazed areas are remedial of fires spreading. Near Hillman, in Montmorency county, one farmer sold spring lambs in September, weighing 118 lbs. Co-operation in herding might be accomplished as 500 ewes is about the minimum of flock to profitably employ a herder. If lambs could not be finished on the range there is a large demand for feeders close at hand in this state.

Quack Grass on the Plains.

Every created thing is said to have some useful purpose and quack, which is the stock question to fill space in cheap farm papers, flourishes like the wicked or the green bay tree, whichever figure of speech may apply to the sandy plains land. John J. Ingalls called grass "nature's forgiveness that covers the naked soil." These plains soils need lots of forgiveness and quack, so despised, is really a nutritious grass and can live on soil that will starve out a homesteader and will make wool and mutton. Prof. Bessey recommended quack grass for the sand hills country of Nebraska and Colorado. No person has given commendation on the plains soil but it is there and no one seems to dispute its possession. A weed is said to be a plant out of place and may be the quack grass has found its place at last.

An Agricultural Expert.

H. G. Smith is the United States Department of Agriculture agent, with headquarters at Alpena. He has several counties under his supervision, viz., Alpena, Montmorency and Presque Isle. Mr. Smith is a Wisconsin agricultural graduate who knows farm matters path from the farm standpoint and from a scientific attitude. He has assisted in getting alfalfa started and preaches the gospel of lime and inoculation. One big-hearted far-seeing Alpena county man has offered 500 tons of lime crushed, free of charge, to try out on the acid soils. Mr. Smith also sees a great future in these light soils growing vetch seed for market. Most of the vetch seed is now imported from Russia, and costs around \$8 per bushel. The vetch is a legume and a soil improver like the clover, and especially adapted to light soils. The vetch may take the place of the pea, which

has "gone wrong" apparently, in Michigan.

About Peas.

There is some occult condition that prevails in the pea crop. Every country must have its legume and protein crop. Alfalfa, cowpeas, soy beans, etc. There was a time in Michigan when the field pea was accorded a prominent place in agriculture, but of late years it has lost its vigor and seems on the verge of failure. Near Hillman, in Montmorency county, one careful farmer harvested only three bushels per acre, when the crop should have yielded 25 bushels per acre. The importance of the pea crop for soil improvement, a cash crop and for feeding sheep and hogs in a light soil northern county is scarcely appreciated by residents of the near corn belt. The Thumb district of Michigan has had a similar experience, also the west shore counties where peas were an important crop for canning. I was much interested in what Gen. Sears, of the Sears-Nichols Canning Co., of Oceana Co., told me of their experience. For the planting season of 1912 a carload of seed peas raised in Montana was used. The previous season had been one of almost failure. This year the Montana seed showed most encouraging results, and already other canning concerns are arranging for Montana seed. An apparent revitalizing in the seed raised under conditions of higher altitude and sunshine takes place. An agricultural commissioner in Michigan could take up these questions instead of allowing years of loss and disappointment to agriculture. In the absence of any other authority the Michigan Bean Jobbers' Association has

teams and living, really retards the development of these lands, because the settler with limited means finds the cost too great to undertake and sometimes in sheer desperation is obliged to settle on the poorer land. If Michigan had as advanced ideas of settling up her vacant land as prevails in the Canadian Northwest, by assisting the settler to get a start, there would be a vastly increased number of prosperous farmers, where there are none now. One of the most remarkable object lessons in governmental creation of wealth is seen in the irrigation districts under federal government reclamation. Here is a sage brush valley, supporting some rabbits, sage hens, and maybe five acres would pasture a steer, and even this estimate may be exaggerated. Government agents and engineers determine a fertile soil and water can be had to irrigate. To illustrate, the cost of the irrigation project will be \$24 per acre and this improvement assessment becomes a lien on the land in ten equal payments without interest. The desert land, with government assistance, is advanced to \$25 and when the project is completed the land is worth \$50 or \$75 per acre. The difference between the \$25 and the selling price represents the gain to the settler, who becomes very fond of his government when blessed with such advantages.

Oil.

There is something fascinating about what is deep in the earth where even the alfalfa roots do not penetrate. In Montmorency county are fields of mounds like hogs. A bottomless oil can imbedded in one of these mounds, confining the gas to a small opening burned for several weeks. The gypsum and shale, together with the syncline or trough-like



Motor Truck Transporting Apples on L. N. Howard's Oakland County Farm.

undertaken to combat the deterioration of the bean crop owing to anthracnose and other devitalizing agencies.

Lime.

There is a strong suspicion that the lack of lime in sandy soils has something to do with the failure of the legumes. Even the once famed crops of clover seed in these northern counties on the sands seem to fade away. Mr. Smith, the Agricultural Department representative, finds most of these soils acid. Among the few desirable berry plants that have defied the attempt to domesticate them is the huckleberry. It is generally understood that the huckleberry will not thrive on a neutral or alkaline soil but demands an acid soil whether on the sand or on the swamp soils. Nature, however, has been reasonably kind in providing enormous supplies of lime rock and marl deposits to cure the ills of acid soils. Many places the clay subsoil is from 12 to 18 inches under the sand and these clays are well supplied with lime and the other mineral elements essential to fertility. These lands with clay subsoil are very promising from the standpoint of alfalfa growing and since the roots of this legume are longer and more penetrating with the warm sandy surface soil, which does not "heave" as does the clay, it is a fair conclusion that here is some of the cheapest alfalfa land in the state.

Some Improvements.

The lumber firm of Kneeland, Linden & Bigelow are farming several hundred acres of soil originally covered with hardwood timber. They aim to produce supplies for their lumbering camps. The important point is that the grasses produce fat beef animals and this is one of their lines of production. The probable cost of putting in cultivatable condition, not free of stumps, however, of these cut-over hardwood lands, approximates \$12 per acre. The increased cost of tools

formation between two ridges or anticlines of the strata, looks very promising for finding oil. Already leases have been made based on 10 per cent of the oil output. Michigan is the owner of considerable land in this county which has reverted to the state by non-payment of taxes on land denuded of its valuable timber. It would be poetic justice if the state, after permitting itself to be robbed by a mistaken system of allowing its wealth to be exploited rather than conserved for future generations, to have untold wealth in the apparently undesired land thrust back on it.

To the open minded these northern counties are mighty interesting from many points of view. The soil, the mineral wealth and the economic development of these resources for the benefit of all the people. The most striking opportunity, however, of all and with conditions already ripe is the sheep business. If Michigan's dairy development had been given as little consideration as is given that of sheep it would be today a laggard. The swine and sheep raiser have just a little right to be jealous of the state's attention to the cow and to the neglect of other animals.

Shiawassee Co. JAS. N. McBRIDE.

HARDWOOD SHAVINGS IN MANURE.

Are hardwood shavings, which are often found in manure, beneficial or otherwise, to the land?

Wayne Co.

P. A. R.

Hardwood shavings, as frequently used as an absorbent in stable manure, serves this purpose fairly well and produces no injurious effect to the soil in the quantity used. On hard clay land they may produce a beneficial mechanical effect. The hardwood shavings will decay and form some humus in time, but nitrification will not be repaid enough to make them of immediate value in the manure except in their capacity as an absorbent.

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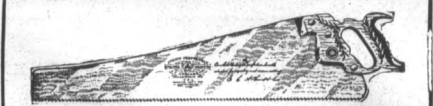
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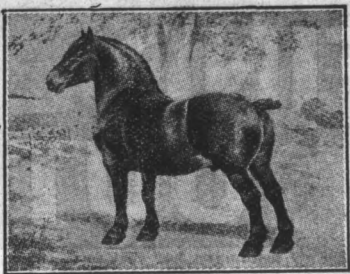
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Write for descriptive booklet

Raising Beef Cattle on the Farm.

MANY American farmers are prone to follow customs that prevail in their communities. They are, to a great degree, imitators of the methods followed by others with whom they associate, instead of being independent managers of their own business. It seems to be more agreeable to do as is the custom of their respective neighborhoods than to hew out a way, so to speak, that would be more profitable to them, or be more conducive to their best interests. The statement applies in many cases where it is the custom to keep cows and follow dairying where one's location, the character of the farm and many other things make it difficult to follow that kind of business. In many cases the business is not profitable under certain conditions, and yet it is followed from force of habit, rather than because it pays better than any other line of farming could be made to pay by intelligent management.

Old and New Conditions.

Back in the sixties mixed farming was almost universally practiced in Michigan. Nearly all the farmers kept a small number of cows, raised their calves and had, in addition to the grain crops and wool, some beef animals to sell. Those were years of great prosperity, and many an elegant, though old-fashioned farm house, stands today as a monument indicative of the good judgment of farmers of that period who desired to have a good looking dwelling house that would be convenient and comfortable. In many cases the war prices enabled the thrifty and prudent ones to accumulate fortunes that have been left as a valuable and useful heritage for the benefit of the present generation.

During the seventies the western ranches were stocked. It was the custom to sell for shipment west the calves from the dairy portions of the eastern states. In a few years large numbers of beef cattle came to market from the ranches. Well bred animals of the beef breeds were sent west to improve the stock, and the farmers of Michigan were compelled to compete in the markets with cattle of good quality as well as great numbers from the western ranches. And farther, the situation was made still more discouraging by the fact that the western ranchmen were breeding cattle in large numbers on government lands.

During the eighties, and the years since, up to near the present time, the farmers have been confronted by conditions which have made it very difficult to make any profit from raising beef cattle. In recent years some have followed the prevailing custom of buying young cattle from the ranches and fattening them for market.

Meat Products in Increased Demand.

At the present time we are brought in contact with a new condition. The supply of cattle from the great west is not sufficient to meet the demands of the consumers of our populous country. The laborers in the workshops are calling for beef meats, but the prices are so high that there is a great cry against the high cost of living, especially the price of meats. Earnest appeals have been made that something be done to relieve the burdensome situation. The government has been called upon and there has been some progress made by way of investigation.

In a bulletin received recently, we noticed that a chapter was devoted to recommendations with the idea in view of relieving the present situation, and it will be interesting to see what can be done to increase the number of meat cattle in the country in order to meet the demands of the consumers.

It has been found that there are hundreds of thousands of veal calves being sent to market. If dairymen and farmers could be induced to retain the heifers to help to make it possible to increase the number of cattle, that might furnish some source of relief, but the high prices are too tempting, and the cost and trouble of raising the calves are so much, that but few will accede to an appeal of that kind.

In breeding and raising the beef cattle on the farms, the expense of shipping from the ranches to the feeding farms is eliminated, and the profits for the breeders, raisers and feeders can be increased. The process is simply selling through the cattle much of the coarse feeds and pasture grasses that are too often wasted on many of the farms at the present time.

In order to make the business profitable under existing conditions of high

priced land and high priced feeds, a thrifty, early maturing class of cattle must be selected, such as are found in the modern improved beef breeds. Instead of raising cattle that require two to three years to reach market weights, those that can reach the proper weight and desirable condition between 12 and 18 months of age should be selected. The slow-growing, late-maturing cattle are the expensive ones that do not leave any profit to raisers and feeders, if they even pay expenses.

The custom of raising beef cattle on the farms where general farming is carried on must be re-established in order to meet the demands of the increasing number of meat consumers of our country. A few of the best farmers in every community can take the lead, the others will follow, and the custom will be established. It will mean not only increased profits to many of the farmers, but in many ways better conditions will prevail than if we allow the money paid for beef cattle to go to other countries.

Wayne Co.

N. A. CLAPP.

KEEPING THE FLOCK HEALTHY.

A matter above ordinary importance to flock owners is keeping the flock healthy and free from disease during the winter months. Scientific study conclusively reveals that a very large portion of the ailments to which sheep are susceptible during winter are directly traceable to mismanagement in some form or other. Sheep are naturally strong, robust animals free from infectious diseases and seldom attacked by parasitic ailments.

The feeding of dusty, moldy or particularly putrid roughage to sheep is a fruitful source of producing disease in the flock. It is not an uncommon practice with farmers if a few loads of hay becomes musty from overheating in the bay to pitch it to one side and feed it out to either the sheep or cows. The practice has cost many a flock owner his entire lamb crop and in numerous instances a few members of his flock. Musty or moldy hay is caused from a minute fungoid growth that immediately produces derangement of the digestive system, not only impairing the regular function of digestion, but poisoning the entire digestive and circulatory systems. Nothing will open the way and make conditions more favorable for attack of disease as a disturbed digestive organization. To maintain the flock in a healthy active condition the roughage supplied must be wholesome and of high feeding quality.

Sanitation and Ventilation.

Unsanitary yards and stables are a common source of producing disease in the flock. During the winter season there is always a wide variation of atmospheric temperature. The freezing and thawing keeps the yards in an unsettled condition and if there are any depressions they soon become filled with leaching from the surface soil. Very frequently sheep will drink from these stagnant pools, thus paving the way of internal parasites to enter the system. The sheep sheds and yards should be located on slightly elevated ground, affording good surface drainage. The yards should be made level and gradually receding from the sheep shed. The stable should always be kept clean and well littered.

Drafts about the sheepfold is another common means of causing the sheep to take cold, which generally develops into catarrh and impairs the usefulness of breeding animals. A large portion of the sheep sheds are long and narrow, with doors at each end. These doors are generally left open during the day and when the weather is fair, during the night also. During winter there is also more or less air in circulation. A long, narrow building is like a chimney in many respects, causing a constant current of air to pass through the building. Sheep, during cold weather, naturally seek protection and while doing so are exposing themselves constantly to drafts. The sheep barn should be so arranged if possible so that doors can be opened on the side opposite the prevailing winds. At no time should doors be left open that allows a current of air to circulate in the barn.

The flock should not only be allowed, but compelled, to take plenty of exercise. Close confinement impairs physical functions of the body and make the system more readily susceptible to attack of diseases. If given spacious yards, sheep generally will take plenty of exercise, but

it is good management to encourage taking exercise by distributing the feed about the yard as much as possible. Where all the feeding is done indoors the animals soon become accustomed to eating awhile and then lying down to rest near the feed racks. Pregnant ewes especially are very much inclined to this practice and unless compelled to take exercise are very apt to suffer from the lack of it. The feeding of roughage should be done in the yard as much as possible during unfavorable weather. If the flock can be allowed the run of an old meadow when the weather is favorable and the snow not too deep, it will materially encourage taking plenty of exercise.

Shiawassee Co. **LEO C. REYNOLDS.**

FEEDERS' PROBLEMS.

Roots in the Ration for Horses.

Are roots, such as carrots, sugar beets, mangles, turnips, good for horses and young colts in quantity?

Alcona Co.

L. D.

Unquestionably a small portion of roots in the ration for horses or colts is a beneficial addition. This is true, however, more largely because of the fact that the roots add a beneficial element of succulence to the ration than because of the nutrients which they contain, thus aiding in the more ready and complete digestion of other feeds in the ration. They are, however, not adapted to the feeding of horses or colts in large quantities, owing to the relatively small capacity of horses' stomachs and the necessity for feeding a more concentrated ration than is the case with ruminants. Theoretically, 350 pounds of carrots are equal to 100 pounds of good hay from the standpoint of chemical analysis. Practically, when fed in small quantities of a few pounds once a day they have a value greatly in excess of the nutrients which they contain.

Value of Bean Straw for Sheep.

How much had bean straw ought to be worth for sheep or cattle feed, when mixed hay (clover and timothy) is selling for \$17 per ton, delivered?

Leelanau Co.

L. O.

All through the bean producing sections of Michigan bean straw, or bean pods, as this feed is more commonly called, is recognized as a very valuable roughage for sheep and because of its value and adaptability to this purpose has not been used to as great an extent for cattle feed. Another reason for this is that it is not a roughage as greatly relished by cattle as by sheep. Some farmers have made the mistake of feeding bean pods as an exclusive roughage, which is a very bad practice indeed for the breeding flock and not an economical method of feeding the fattening lambs. One feed per day used with other coarse forage, as corn stover or with mixed hay, is much better than more liberal feeding of this roughage, since the value of bean straw for sheep depends upon the relative proportion of pods contained in a given bulk, the pods being the principal portion eaten.

The custom has grown up in some bean producing sections of the state to base the price paid for this forage upon the yield of beans secured from a given amount of straw. For instance, for a number of years the writer purchased bean pods from growers at a price approximating 10 cents for each bushel of beans threshed from the straw. That is, if a man had 100 bushels of beans he was paid \$10 for the pods from which the beans were threshed. In more recent years, with higher prices prevailing in hay as last year, the price advanced to about 15 cents per unit on the same basis. Unfortunately, there is little experimental data upon the comparative value of bean fodder to other roughages for the reason that beans are an important crop in only a limited section of the country, but within the price mentioned as compared with cheap and dear hay they are undoubtedly an economical feed for sheep and where both are maintained on the farm they had better be fed to sheep than to cattle.

Cement Floor for Horse Stall.

Please tell me whether it would be best to lay one-inch board on a cement floor of a box stall or would it be all right without, if bedded heavily with straw? I want to use the stall for mare that is going to foal in spring.

Isabella Co.

M. S.

There is no serious objection to the use of a cement floor for horse stable or box stall so long as same is not smoothly floated off with trowel but is left sufficiently rough so as not to be too slippery. It should also be slightly sloping to provide for drainage and, of course, well bedded down. When properly constructed, a floor of this kind is better than those covered with boards, since it is much more sanitary.

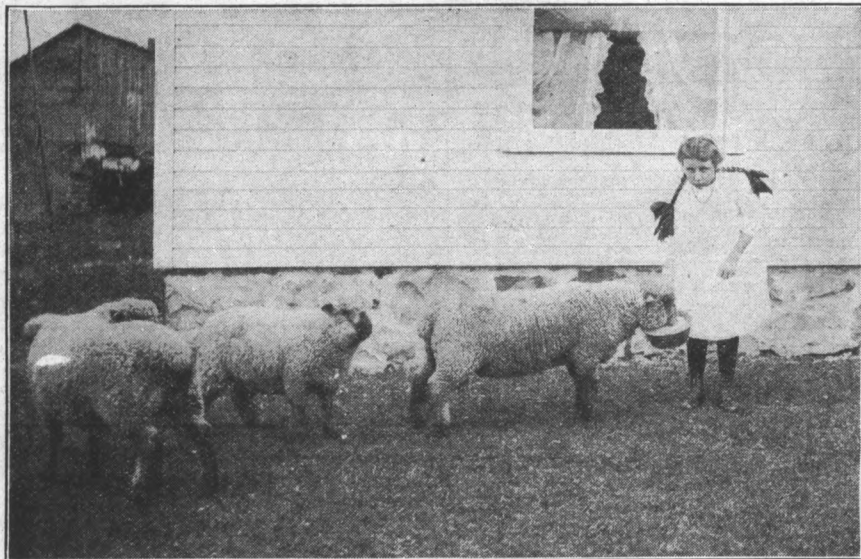
Hints On Shoeing.

To preserve the hoof in a natural and healthy condition should be a standing rule. Originally adapted only to a grassy surface the artificial protection afforded by shoes becomes necessary when we wish to put the horse to practical use on hard, stony or frozen roads. It will, therefore, be the part of wisdom to imitate nature whenever possible. With this end in view, always insist on having the shoe fitted to the foot, not the foot to the shoe. This may mean more work for the blacksmith, but it also means more comfort to the horse.

Paring away the sole is a pernicious practice, and is based on error. It is not constituted like the hard and tough outer crust or "wall," which grows out indefinitely unless reduced by the shoe's instruments or worn off by contact with the ground. Having attained a certain thickness the sole maintains this normal condition by a process of nature, whereby it exfoliates of its own accord. If you were able to cut through and examine the inner layers, that next to the quick would be found quite moist. Proceeding to the surface they gradually become dryer; the outer part almost entirely so, serving as a protection until it is finally forced outward and replaced by fresh growth within. All that it is necessary to remove would be any slight projection beyond the lower surface of the wall. This can be done with a rasp

on the shoes, but commonly the foot should be let down as near to the ground as possible. In nailing on use no more nails than will hold the shoe firmly and securely in place; generally three on the inside and four on the outside. They should be of the best quality—hot forged—and of a size to exactly fill the holes, and the heads the crease, leaving no projection beyond the ground surface when finished, thus preventing the clinch from rising when brought in contact with stones, and saving the ankle from injury. By all means see that the nail holes are near the edge and quite well forward in the toe. The hoof is thinner than many persons are aware, hence care is required to avoid driving the nails into the quick.

In turning horses out to pasture for any lengthy period or when kept in box stalls or barnyards during the winter, there is not sufficient wear to keep the hoof down to its normal dimensions. If not rasped down about once a month, there will be a too rapid breaking off of the wall. Where this attention is not convenient it is quite a common practice to put tips on the hoofs. Like many other good things it is frequently done in an irrational manner. The usual practice, after preparing the hoof as for ordinary shoeing, is to put on a tip about a quarter of an inch thick. The tee is, therefore lengthened without any corresponding lengthening of the heel, which leads to a tilting backward of the foot when it is placed on the ground. Protected by the tip the toe grows while



What Good Feed will do—90@100-lb. Lambs at just over Four Months—Raised by J. M. Purdy, of Livingston County.

applied flat. With the foregoing exception the thicker the sole the better, as one can readily see the greater efficiency when compared with a thin one. If nature is forestalled by the knife, and any great quantity of sole is removed, trouble is pretty sure to follow. The deeper parts of the sole being prematurely exposed to the action of the air a gradual process of drying takes place, causing it to become increasingly "cupped," and to some extent a contraction of the hoof as well.

Another error to be guarded against is cutting away the frog. To anyone who makes an examination of this part its office is apparent. In a normal hoof it comes down to the ground, at the back, directly under the greatest pressure, and possessing an elasticity similar to India rubber acts as a cushion in breaking the concussion, that would otherwise take place. Cut it away so that it does not come in contact with the ground, and the support is gone. Moreover the frog shrinks, hardens, and is incapable of performing its function. The result, with a thin, dried-up sole, the shrunken hoof draws the quarter with it and you have another case of contracted feet.

In removing the dead portion of horn on the sole for receiving the shoe, care should be taken to have it level. If either the inside or the outside is left too long it changes the direction of the line of weight and subjects some portion or portions of the extremity to undue strain or pressure, and consequent liability to injury. In fitting, a red-hot shoe should not be burned into the foot. The slightest touch is enough for the careful smith to ascertain its bearing. Good judgment in the choice of shoes is also essential, and should be guided by the condition of the feet, the roads, etc. For ordinary purposes the flat shoe, when properly applied, is likely to give satisfaction. It gives the horse a good even foundation to stand upon and allows the foot to retain its natural shape. At some seasons it will be necessary to have calks

the heel does not. As the condition becomes intensified a great strain is put upon the supporting structure of the fetlock, disturbing the normal relations of the various parts of the forelegs. This is what should be avoided. A good plan is to use light tips, having them completely sunken in a groove made in the wall around the toe, so that their lower surface is flush with the wall at the heel. The advantages are obvious; the level of the hoof is maintained, there is a normal pressure on the frog and heels, and no breaking down of the walls. In other words, the hoof is placed in a perfectly natural condition.

Canada. J. HUGH MCKENNEY.

LIVE STOCK NEWS.

Ben Conley, of Marshall, Mich., winner of first premium on lambs in the International, said that Michigan feed lots are holding not more than half as many lambs as were carried a year ago, and he could see nothing in the way of a high winter and spring market.

Col. S. W. Wright, of Wayne county, Iowa, conducts many farm sales and says that he never saw live stock so scarce in that great feeding region as now. Corn is offered freely at 35c per bushel, and there is little stock to feed it to. The worst feature of the cattle shortage is that shippers are paying around \$16 per head for calves weighing 200 lbs., and farmers are unable to resist the temptation to let them go, notwithstanding the abundance of feed. Draft grading colts at \$75 to \$125 per head are the only animals that are not selling high.

The southwest reports a great shortage of cattle with much age, most of the holdings being young.

A short time ago a purchase was made of 6,000 aged Texas steers bred by Governor McDonald, of New Mexico, and they were shipped to a pasture near Pueblo, Col. Next spring they will be sent to Kansas pastures, to receive 30 days of hardening in the corn belt later in the season.

The consumption of mutton in this country during 1912 will break all records, marketings of sheep and lambs carrying unusual small percentages of feeder stuff.



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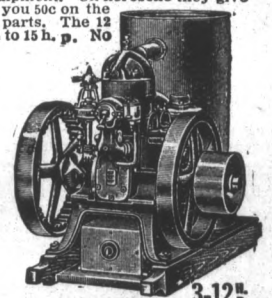
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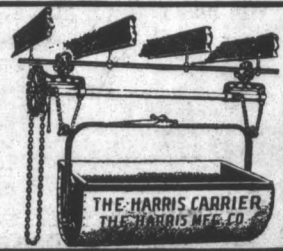
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VETERINARY

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

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Bruise—Abscess on Brisket.—Have an eight-year-old Durham cow that has a large painful swelling on brisket. This bunch is painful and she walks quite stiff. She eats about as well as usual. Lately she was placed in rigid stanchions; do you believe she could have bruised herself? W. H., Rushton, Mich. —Apply equal parts tincture iodine and spirits camphor to bunch twice daily and if this medicine does not scatter bunch open it at base and allow pus to escape; then wash out with one part coal tar disinfectant and 20 parts water twice a day. It is good practice to inject tincture iodine into sack a few times after abscess is opened. Iodoform deposited into sack is also good practice and when I do this place the medicine in a gelatine capsule and leave it in; it will dissolve. She may have hurt herself in stable.

Indigestion—Looseness of Bowels.—As I have always had very good luck treating my live stock with prescriptions taken from veterinary columns of the Michigan Farmer and through advice you gave me, I would like to know how to treat my 18-year-old mare that has not thrived since last spring. Our local Vet. looked her over and floated her teeth, believing that after they were filed she would do better, but it failed to help her much. She had a colt last spring and is in foal at present. I am feeding her good clover hay and for grain am feeding corn, rye and oats. Her coat is rough, hide tight to ribs, bowels too loose and generally speaking, she is quite out of condition. G. R., Jackson, Mich. —Give your mare 1 oz. ground gentian, 1 oz. ground ginger, 2 drs. salicylic acid at a dose in feed three times a day. Add one-fourth part dry wheat bran to the corn, rye and oat ration—equal parts by weight is a nice way to mix this kind of feed.

Enlarged Glands.—Have a nine-year-old driving mare that coughs and breathes harder and faster than a horse that has heaves. She makes a noise when breathing just as if there were some obstruction in head or throat. Have applied blister to throat glands, but it failed to help her. F. S., Middleton, Mich. —Apply to throat glands equal parts tincture iodine and camphorated oil every day or two and give her 2 drs. potassium iodide, 1 dr. powdered lobelia and 1 dr. ground nux vomica at a dose in feed two or three times a day.

Intestinal Worms.—My horse occasionally passes large, long white worms and I have given him different worm remedies without seemingly doing him much good. J. J., Muskegon, Mich. —Give your horse 1 dr. wormseed, 1 oz. ground gentian, ½ oz. ground quassia, and ½ oz. ground cinchona at a dose in feed two or three times a day.

Chronic Indigestion—Stocking—Stumbling.—I find the Michigan Farmer a very useful paper and am especially interested in the veterinary column for it helps a reader to treat his own live stock. I have a four-year-old mare that seems dull and out of condition; she is fed two quarts of ground corn and rye at a feed three times a day, but she stocks in hind legs and does not lay on flesh. When driven she seems to stub her toes and occasionally fall on knees, acting as if she were weak. Kindly tell me what to give her and how to stop this stumbling. A. K., East Jordan, Mich. —Her teeth may need a little attention. The temporary teeth that are shedding may be pressing against cheek or tongue, preventing proper mastication of food. Give her a dessertspoonful of Fowler's solution, a teaspoonful fluid extract of nux vomica, a tablespoonful fluid extract gentian and a tablespoonful fluid extract cinchona at a dose in feed three times a day. Increase her food supply and salt her well.

Weakness—Roup.—I have a brood mare that appears to be healthy which perspires following little exertion. My fowls are suffering from roup and I would like to know what can be done for them. W. C., Pittsford, Mich. —Your mare will be benefited by grooming her well twice daily and if her coat is unusually long and heavy, clip her. If she is idle it will not be necessary. Give her ½ oz. of ground gentian, ½ oz. ground cinchona, 1 dr. ground nux vomica and 2 drs. of ground fenugreek at a dose in feed two or three times a day. If your chickens suffer from contagious catarrhal roup or a diphtheritic roup and have had it long, you had better destroy them, burn their bodies, thoroughly clean and disinfect your coop and buy well chickens. By applying boric acid, peroxide of hydrogen and feeding your chickens easily digested, nourishing food, they will perhaps recover; providing, it is not any more than a cold in their head.

Weakness of Bowels—Acidity of Stomach.—I have a mare five years old that raised a colt last summer which is inclined to have a chronic looseness of bowels. Her appetite is very good, coat fairly fresh but she is thin. I feed ground oats, some ear corn and one-half dozen carrots a a few three times a day. What can I do to stop this looseness of bowels as it is very disagreeable? Also, what can be done for cows that are inclined to

(Continued on page 607).

4-Most Wonderful Cows the World Has Ever Produced?—4

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O. I. C. Swine, both sexes. Males weighing 100 to 225 lbs. Herd registered in O. I. C. Association. **GEO. P. ANDREWS, Dansville, Ingham Co., Mich.**

O. I. C's—Fall pigs, either sex, from prize winning stock. Also 2 May boars left, Call or write. **Rolling View Stock Farm, Cass City, Mich.**

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LARGE Yorkshires—Choice breeding stock, all ages, not akin, from State Fair prize-winners. Pedigrees furnished. **W. C. COOK, R. 42, Box 22, Ada, Mich.**

Lillie Farmstead YORKSHIRES.

A splendid lot of fall pigs at reduced prices, pairs and trios not akin. Young sows and gilts bred for April farrow. Your money back if you are not satisfied. **COLON C. LILLIE, Coopersville, Mich.**

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PRACTICAL SCIENCE.

PHYSIOLOGICAL ROLE OF ACIDS AND BASES IN NUTRITION.

BY FLOYD W. ROBISON.

The Acid Elements.

We will appreciate that in all food-stuffs and living tissues as well there are inorganic or mineral elements in organic combination. These mineral elements upon oxidation in the body, during the normal processes of digestion and absorption yield, or become converted into the inorganic acids. For example—sulphur, which is a normal constituent of food products, especially of the protein in food products, upon oxidation in the body, becomes converted into sulphuric acid. Chlorine, which is another normal constituent of foods, upon oxidation, through the process of digestion and absorption, becomes converted into hydrochloric acid and phosphorus into phosphoric acid.

The Basic Elements.

In a more or less direct relationship to these various acid-forming elements, such as we have just mentioned, we have what we call the basic elements in animal nutrition, such as sodium, potassium, calcium, magnesium, etc. Iron occupies a sort of intermediate stage between the acid-forming elements and the basic-forming elements. In other words, its exact reaction depends largely on the combination in which it exists.

The Provision for Emergency.

The animal body is provided for certain emergencies in nutrition. The over-consumption of those food materials which produce an excess of acid elements is to a moderate degree balanced by the power of the body to supply an excess of basic elements to neutralize them. In fact, an examination of the various fluids which take part in the digestive process of the body indicates at once that nature has viewed with some alarm the possibility of the taking into the system of an excess of acid-forming elements, and consequently the body is provided with a more than ordinary amount of basic elements to take part in their neutralization.

The Gastric Juice is the Trap for Alkalies.

There is very little provision in the body for the neutralization of basic elements. Almost, we may say, the only direct provision is through the acidity of the digestive juices of the body when the food material is first introduced. It is well known that the acidity of the gastric juice of the stomach is quite pronounced and is ample, without doubt, to provide for the neutralization of any ordinary amount of basic or alkaline elements which may be introduced into the body, in the food. Again, it is not likely that except in case of accidental poisoning any large excess of basic elements will be taken into the system. There are no food materials in which there is an especial overbalance of such alkalies as soda and potassium, and nature has made provision by establishing a storehouse in the framework of the body for any ordinary surplus of such a basic element as calcium.

Protection Against Acid is Nature's Chief Aim.

It is very evident therefore, that the chief concern in nutrition is to prevent an overbalancing of the acid elements.

Sulphur Becomes Sulphuric Acid.

Sulphur is introduced in food almost entirely in combination in the protein material. It will be remembered that sulphur is one of the constituent elements of protein, or albumin. This sulphur passes on through the absorptive channels of the body and finally becomes eliminated in the urine as sulphuric acid. Of course, it is not eliminated as free sulphuric acid but nature must prepare for the neutralization of this acid during its progress through the absorptive channels of the body. Sulphur is very nearly as accurate an index of the amount of protein consumed in the food as is nitrogen. In fact, some investigators have attempted to check the balance of the income and outgo of food material in the body by getting the sulphur balance as well as the nitrogen balance in both the food and the urine. Sulphur is used in the body in the repairing of the protein waste material and consequently as a constituent part of all or practically all protein increase in the body.

Phosphorus Becomes Phosphoric Acid.

Somewhat analogous to the condition in which sulphur enters the body is the appearance of phosphorus. Phosphorus en-

ters probably in a greater variety of ways and channels than does sulphur, but we know it is a constituent part of the makeup of certain nucleo proteins. The yolk of eggs and the nuclein of the grain proteins contain notable quantities of phosphorus. This phosphorus must be excreted in the urine as phosphoric acid, and, being an acid-forming element, therefore calls again upon the reserve supply of the body for the bases or alkalies for its neutralization.

Chlorine Becomes Hydrochloric Acid.

The element chlorine, at least to a great extent, enters the body as inorganic combination. Its introduction comes most largely through its association with sodium in common salt, or perhaps at times with potassium as a muriate of potash. It does not on this account as a rule, unbalance the equilibrium in the body because it carries its own content of basic, or alkaline content with it for its subsequent neutralization. Chlorine, as we know, takes place primarily in the regulation of the digestive juices and in changing into hydrochloric acid in the stomach it must, of course, give up its basic element which may then take part in the neutralization of some other acid element, but before the elimination of the hydrochloric acid, it must again remove from the body the same amount of base that it originally gave up when entering the body. Hence it again becomes sodium chloride.

Alkaline Elements Enter the Body as Inorganic Salts.

Practically all of the mineral bases, or the alkaline elements enter the body as salts of inorganic acids. It is true, as we have detailed heretofore, that there are undoubtedly certain organic combinations of these basic elements, particularly lime, but the greater percentage of all of these elements enter the body in inorganic combination. These combinations are with the acid elements, such as phosphorus, sulphuric, hydrochloric, and in great quantities, carbonic acid. The key to the condition in which these elements enter the body is best shown by a study of the reaction of the ash. In the case of fruits and cereals—vegetable products—the ash is very nearly always alkaline usually, in this form, an alkali united with carbonic acid. In the case of meat products—that is, those containing sulphur and phosphorus—the ash is acid. Consequently, as a general statement we may consider the fleshy foods contribute to an excess of acid elements in the body whereas the vegetable products do not require anything extra on the part of the body for the neutralization of their mineral nutrients.

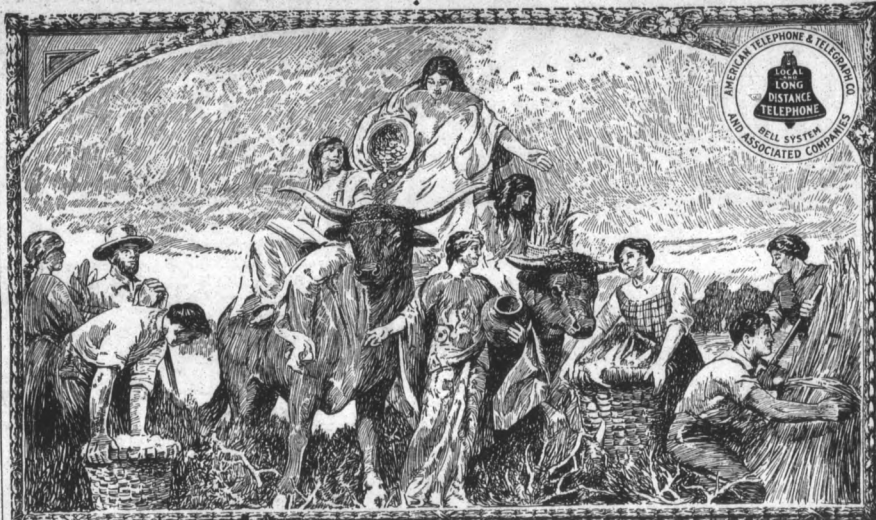
LABORATORY REPORT.

Are soft and hard coal ashes of enough value when applied to the land to make it profitable to gather them up in town and haul them one-half mile to farm? St. Joseph Co. D. N. D.

Wood ashes have a considerable value for fertilizing purposes as is well known. This is due to the fact that they contain on an average about five per cent of potash in the form of K₂O. This potash is freely soluble in water, being a carbonate of potash, as it exists in the ash, and has been used very successfully when applied to ground being fitted for such a crop as potatoes, or in a fruit orchard, or on sugar beets—in other words, such crops as draw heavily on the potash content of the soil. Another reason why wood ashes are valuable is because of their content of lime which makes their application to heavy soils desirable.

Coal is considered to be a product of vegetable life and we should naturally expect, therefore, that its ash content would contain considerable quantities of potash. As a matter of fact, however, the excessive heat which is maintained during the combustion of coal volatilizes practically all potash which may be present and therefore hard coal ashes as well as soft coal ashes are almost entirely free from salts of potash. From this standpoint, therefore, coal ash—either hard or soft—has practically no value for fertilizing purposes. As far as the lime content is concerned, however, coal ashes are somewhat advantageous and may be applied with advantage to some heavy soils.

In direct answer to the question we shall say that unless the soil in question is very heavy the farmer will find it a very uneconomical procedure to get ashes which he has to haul as far as one-half mile.



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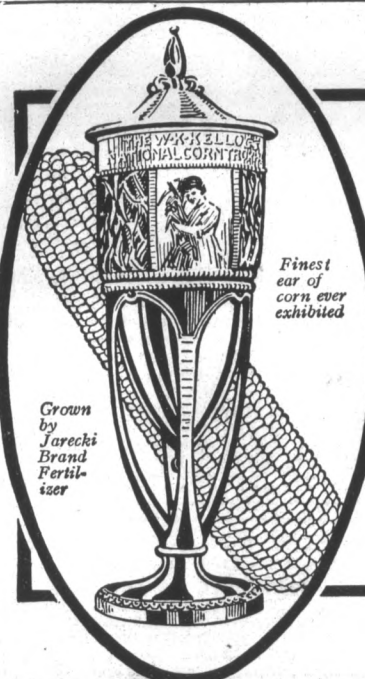
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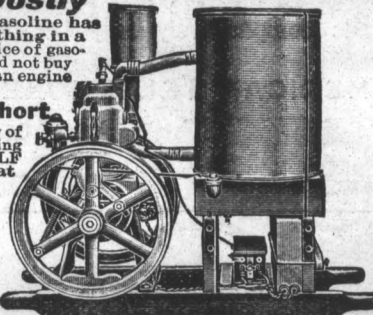
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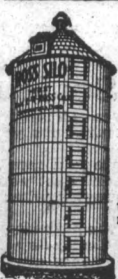
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THE BALANCED VS. UNBALANCED RATION.

Very many people have been skeptical about the practicability of a balanced ration. I have heard good hard-headed farmers say that they didn't believe there was much in it, and a great many of them are skeptical about it because they cannot see that a right proportion of protein and carbohydrates would make any particular difference. A very interesting experiment and a very instructive one, too, has been just lately completed at the Illinois Experiment Station under the direction of Prof. Frazer, and it simply sets all doubt about the practicability of a balanced ration aside. It is practical.

Two lots of cows were selected from a herd of 20 which had been fed the same ration for a long time beforehand. They were divided into two lots as near alike as possible. One lot was fed a balanced ration, the other lot was fed an unbalanced ration. The balanced ration had a nutritive ratio of one to six, the unbalanced ration of one to 11. The balanced ration consisted of 30 lbs. of silage, 8 lbs. of clover hay, 4 lbs. of gluten feed, and 3 1/4 lbs. of ground corn. The unbalanced ration was composed of 30 lbs. of corn silage, 5 lbs. of timothy hay, 3 lbs. of clover hay, and 8 lbs. of ground corn. The cows stood in the same stable and in each case received all the food they would eat up clean, were cared for exactly alike. The test ran 18 weeks and five days. In that time lot No. 2 gave 12,553.2 lbs. less milk than lot No. 1, and 359.56 lbs. less butter-fat. The cows in lot No. 2 were much thinner in flesh than the cows in lot No. 1 at the end of the test, they being practically equal in this respect at the beginning of the experiment. Lot No. 1 consumed 7,120 lbs. more feed than lot No. 2. By exchanging some timothy hay and corn for gluten feed and more clover hay 6 1/2 cows were made to do the work of nine and at practically no more cost for feed.

The quality of the ration also affects the physical condition of the animal, and the physical condition vitally affects consumption and production. The cows on the poor ration lost greatly in flesh during the test and their subsequent production was reduced.

The lot fed a balanced ration produced approximately one-third more than the other lot that did not receive a balanced ration. Six and a half cows on a ration with a nutritive ratio of one to six, produced as much as nine cows on a ration with a nutritive ratio of one to 11.

Because of the lack of protein in the ration fed lot No. 2 the other nutrients were not used to the best advantage. This shows in a striking manner that an excess of the carbohydrates cannot be made to take the place of a deficiency of protein. I consider this a most valuable experiment.

RAISE THE HEIFER CALVES.

There are altogether too many heifer calves being sold as veal calves. Especially is this true of some of the best grade dairy herds. It may be a means of getting a quick dollar, and we will admit that veal brings a good price, but in the end there is more money made in raising these heifer calves to cows. Not only that, but eventually it is going to be disastrous to the dairy business and even to the live stock business. There are too few cattle now for the needs of the people. We are not producing butter enough, nor beef enough. There isn't anywhere near enough butter to go around to the people, and people are compelled to eat oleo as a substitute for butter simply because there is not enough being produced. And there never will be enough if this practice of vealing heifer calves, just because they will bring in a few quick dollars, is persisted in. Of course, a good veal calf when it is five or six weeks old, if it has been properly fed, will bring at present prices around \$10 or more, but it has cost quite a quantity of rich new milk, the butter-fat of which is worth 30 cents a pound. On the other hand, if this calf had been put on skim-milk when it was two weeks old and fed skim-milk and flaxseed gruel, encouraged to eat hay and other roughage with a little grain, and reared in this way, the calf can be reared until it is two years old, for around \$25. I don't think it need cost to exceed this amount.

It doesn't cost very much in labor to take care of a bunch of heifers. They only need to be fed regularly and systematically and then with the waste land on the farm utilized as pasture they are practically no bother in the summer time, and they will consume a considerable amount of coarse roughage during the winter which could not be utilized in any other way; cornstalks and corn silage, bean straw, good oat straw, and especially oat and pea straw, and also clover straw after the seed has been hulled. For one or two feeds a day these cheap foods can be utilized in rearing heifers until they are two years old. By which practice we can get something out of this roughage that otherwise would practically be a loss. Of course, we would have the manurial value of this if it was hauled and put upon the land, but the manurial value is almost as much after the cattle have consumed it if we put the resultant manure back upon the land.

Now suppose it costs \$25 to raise a heifer until she is two years old. In the meantime, she has been bred to drop her calf when she is practically two years old. She is worth at that time, how much? Of course, if she is to be used for dairy purposes it will depend very much upon the kind of heifer she is, but a heifer out of a good common cow from a dairy sire when she is ready to drop her first calf, if she is well developed, is worth \$50. You can't buy them for any less, and she is worth more if she is better bred. It all depends upon the likelihood of her making a fair, a good, or an extra good milch cow. Now you can't make me believe but what good two-year-old heifers just before they freshen that are worth from \$50 to \$100 each and cost around \$25 each, are better money than veal calves that sell at \$10 when six to eight weeks old. Besides, rearing these calves makes farming more of a business. It gives the farmer and his help more to do in the winter time when they can be earning something, while otherwise their time would be wasted.

The vealing of all, or nearly all, the calves of some of the best grade dairy herds in the state, not only in this state but in other states, is a serious proposition. It continually keeps cutting down the shortage of cattle as a total, and the result will be higher and higher dairy prices, higher and higher beef prices, and eventually these products will be so high that the common man can not afford them upon his table. I am sure that much of this vealing of heifer calves from the good dairy herds of the country is largely with a mistaken idea, that they are making more money by vealing the calf than they could to raise it, and I am sure this is a bad mistake. How could you make better and cleaner money than to rear a heifer calf until she is two years old, charge her with every bit of food she consumed, part of this food being unmarketable, and from which we could realize nothing at all if we didn't have the young stock to feed it to, and yet with this added as a part of the ration, we can raise this heifer until she is two years old for at least \$25, and some would raise them much cheaper than this. It would depend, of course, somewhat upon what was charged for this forage, but if we charge a good round price for this forage we could still produce her for the \$25 and sell her for \$50, or \$75, or more, if she is a good likely heifer and has been well taken care of. I believe there is more money in this than there is to feed a calf the new milk until it is eight weeks old and get from \$10 to \$12 for the calf as a veal.

COMMON COWS VS. PURE-BREDS.

Very often we hear the remark that common cows make just as good returns for the feed fed them as pure-bred cows do, but this remark is usually made by a man who hasn't the facts to show. Somebody who thinks that pure-bred animals are too high-priced, that they ought to sell just as cheap as any kind of a cow, will make this argument, but it is not a fact. I know from actual experience that on the average pure-bred dairy cows are much superior to the average of the common or scrub cows of the country. I'll tell you how I know. Very often I oversell in my pure-breds, because someone offers me a flattering price for a bunch of females, and then to fill up the barn and make the usual amount of business I go out and purchase common or scrub cows. Some of these are good grade cows, and some of them are scrubs, or cows of no particular breeding. You have to take what you can get. Now on the average, they are a mighty poor lot. They don't come any-

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where near equaling my pure-breds as money makers in the dairy.

It is generally supposed, and in a measure I think true, that a herd of cows that has been given a poorly balanced ration and been allowed to hustle for themselves will, when put into a good dairy barn and are fed all they will eat of a good ration, generally respond more than cows that have been brought up to have all they want to eat every day in the year. I have heard dairymen argue that, and I think there is a little in it, because this stimulant of extra feed over and above what they ever had, where they didn't get all they needed, does seem to spur them up or make them produce more than they have heretofore. But taking that into consideration, too, and then when a man goes out and buys a bunch of cows, even all in one herd, or where he picks up one here and another there, and brings them home and puts them by the side of thoroughbreds, on the average, they do not compare and they are not in the same class. I will admit, of course, that there is now and then a common cow that does well, she gives a good account of herself at the pail, and there is now and then a thoroughbred that doesn't do anywhere near what she ought to. We must expect this in all cases because breeding is not an exact science, and we will have poor ones now and then, and a pure-bred herd must be kept weeded out just as well as a common herd. But giving credit for all these, laying aside all this talk, yet on the average the pure-bred dairy animal of any breed of dairy cows is far superior to the common bred, or scrub cows.

With the case of good grades it is different. If you take a herd of common cows and mate them to a pure-bred dairy sire of any pronounced dairy breed, save the heifer calves and breed them to another sire of equally good quality, in a few generations you have got some dairy cattle that are nearly or quite as good as pure-breds with the exception of when you want to breed. These cattle, while they take largely of the characteristics of the sire and of his breeding, would not be the kind of stock from which careful men would choose to select a bull, for instance. Nearly all of their blood, if they are good high grades, are of the sire used. The offspring have his characteristics and quality as dairy animals. They will give profitable returns at the pail, far greater than you could get of cows of miscellaneous breeding with no blood of any particular breed predominating, yet we wouldn't want to save a sire from one of these cows, because we want the sire as intensely dairy bred as we can get, and we can get this in the pure-bred animal better than we can with the high grade. The great law of breeding is that "like produces like." Now there are more scrub ancestors in a grade animal than there are in a pure-bred, and consequently you are liable to get poorer results in breeding. I will admit that once in a while a high grade animal will give excellent results as a sire. Nobody can doubt this because it is a fact. But it is more risky to use one than a pure-bred. No one can afford to take this risk when he can get pure-bred sires as cheaply as he can now, yet, of course, many do because they do not seem to comprehend the importance of the fundamental principles of breeding.

And while we know from actual experience that scrub cows or cows of no particular breeding on the average, are not nearly as good as pure-bred cows, yet it goes without saying that a large amount of the dairy products of this country will be produced by scrub cows for years and years to come. Statistics show that only about 1½ per cent of the dairy cattle in this country are pure-bred. Think of it, the rest of them, 98½ per cent are scrubs or grades, and of this 98½ per cent only 10 per cent are well-bred grades of any one of the pure-bred dairy breeds. Think of it, 88½ per cent of all the cows in this country are yet scrubs, cows of no particular breeding, cows where no blood from good dairy ancestors is in their makeup. They are simply cows that have been bred haphazard without any particular reference to dairy quality. So it goes, and it will be a long time before the people get through using scrubs. The question is, what can be done to induce the farmer to buy more pure-bred sires to grade up his herd, and to gradually change from high grades after he gets them, to pure-breds. What we want first of all, is to get more dairymen to have good grade herds, then these dairymen will gradually change from grade herds to pure-bred herds.

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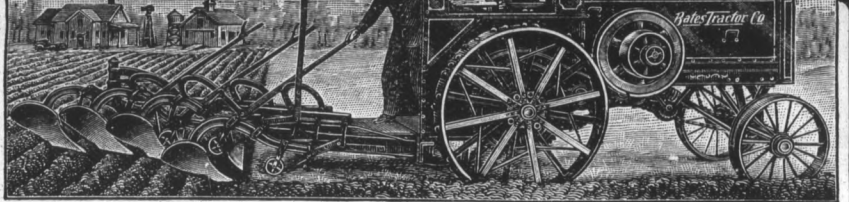
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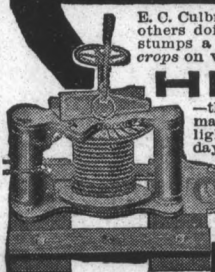
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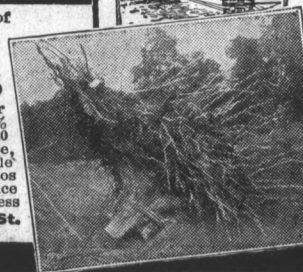
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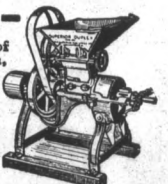
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POULTRY AND BEES**TAKE CARE OF THE MATURING PULLETS.**

The pullets that have been producing eggs for some weeks past or that are about to commence egg production are the ones to hold on to. They will be the profit-producers this winter. From the early-laying ones should be made up the breeding pens for next season, as they are usually the best layers of the flock.

Treat the pullets well and they will show you the stuff they are made of. A full egg basket at this time, when the profit is greatest, is the desire of every poultry owner, and anyone having pullets maturing during the past month has no excuse but his own carelessness for not getting plenty of eggs. Too many are prone to neglect them. The care that was given the chicks when young is lacking now. This should not be, however. Although the pullets are nearly grown and apparently able to take care of themselves, they require good feeding and housing almost as much as when they were smaller. If slighted at this time a retarded egg production often results, which is seldom overcome until the warm weather of spring appears.

One of the mistakes that quite a few poultry raisers make is that of feeding maturing stock too little. They fail to realize that fowls require lots of food just before maturity is reached. The young stock has the greatest capacity for consuming food at this time and to fail to let them have all they are capable of cleaning up often works harm. I have often found that when young fowls are near maturity they never seem able to get enough food. Of course, I do not satisfy their appetites three times a day but keep them slightly hungry during the day and give them all they want at the evening meal. I don't want it understood, however, that I underfeed them at morning and noon. Far from it. I merely keep their appetites on edge so they won't get off their feed. Another reason they are kept slightly hungry during the day is to encourage them to forage when the weather permits. Although they cannot pick up much feed on the range at this time, they derive the exercise necessary to keep them in good physical condition. I detest lazy hens and always endeavor to keep them busy.

Some are inclined to believe that heavy feeding will get the young stock too fat. I have never found this so, however. In fact, I am inclined to believe that a growing pullet will not become overfat, no matter how much feed she consumes. As long as she is kept growing part of the feed will be consumed in making bone and muscle and she will not take on an excessive amount of fat. But when she has completed her growth, and egg production has not yet started, all the food digested will tend to produce flesh, and, of course, get her in overfat condition. To guard against this they must work for all the food they get. Keep them busy. Bury all their grain in deep litter and make them dig it out. The exercise thus derived will keep them in good health and encourage early egg production.

O. E. HACHMAN.

HOW TO DETECT FOUL BROOD.**Symptoms and Difference Between the American and European Diseases.**

The presence of a particular disease in a colony of bees can be ascertained most

ever, to describe the usual symptoms of the diseases and their differences so that the bee-keeper can tell which disease is present.

The adult bees of an infected colony are rather inactive. Disease usually shows itself in the larva just about the time the larva fills the cell; many times it is sealed over. The first indication of infection is a slight brownish discoloration and loss of well-rounded appearance of the normal larva. The larva gradually sinks down on the lower wall of cell and becomes darker in color, with the posterior end lying against the bottom of the cell. By the time it has partially dried down and has become quite dark brown, the most typical characteristic of the disease becomes noticeable. With a toothpick, or similar object, inserted into the decayed mass and withdrawn, the larval remains adhere to it and are drawn out in a thread, as shown in the cut, which sometimes extends several inches before breaking.

The larva continues to dry down and gradually loses its ropiness until it finally becomes merely a scale on the lower wall of the cell. This scale adheres tightly to the cell and can only be removed with difficulty from the cell wall. The scales can best be observed when comb is held with top inclined toward observer so that a bright light strikes the lower side wall.

A very characteristic and usually penetrating odor is often noticeable; it can be likened to the odor of heated glue.

The majority of larvae which die of the disease are attacked after being sealed over in their cells. The cappings are often entirely removed by the bees, but when they are left they become sunken and frequently have a small hole in the top. As healthy brood emerges the comb shows the scattered sunken cappings covering dead larvae, giving it a characteristic appearance. The tongue of the larva frequently adheres to the upper wall and often remains even after the pupa has dried down to a scale. Usually the disease attacks only worker brood, but occasional cases are found in which queen and drone brood are diseased.

European Foul Brood.

This variety was formerly called black brood or New York bee disease. The name black brood is a poor one, for the color of dead brood is not black but rather a greyish dark brown.

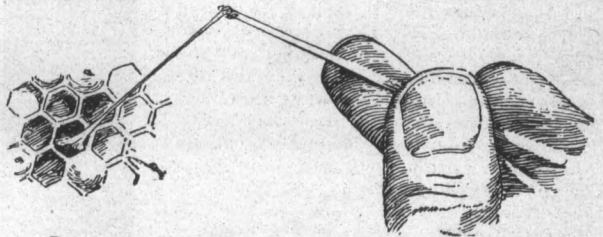
European foul brood usually attacks the larva in an earlier stage of its development than American foul brood, and while it is still curled up at base of cell. A small percentage of the larvae die after capping. Sunken and perforated cappings

are sometimes observed, as in American foul brood. The earliest indication is a slight yellow streak or grey discoloration and uneasy movement of the larva in the cell. The larva loses its well rounded,

the end of larva is to rear of cell, or may fall away from the base. Later, the color changes to a decided yellow or grey and translucency is lost. The yellow color is the chief characteristic of the disease. The larva appears a somewhat collapsed moist mass. When its remains become dry the trachea becomes conspicuous. Finally the larva becomes a grayish brown scale against the base of the cell, or a shapeless mass on the lower side wall. The scales are not adhesive but are easily removed and bees carry out a great many in their efforts to clean the combs.

Decaying larva are not ropy as in American foul brood, but a slight ropiness is sometimes observed. The glue-pot odor is absent, but sometimes a sour odor, which reminds one of yeast fermentation, is present. It attacks drone and queen larvae almost as quickly as those of workers.

European foul brood is more destructive during spring and early summer than at any other time, often disappear-

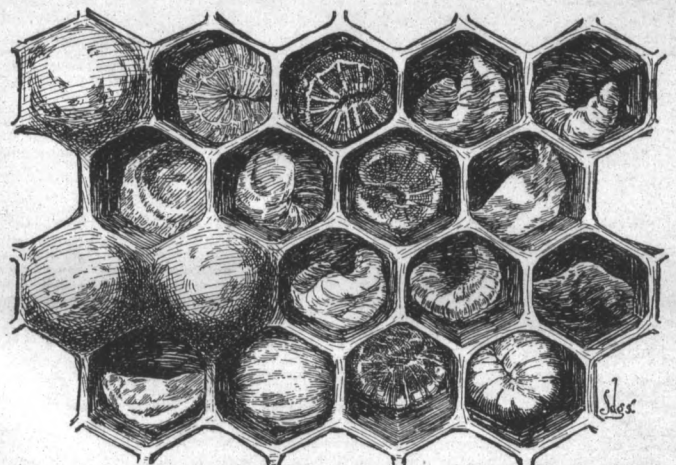
**Demonstrating Ropy Nature of Diseased Larva.**

ing during late summer or autumn, or during a heavy honey flow, or in case of a new queen being introduced and accepted.

Shiawassee Co. N. F. GUTE.
Note. The above is the second of the series of articles on that class of bee disease known as Foul Brood. The third article will appear next week.

DUST BATHS IN WINTER.

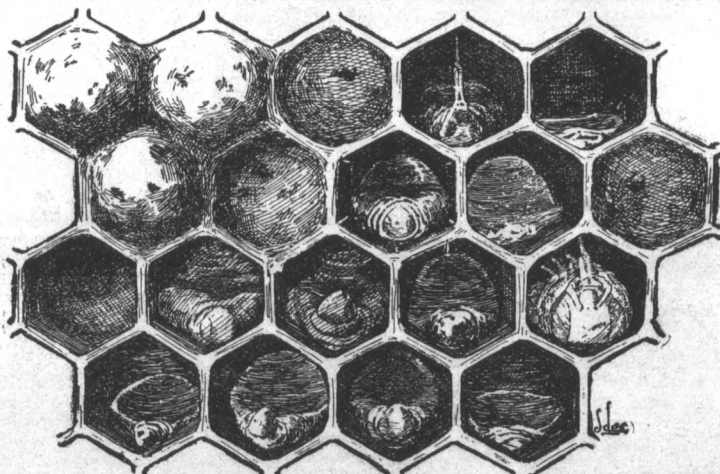
One somehow or other is apt to associate dust baths with hot summer weather, when the sun is shining brightly and everything is dry and dusty, and many do not realize that there is any necessity for providing such a luxury for poultry at this time of year. However, at no time of the year is the dust bath so necessary as immediately following the moulting period, when insect life among the feathers is so plentiful. It is assert-

**European Foul Brood, Showing Normal Cells, Larvae Affected by Disease and Dried-down Larvae or Scales.**

ed by those who advocate most strongly the winter dust bath that no one need expect to get fowls to lay in winter who does not provide them the necessary materials for a dust bath. However good the food supply may be, it is perfectly useless unless the hens are perfectly free from attacks of insects during the time production of eggs is out of the question. They are at rest; without this freedom the Apart from the question of laying it is believed that the provision of a dust bath often saves the heavier breeds of fowls, when kept in confinement, from contracting liver disease.

Canada. W. R. GILBERT.

It is not generally known that bees are faster and swifter than pigeons—that is for short distances. Some years ago a pigeon fancier of Germany laid a wager that a dozen bees, liberated three miles from their hives, would reach their hives in less time than a dozen pigeons. The competitors were given wing, and the first bee reached the hive a quarter of a minute in advance of the first pigeon. Three other bees reached the goal before the second pigeon arrived. The bees were slightly handicapped, having been rolled in flour before starting, for purpose of identification.

**American foul brood, showing normal cells and sunken cappings, some with perforations; larvae affected by disease, pupae affected, and scales formed from dried-down larvae.**

reliably by a bacteriological examination, opaque appearance and becomes slightly since symptoms at the early stage are translucent. The larva is flattened against somewhat variable. It is possible, how-

HORTICULTURE

A FEW PRUNING POINTERS.

The pruner is an assistant of nature. He brings order out of confusion and is the maintainer of peace in the tree. The unpruned, neglected tree looks like a battle field with the dead, the dying, and the victorious branches thereon. The tree is a colony of individuals, each branch competing with every other one. Naturally there are more branches on a tree than can be supported by it and consequently there is the struggle for the survival of the fittest. The pruner should come as the envoy of peace, and arbitrate, a court of the last resort. In his decisions he should not grant special privileges to individuals but he should have in mind the common good and should decide for the betterment of the whole colony of individuals, the tree. Do we, as pruners, fully realize the importance of our work?

From the condition of some of the old orchards we can feel sure that some pruners have been biased in their judgment. It appears that they strongly favored the upper branches and considered the lower ones as a nuisance to the community. The writer came across the work of one man who considered himself the professional pruner of the vicinity in which he lived which showed that he had strong prejudice against the shape of an apple tree. He undoubtedly was a southerner as he strongly favored the palm tree shape.

Nature prunes and why not we? She prunes, however, along the lines of the least resistance, and takes a long time to do it. She has no respect for commercial standpoints, nor does she prune to make it convenient for her Adams and Eves to pick the fruit as she used to. She is not progressive except under the hand of man. But often she prunes more than man dares to and cuts hard.

Now that we have settled the question, to prune or not to prune, the time to prune should receive next consideration. The old adage, prune when the knife is sharp, has a lot of sense in it, especially when we consider that the knife is generally sharpest in late winter or early spring. Except for fall or early winter pruning when the wounds are to lie open as it were, without calousing or healing through a long season of cold and drying, there can be little damage done to the tree by pruning at any time. However, the time of pruning may have considerable effect on the fruitfulness of the tree. It is generally conceded that summer pruning induces fruitfulness and dormant season pruning induces wood growth. While summer pruning will induce the formation of fruit buds it may have the opposite effect if not done at the proper time in the summer. To get the desired results the pruning should be done shortly before the season's growth stops and the terminal bud forms. This is during the latter part of June or early in July.

Most of the pruning is done during the dormant season. There are few orchards that will not bear their full quota of fruit if given good care. Dormant season pruning is most convenient because it comes at the grower's time of leisure.

Both the season that the cut is made and the character of the cut influence the healing of it. The food material which heals over the wound takes a downward course through the inner bark and the wound should be in position to intercept the downward flow of the sap. A limb that is removed entirely should be cut close to the one to which it is joined and the cut made parallel to it. A limb that is to be headed back should be cut back to a side limb. Stubs should be avoided in all cases. They will not heal over as the sap does not flow out of its way to heal a wound, and from rotting back they are liable to be a source of trouble in the future.

Wounds heal best when the sap is active, but with the exception of late fall or early winter pruning the time of pruning has no direct bearing on the healing process. However, it is advisable to wait with the dormant season pruning until as near the opening of the growing season as work will permit.

Large wounds should be dressed to prevent decay and to check the evaporation of moisture. There is nothing better for this purpose than pure white lead and raw oil. The ordinary paints frequently have materials in them which would be injurious to the more tender barked trees

such as the peach. Small wounds, those under an inch and a half in diameter, need no painting over. Wounds from other causes than pruning should also be treated. Care must be taken to clean them out and trim them to sound tissue before painting them over.

Pruning had better be done a little each year instead of in spasms. However, if necessary to do severe pruning, the following season should be the bearing year for the tree. An "off year" following severe pruning would tend to produce a large growth of water sprouts.

Low-headed trees are almost a necessity now with the almost perpetual spraying and the high cost of picking labor. Low-headed trees need not interfere with the process of cultivation. The main limbs can be started low and trimmed so as to be out of the way of team, tools, and men.

Upon the fruiting habits of the tree and the character of the growth of it depends the course to be taken in pruning. If the apple were pruned like the peach it would almost become barren. The Wagener apple can not be pruned to advantage like the Spy on account of the difference in the character of growth. The stone fruits, the peach, the plum and the cherry, bear their fruit on auxiliary or side buds. The core fruits, the apple and the pear bear theirs on terminal buds. The peach bears its fruit on the past season's growth, and therefore it is necessary to cut back considerably that the fruit buds may be reduced in number to produce fruit of size and to prevent overbearing. The plum and the cherry produce their fruit on the older growth and if pruned like the peach would tend to produce wood instead of fruit.

Trees that grow very upright should be trained to spread by cutting off those branches that grow inward and favoring those that grow outward. For those of spreading habit pruning in just the opposite way will encourage a more upright growth.

Pruning can not be done by rule. In fact, even to the experienced man each tree is a problem; not one which perplexes but one which he knows he can solve with assurance because he has a definite idea of what he wants to do and knows the fundamental principles of pruning.

Van Buren Co. F. A. WILKEN.

THE CHERRY APHIS.

Nearly everybody who has a cherry tree is familiar with the small, black lice which infest the leaves. It is easy to find them. They are on the under side of the leaf, which crumples down over them, making a tent or hiding place secure from wind and rain, but also betraying their presence to the observing eye. They are also on the stems and soft young wood.

The life history of these insects is interesting. In the fall the eggs are laid on the twigs. These hatch early in the spring and the young lice crawl upon the opening buds, where they insert their beaks and suck out the sap of the leaves. In a week or ten days they become mature and begin to propagate, increasing very rapidly. In June or July winged insects appear which migrate to some other plant, but return in the fall. A brood of egg-laying females is then developed. These deposit small, slimy black eggs about the buds for next spring's brood.

This insect is an undesirable neighbor, not only because it injures the trees and makes the foliage unsightly, but also because it is not easy to get at. The leaves curl so much that the lice are almost secure from any kind of spray. In fact, spraying is little better than nothing. What few can be killed in this way are not missed in three or four days.

How to Combat.

The most satisfactory way to dispose of these pests is to dip the infested leaves and branches in some solution containing nicotine, the tobacco extracts being the most common form in which it is to be obtained. There are several of these extracts to be had, but some of them must be used with caution, lest the foliage be injured. The lice are mostly on the tender, terminal leaves, which adds to the difficulty of handling them.

Another way to dispose of them is to remove the leaves and branches upon which they are living. Such method is rapid and often satisfactory. The insects cling to the leaves, so can be disposed of without difficulty. The lice will soon die as the leaf wilts.

It is not alone on the cherry that these black aphides are found. They live on the plum, thorn and a variety of trees,

besides thistles, docks and a long list of plants, both wild and cultivated. It is not uncommon to see weeds black at the terminals with these hungry little fellows. Thistles and yellowdocks seem especially liable to attack.

The habits of the insect emphasize the importance of clean culture. It is impossible to keep the trees from black lice so long as there are shrubs and weeds nearby where they can breed. This not only applies to cherry orchards but to plums also, though the damage on the latter is not so great as on the former.

Another source of infection is the nursery, for here the insect is often very troublesome. Unless the young stock is kept clean there will be eggs on the trees which will hatch. Hence the importance of knowing the nursery and the stock sent out.

Oakland Co.

F. D. WELLS.

MUSHROOM CULTURE.

Many amateurs wish to grow a few mushrooms. A roomy outside cellar may be turned to account as a mushroom house; and in addition the warmth arising from the mushroom beds will bring forward rhubarb, and possibly also chicory, or dandelion roots to mix with lettuces for salad. The cellar may be perfectly dark to blanch the chicory.

The success of the mushroom beds will depend chiefly upon obtaining good new spawn and suitable manure. The manure should be obtained from a stable where the horses have hard dry food, and be reasonably fresh, and should not be exposed to rain or snow. The usual plan, where possible, is to prepare the manure in an open shed, thrown into the form of a ridge, and turn and intermix it every three days. The object is to drive off some of the moisture and get rid of the fiery heat. In the course of eight or nine days the manure will be in shape to make up into beds. The latter should be flat, three or four feet wide, and 12 to 15 inches deep, and made quite firm by beating or treading. If made on the floor the beds may be made in the form of ridges three feet wide and two and a half feet high, built up in layers quite firm. If the manure is quite fresh some labor may be saved if a fourth part of loamy soil is mixed with the manure. The soil will absorb the ammonia and keep down the strong heat, and such beds always bear well.

Spawning the Beds.

As soon as the temperature of the beds remain steady at about 80 degrees or 85 degrees, break the spawn up into pieces about two and one-half inches in diameter and insert them just under the surface of the bed eight inches apart, and make the bed quite firm again. Insert the bulb of a thermometer in the bed and watch it daily. It is not likely to get much hotter, and if the heat falls before the spawn runs into the manure a light covering of old hay or litter will restore it. In the course of a few days, when the spawn is working, place a covering of loam on the bed, and beat firm.

Canada.

W. R. GILBERT.

CO-OPERATIVE SELLING SOCIETIES AND NEW MARKETS.

Some of the co-operative fruit selling associations have found their most satisfactory sales to be with parties living in smaller towns and cities. Effort was made by societies recently organized in Michigan to go into the large cities where the dealers and wholesalers were well-organized and as a result obstacles were found. But in the smaller places the markets were open and satisfactory trading was affected. The fruit supply of the smaller places, especially in towns and small cities located in mining sections and general agricultural localities, is usually limited and of ordinary quality.

Well-selected fruit of good grade appeals to buyers of these municipalities as they are not accustomed to have good kinds presented for sale. This condition causes the action of buyers to stand out in contrast to the jealous attitude of wholesale organizations of metropolitan cities, which organizations are not content to oppose and obstruct a co-operative enterprise as they come in contact with it in the city markets but go into the field and use every ruse to embarrass the inexperienced men such mutual organizations are often compelled to hire to manage their business. For this general reason co-operative societies often find greater satisfaction in disposing of their output in smaller places, especially in a season when the fruit yield is heavy and values are down.

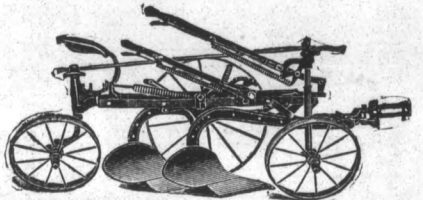
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DETROIT, DEC. 28, 1912.

1913.

There is a distinctively American spirit. It may not be easily defined nor would we undertake to indicate it by "odious comparisons." In a general way it means a free play to genius, ambition and energy, untethered and unrestricted by any old world tradition of caste or any false distinctions of society or of methods. It takes difficulties with a zest, as a mountain climber, and is indifferent to lesser obstacles. It "plays the game fair."

The mendicant wants alms.
The weakling wants "returns without effort."
The grafter wants unfair advantages.
A man seeks opportunities.

America stands for equal opportunities and when opportunities are not equal and the reason for any inequality, that is an unrighteous inequality, is understood and the responsibility clearly fixed, the person or persons who are responsible would better get out of the way. After Prince Henry, as our honored guest a few years ago, had toured our vast territory, he was asked upon his return to Germany what had most intensely interested him of American conditions. His prompt reply spoke volumes. "It was," said he, "the contrast between the bright, intelligent, hopeful, happy faces of the average crowds that in America everywhere greeted me, and the hopeless sullen expression, oftentimes with evident bitterness, in the faces that make up the crowds in Europe."

It is as inevitably a part of American progress that we do things in bigger ways, with improved methods in the general conduct of manufacture and commerce, as that we do things in bigger ways on the farm, with improved methods and machinery. The man in the industrial world or the commercial world who can not relinquish ancient or obsolete methods, can not hope to succeed; just as the farmer who persists in using the old hand cradle will inevitably fall before the competition of the modern harvesting machinery. Good business methods must be followed all along the line if we would attain material success worth while, regardless of the calling in which we are engaged.

On New Year's day, 1913, the farmer in America may well stand erect in pride at the mighty accomplishment of the year past which gives him the honor and the prestige of being in the van of all achievement, and he may well turn his face in all confidence toward the coming twelve months, rejoicing in the opportunities that America offers to the American spirit of honest, energetic, courageous, persistent endeavor. With the record of nearly ten billions of dollars in products in 1912, behind us, we turn to 1913 with the salutation:

A HAPPY NEW YEAR.

CURRENT COMMENT.

Your Trade Paper for 1913.

Every business man who aims to be up-to-date in his business methods takes a trade paper devoted especially to the business in which he may happen to be engaged. Business farmers have not been behind other business men in this respect. In fact, they have patronized trade papers perhaps longer than any other class of business men, and probably with greater benefit to themselves. As the farmer's business is more complex in its nature than that of most other business men, his trade paper, if it is what it should be, is more helpful to him in his business than that of any other business man.

As a natural consequence, the requirements for the farmer's trade paper to suit his needs are more exacting than is the case with trade papers in other lines of business. Above all, it must be suited to conditions which prevail in his own locality to furnish him the information which will be most helpful to him in his business. It must also be up-to-date in the subject matter which it contains, and anticipate rather than follow the season of his special needs.

Without attempting to enumerate the benefits which will accrue to the large family of Michigan Farmer readers during the coming year, we desire to simply state that we shall undertake to make The Farmer measure up to the afore-said requirements as a trade paper for the farmers of Michigan. In addition to the other departments and features of the paper, for which improvements have been planned which should add not a little to its educational value, we would again call the reader's attention to our new departure in agricultural journalism in establishing a department of Farm Commerce, which will be devoted to that important factor of modern business farming—the disposal of the products of the farm in such a manner as to secure the greatest possible net revenue to the producers.

The marketing problem has come to be a big problem in farm economy, and only by its constant and careful study can its early and satisfactory solution be achieved. Such a study on the part of business farmers has already been too long delayed, and never before in the history of our country was the time so propitious or conditions so favorable to the successful solution of this vexed question as is the case right now. Economic students are everywhere awakening to this fact and even in government circles the matter is being given attention. It is probable that in the not distant future the Department of Agriculture of the United States government will have added to it a bureau of markets, and in New York there is at present serious agitation looking toward similar action by that commonwealth.

It is in recognition of this important fact and with a desire to be in the lead at the propitious time that this latest improvement has been added to your trade paper. Recognizing at the same time that by departing from the custom that has grown up among farmers' trade papers in recent years of using premium gifts to secure subscriptions, and by offering the paper on its merits at a greatly reduced price, we could not only maintain its quality but improve it all along the line, we have taken that step—a step which will ultimately effect the saving of \$40,000 per year to our present readers. This, however, is really a small item compared with the benefits which the Michigan Farmer as a trade paper will be to them.

In this effort to make the Michigan Farmer of the greatest economic as well as cultural benefit to our present family of readers, as well as to extend the scope of its usefulness to include every Michigan farm family, we bespeak the kindly co-operation of every reader.

Legislative Questions.

During the coming session of the legislature many important questions will be debated and disposed of for the ensuing two-year period by the members elected to represent the people of the state at Lansing. Every citizen should be interested in the legislative procedures and should, upon occasion, exercise his right to communicate his views upon important public questions to the men who represent his district in the state legislative body. Every citizen should, as well, bear in mind the fact that in the end legislation is often a matter of compromise, a getting together by men who hold or represent extreme opinions upon

the subjects under consideration, so that the action finally taken upon many questions will more than likely not be in accord with the opinions of those who have given the questions under consideration careful thought and painstaking study.

There is no doubt, however, that the direct interest of a large element of the state citizenship, as expressed to their representative in the state legislative body, will have a wholesome influence upon the character of the legislation enacted. For this reason it is a duty incumbent upon every interested citizen to give the important questions which will come before the incoming legislature careful and unbiased consideration, to the end that their suggestions may be helpful rather than their demands embarrassing to their representatives in that body.

To the end that this result may obtain, we shall aim to present such facts and ideas upon important questions as may seem to be of material aid to our readers in the study of these questions. Such discussions will not, however, be in any sense partisan, or presented with the idea of converting the reader to any particular line of thought, but rather to aid him in the impartial consideration of important questions which his representatives in the legislature will be obliged to pass upon during the coming session.

The Initiative and Referendum.

For several years the farmers' organizations of Michigan have declared themselves in favor of the initiative and referendum. Their efforts in this direction have apparently borne fruit in that the three parties represented in the membership of the incoming legislature have recognized this demand and declared in favor of the enactment of such legislation during the coming legislative session. It is, then, entirely probable that a law providing for the initiative and referendum in legislation will be passed at the coming session of the Michigan legislature.

It is thus an opportune time for the thinking citizens of the state to study this question more carefully than they have heretofore done, to the end that acceptable legislation may not only be assured, but that the use made of the new rights and duties which will devolve upon the electorate may be such as to fulfill their hopes regarding this innovation.

Oregon has been frequently pointed out as an example which Michigan should follow in this kind of legislation. It appears, however, that the Oregon law, in the opinion of its friends, has been too freely used in that state for best results. At the recent general election 40 bills were presented to the voters of the state for ratification or rejection, thus lessening the likelihood of careful consideration and judicious action upon the more important subjects submitted to the electorate.

The taxpayers' League, of Portland, made a careful study of these several propositions and their published report, in which recommendations were made as to the merits of the several propositions, was prefaced by the following paragraph: "The League, as an earnest friend of the referendum and initiative, again protests against their indiscriminate use as a substitute for action by the legislature and in measures of small importance. They were intended, and can only be used effectively as a high court of appeal against misrepresentation by the legislature, not as an original source of general legislation. Forty bills are presented for state action at the coming election, and the sentiment, 'when in doubt vote no,' is generally expressed. Initiative and referendum will die in the house of its overzealous friends if overworked to this extent."

It would probably be impractical for the legislature to limit the application of the initiative and referendum in any legislation which may be proposed or enacted, but the greatest benefit can accrue from the enactment of laws providing for the initiative and referendum in Michigan only by their conservative use by the electors of the state.

Woman's Suffrage.

The question of woman's suffrage is another which will certainly come before the incoming legislature in the form of a resolution for the resubmission of a constitutional amendment at the general election to be held next spring. The recounts granted in several counties failed to develop a majority in favor of the constitutional amendment providing for woman's suffrage as its advocates had hoped and the final official canvass showed a small majority against the proposition. A too

general lack of care in initialing the ballots or a weakness of the law in that respect was also developed. Such weakness, if found to exist, should be promptly corrected by the incoming legislature, and the proposition should be resubmitted at the earliest practicable date. The State Grange and State Association of Farmers' Clubs both went on record in favor of such resubmission at their recent meetings, and there is little doubt that the incoming legislature will give the people of Michigan another chance to express themselves upon this proposition in the near future.

HAPPENINGS OF THE WEEK.

National.

Fire destroyed the Southern grain elevator at St. Louis, Mo., Sunday morning, entailing a loss of about \$100,000.

Believing that dealers in apples are attempting to withhold supplies from the trade until prices advance, the National Housewives' League is about to attempt to break the market by bringing out supplies for present consumption. Many offers of storage stock have been made.

During the season of 1912, 33 persons have been drowned in the Detroit river. Five of these were drowned from canoes, two from rowboats, one was run down, while the remainder fell in or met death while swimming.

Postoffice officials declare the mails this Christmas season to be the largest in the history of the postoffice department. Much additional help has been necessary to handle the increased amount of mail matter.

The dynamite conspiracy trial at Indianapolis is nearing an end. The prosecution expects to complete its argument this week.

The amount of commerce moving to and from the United States during the season of 1912 breaks all former records. Imports will approximate \$1,800,000,000 worth against \$1,563,000,000 in 1910, the former high record year. Exports will approximate \$2,400,000,000 against \$2,093,000,000 in the former high record year for exports in 1911.

The United States grand jury in session at Detroit, returned 23 true bills. Twenty persons were indicted charged with violations of the Mann Act.

The Interstate Commerce Commission has decided with the Detroit coal men in a case against the railroad who made an additional charge of \$2 for reconsigning cars.

The federal government has started suit against the Southern Pacific Railway on a charge involving the title to \$250,000,000 worth of oil lands.

Seventeen alleged bucketshop men have been indicted by the Wayne county grand jury, now in session at Detroit.

The Michigan state board of canvassers has completed its work and declared the women's suffrage amendment to have lost by 760 votes.

President Taft is enroute to Panama to look over progress there and consider other matters of importance. He may determine whether the canal zone will be given civil rule or not.

New York will expend \$150,000,000 in improving docks along the water front.

Foreign.

The steamer Florence was wrecked off the coast of Newfoundland last Friday. Twenty-two sailors were lost, only five of the crew being saved. The wreck occurred west of St. Shotts.

The French aviator, Roland Garros, successfully completed an overseas flight from Tunis to Rome on Dec. 22.

Affairs in Mexico seem in a rather uncertain state. A report has just reached this country that a band of rebels successfully assaulted the garrison at Ascension, occupied by federal troops. It is also believed that the town of Guzman has also been taken. Additional federal forces are now being moved toward the position occupied by the rebels. A colony of American negroes located 20 miles west of Durango have also been attacked by a band of rebel forces. President Taft is sending a message to President Madero by Ambassador Wilson to renew his efforts to terminate the rebellion, or at least to greatly enlarge military forces for protecting property of foreigners from depredations.

Another violent earthquake shock was felt at Messina and Reggio, Italy, at nine o'clock Sunday morning. The people were panic stricken and are now camping outdoors. It is declared that had the city been rebuilt after the earthquake of 1908 the buildings would probably have been destroyed by this disturbance.

Fire during a moving show at Baraques in Prussia, caused a panic in which 12 persons were killed and 20 injured. Many of the victims were women and children.

Anglo-Saxon nations are enthusiastic over the proposal of a celebration to commemorate the 100 years of peace between English speaking nations. The English committee having in charge a portion of this work contemplate purchasing the old Washington home in England, which is in a good state of preservation.

Former-president Castro, of Venezuela, is reported to have sailed from Havre, France, to New York, on an unknown mission.

The conference between the representatives of Turkey and the Balkan allies and Greece have failed as yet to reach terms for settling the Balkan war. There is nothing to indicate one way or the other whether proposals made by the different sides will be accepted or not. It is reported, however, that both parties are leaving nothing undone in the way of preparation to continue fighting in case a treaty is not effected. The conference is in session at London.

Arrangements are being made for providing Windsor, Ont., with 2,500 horsepower of electric current from Niagara Falls.

GRANGE

Our Motto—"The farmer is of more consequence than the farm, and should be first improved."

FORTIETH ANNUAL STATE GRANGE.

(Continued from last week.)

The Electio

Due to imperfections in the primary system authorized last year for the purpose of securing an advisory expression from the subordinate membership on the offices of master, secretary and executive committee, the election of officers again claimed too much of the delegates' time. Gradually, however, the faults of the new method of electing officers promise to be eliminated, some important changes having been made before the close of this meeting. The complete list of officers for the ensuing two years is as follows:

Master—John C. Ketcham, Hastings.
Overseer—Frank E. Mol, Minden City.
Lecturer—Jennie Buell, Ann Arbor.
Steward—T. E. Niles, Mancelona.
Assistant Steward—Chas. Lundquist.
Chaplain—Mrs. O. J. C. Woodman, Paw Paw.

Treasurer—Frank Coward, Bronson.
Secretary—J. W. Hutchins, Hanover.
Gate Keeper—Geo. A. Robertson, Traverse City.
Ceres—Mrs. A. J. Freeman, Romeo.
Flora—Mrs. C. H. Anderson, L'Anse.
Pomona—Miss Ida Hansen, Lincoln Lake.
Lady Assistant Steward—Mrs. Ruth Miller.

The terms of four members of the executive committee expired with this meeting. C. S. Bartlett and Geo. B. Horton, present incumbents, and W. F. Taylor and Jerry Lawson, both former members of the committee, were elected. The promotion of John C. Ketcham to the Master's chair brought his immediate resignation from the committee and the vacancy was filled by the election of T. H. McNaughton. The two hold-over members are F. G. Palmer and H. F. Baker.

This year the names of cities extending invitations to the Grange were placed upon the official ballot, so that delegates voted upon next year's meeting place when voting for State Grange officers. Four cities asked for the next State Grange, viz., Flint, Battle Creek, Grand Rapids and Mt. Clemens. Flint proved the choice of a large proportion of the delegates.

The Executive Committee's Work.

Introductory to the report of the executive committee, Chairman Horton congratulated the Grange on its continued success throughout the state and nation. The organization's prosperity, he said, speaks volumes for its justice and usefulness, justifying its existence and giving assurance for the future, for the farmers of Michigan are as deeply impressed with the necessity of organization right now as they ever have been. The principles of the Grange seem to more nearly meet their requirements than have those of any other organization ever presented to them, the result being that the Grange has lived and grown. However, patrons have an important charge to keep, for such an organization is more essential today than when "Father" Kelly started it nearly half a century ago. It offers a specific agency through which farmers may unite their efforts in maintaining themselves socially, intellectually, industrially and influentially as against organized influences and effects of the many contending interests incident to this strenuous age. Believing that the days of its greatest need are yet to come, he declared that the Grange must continue distinctively a farmers' organization—must be to the farmers what other special organizations are to the various special interests which promote and maintain them. Thus it behooves the membership to be ever earnest and watchful.

The report proper gave details as to matters claiming the committee's attention during the year and showed the members to have been active in urging an immediate-effect presidential preference primary, in securing the submission of the universal suffrage amendment and in supporting the campaign for its adoption. Life insurance problems were given close study during the year and every effort made to promote the progress of the Grange life insurance company in accordance with instructions from the last State Grange. The committee also, during the year, framed and put into effect, as directed by last State Grange, an amendment to State Grange by-laws pro-

viding for an advisory election of certain State Grange officers. While some unforeseen complications interfered with the getting of a full and satisfactory advisory expression of the membership, the committee held that this first trial fully justifies the perfection and continued use of the plan, and recommended that its scope be broadened to include more of the officers of State Grange.

The report of the sub-committee on co-operation properly follows that of the full committee. This, too, was rendered by Geo. B. Horton who served as Grange contract agent during the year. He called attention to the steady gain in the returns to the Grange from the contract system and expressed the opinion that the Grange should continue this system of business co-operation until the superior qualities of some other system have been thoroughly demonstrated. Experience would seem to demonstrate that it is preferable to the establishment of Grange stores. Discussing co-operative movements in a general way he said that the Rochdale system has never done much in this country although it has worked well in poorer countries. Of all the numerous plans promulgated and tried out in the past, it is worth while noting that none of state-wide dimensions has succeeded. Small communities, however, find it practical to establish and build up co-operative enterprises, although complications and disappointments beset all movements of this kind and a great degree of business patience and loyalty is required in those participating. The committee's efforts to solve the farm labor problem were referred to briefly. In reality the movement proved a failure owing to the fact that wages ruled so high in the east as to deter many immigrants from leaving that section. The proposed investigation of rural credit systems in foreign countries was mentioned as possibly leading to the formation of co-operative banks through which farmers many secure capital necessary to the proper development of their farms at a reasonable rate of interest. The committee also held up the Grange life insurance company as a form of co-operative enterprise which is demonstrating that the rates charged by the large life insurance companies are far higher than they should be.

Co-operation and Taxation.

The report of the standing committee on co-operation followed closely, being presented by its chairman, Judge L. C. Holden, of Chippewa county. The committee favored the promotion of commercial and financial co-operation and, in view of the fact that Michigan laws are not now favorable to the formation and operation of co-operative associations, it was recommended that the Grange endeavor to secure the enactment of a law similar to that passed by the legislature of Wisconsin last winter. It was further recommended that the State Grange executive committee be instructed to formulate and work out a plan of co-operation adapted to the use of subordinate Granges. The Grange concurred in these recommendations. On motion it also endorsed the plan of organizing and operating co-operative associations put forth by the Right Relationship League.

The committee on taxation, B. E. Kies, chairman, submitted a plan for the separation of state and local taxes which, after somewhat lengthy discussion, was rejected by the delegates. It was recommended that the present mortgage tax law, the repeal of which is advocated in some sections, be given further trial. The Grange gave its earnest support to this measure at the time of its enactment and desires that it be given a fair opportunity to demonstrate its superiority over the former law before being repealed. The delegates endorsed this attitude and also concurred in the recommendation that the state license fee for automobiles be increased, and that such fees be returned to the counties where the automobiles are owned and there be equally distributed among the towns for the maintenance and repair of the roads. The proposal of a national graduated income tax upon all incomes in excess of \$5,000 was endorsed as was also the position taken by the National Grange in declaring that tariff taxes must not exceed the difference in cost of production at home and abroad.

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FARMERS' CLUBS

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Vice-President—C. B. Scully, Almont.
Secretary-Treasurer—Mrs. C. P. Johnson, Metamora.
Directors—C. P. Johnson, Metamora; H. W. Chamberlain, White Lake; Wm. T. Hill, Carson City; Jerry Spaulding, Belding; R. J. Robb, Mason; J. F. Reiman, Flint.

Address all communications relative to the organization of new Clubs to Mrs. C. P. Johnson, Metamora, Mich.

Associational Motto:

The skillful hand, with cultured mind, is the farmer's most valuable asset.

Associational Sentiment:

The farmer, he garners from the soil the primal wealth of nations.

ASSOCIATIONAL PRESIDENT McBRIDE.

Hon. James N. McBride, the recently elected president of the Michigan State Association of Farmers' Clubs, needs no introduction to Michigan Farmer readers, since he has long been a contributor to its columns. That he was the unanimous choice of the delegates at the recent annual meeting is evidence that his ability and fitness for the place are generally recognized among Club members. An



Hon. James N. McBride.

up-to-date and progressive farmer, a deep thinker on agricultural and public questions and a knowledge of the state and its people through years of personal contact in institute work are qualities which bespeak for the Farmers' Clubs a capable leader for the coming year and an earnest champion in the legislature, of which body he is a member-elect.

THE ASSOCIATIONAL SECRETARY'S STATISTICAL REPORT.

Number active Clubs in state 114, with 5,392 members as shown by report blanks. Number of meetings held during year 784, with an average attendance of 47. Twenty-three Clubs use yearly programs, 20 have Club fairs and 25 hold temperance meetings. Forty-eight Clubs sent delegates to last annual meeting and 63 paid state dues.

CLUB DISCUSSIONS.

Plan for Lecture Course.—The Hadley and Elba Farmers' Club was pleasantly entertained at "The Oaks," by Mr. and Mrs. Herbert Watson, Nov. 21. The roll call, "Whom do you consider the most famous man of the day?" received a hearty response from the members. Mrs. C. A. Bullock presented a proposed course of free lectures as promoted by U. of M. and a committee was appointed to confer with the Grange on the matter.—Mrs. C. P. Johnson, Sec.

Elect New Officers.—About 60 friends and members of the Troy Farmers' Club enjoyed a chicken dinner at the home of Mr. and Mrs. Jesse Maitrott on Dec. 7. The following program was given in the afternoon: Singing of America, followed by prayer by Rev. E. A. Cross. Roll call, "What have I most enjoyed during the year of the Club work?" The majority of answers were the good fellowship and discussions on interesting subjects. Miss Edith Phillips gave an excellent reading and responded to an encore. "Will electricity solve the problem of impure milk?" was discussed by Messrs. Hodgdon and Schoch and Wm. Bailey. The following officers were elected: President, L. D. Miller; first vice-president, Wm. Herbison; second vice-president, Mrs. Edwin A. Starr; secretary, Mrs. Charles

Howarth; corresponding secretary, Mrs. George Farrand; treasurer, Mrs. Otis C. Hodgdon. The Club adjourned to meet with Mr. and Mrs. L. D. Miller on January 4, 1913.

Hold Annual Meeting.—Salem Farmers' Club held its annual meeting at the town hall on Dec. 6. Good music was furnished by Mr. Wm. Grote and Mrs. Hershel Munn. An exceptionally good paper was read by Robt. Ross, on the subject, "Natural Science and the Farmer." He showed us that the farmer should also be a scientist; should know the composition of the soil. He referred to the fact that much of our soil was primarily worn down from the faces of the rock masses, by the process we call "weathering." Beaten by the storms and winds it gradually came to supply a vegetation, small at first, but increasing in soil fertility. He said good soil and fertile soil are not synonyms. A good soil is one that is capable of receiving plant food and properly feeding the plant. A plant may easily die in fertile soil with poor mechanical action. He told us about the uses of nitrogen, potash and phosphoric acid; of the value of birds and the shame of the hunter's ruthless destruction, which we hear on every hand, and much more. Mr. L. D. Lovewell, of South Lyon, gave a grand talk on his trip into the south land, starting at Detroit he took us with him to Chattanooga in a most charming manner, stopping on the way at all the points of interest. Election of officers resulted as follows: President, Gilbert Thompson; vice-president, Robt. Ross; treasurer, Chas. Ross; corresponding secretary, H. C. Thompson; recording secretary, Mrs. Sara Ross. Club voted to hold an institute in February, 1913. Thanks of the Club are due to Mr. John Munn, who was our host at the annual meeting.—H. C. Thompson, Cor. Sec.

Receive Report of State Meeting.—The Hartland Farmers' Club met in December at the home of Mr. and Mrs. George Huskingson. After dinner was served, meeting was called to order by President W. C. Clark. Opened by prayer by Elder Woolley. It being the day for election of officers the program was cut short. Mr. Wm. Youngs was delegate at Lansing for the Michigan State Institute. He brought back a very interesting paper much enjoyed by all. He spoke of hearing the pupils from the blind school, who sang fine. Next on the program were recitations by Gladys Marsh and Edna Close. Mr. and Mrs. Wm. Wakeman favored us with a song entitled, "Angry Words Should Never be Spoken." Last of all we elected officers as follows: President, H. W. Clark; vice-president, Jerry Fahay; treasurer, Myron Wyckoff; secretary, Etta Burgess; corresponding secretary, Mary Openo. Club adjourned to meet with Mr. and Mrs. Dr. Cook on Jan. 4.—Mary E. Openo, Cor. Sec.

Find the Club Profitable.—The December meeting of the Wixom Farmers' Club was entertained by Mr. and Mrs. John Porter at their farm home. A good crowd was present and enjoyed the social hour and the good dinner. The program was fine. Music on the graphophone added much to make it lively. Our delegates were there and gave us a very flattering report, which was listened to with much interest. The question box was taken up and the queries discussed. Gov. Osborn was severely censured for the pardoning of Ashley, by several members of the Club. "Are Farmers' Clubs a Profitable Organization?" was freely discussed. It was decided they were if we make them so. Mrs. R. D. Stephens, Cor. Sec.

Question Box an Interesting Feature.—The Rives and East Tompkins Farmers' Club met at the home of Mr. and Mrs. Eugene Perrine, Dec. 7. After the usual good dinner had been served to over 60 the meeting was called to order by the president. Singing of America by the Club was followed by a prayer by our chaplain. The members then listened to a delightful literary and musical program. Our pastor, Mr. Severance, read an article entitled, "The County Y. M. C. A." Mr. Richard gave us a violin solo which was encored. The program was concluded by an instrumental duet by Miss Rosa Foster and Miss Netta Mann. After the usual interesting question box had been discussed the meeting adjourned until Jan. 4, when an oyster dinner will be served.—Ina Stringham, Cor. Sec.

A Brilliant Thanksgiving Meeting.—The members of the Hickory Farmers' Club were delighted to see the sun rise bright on the morning of Nov. 21. Soon all except two families were on the road which led to E. R. Purdy's farm home near Caro, to attend the annual Thanksgiving meeting, which is one of the best Club meetings of the year. About 80 arrived, bringing eatables with them. The centerpiece was a large pumpkin cut diamond shape, filled with fruit. Did the turkey come? Yes, and roasted to a finish. Besides were also all kinds of vegetables, besides fruits from the tropics, and candies. The program opened with singing by the Club, followed with the Lord's Prayer. The secretary then read her report which is always spiced, and as one member said, is one of the best parts of the program. Mrs. J. C. Robinson read a paper entitled, "Enjoy Life," which was very good, containing many helpful hints. Bessie Dowling gave a reading, namely, "A Thoroughly Good Time," which was Maxine Howell recited, pleasing all. Mrs. Peterhaus read, "The pig is mightier than the pen," which explained the daring ability with which a farmer might express his opinion upon certain subjects, compared with the editor. Then came a lively debate on the question, "Resolved, that grain farming is more profitable than stock farming, that is, with stock sufficient to run the farm." Edward Purdy was leader on the affirmative side, while W. T. Dowling led the negative. The discussion was general. The question was decided in favor of stock. Singing closed the meeting.—Mrs. R. L. Robinson, Cor. Sec.

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HOME AND YOUTH

THE NEW YEAR.

BY JOHN E. DOLSEN.

A king, from the most ancient line,
The latest and the greatest one,
Has now his empire to resign—
His course is run, his work is done.

The while he ruled o'er all the earth,
His days were given to the Race;
He saw of hopes and lives the birth,
And wondrous changes taking place.

His heir is waiting on the hour,
New hopes and better days to bring.
Let's do his work with all our power—
"The king is dead, long live the king."

CALENDARS, OLD AND NEW.

BY ELIZABETH L. STOCKING.

A 1913 calendar! Those of us whose hair is beginning to be streaked a little with gray, pick one up from among our holiday presents with, perhaps, a little sigh at the thought that another swift-winged year has flown. O, well! it was not such a bad year and, very likely, 1913 will be a great deal better. We are going to try to make it so anyway.

What handsome and complete things some of these modern calendars are! A leaf for every day in the year; the day of the week, the day of the month; the number of days past and those to come; the phases of the moon, and an inspiring quotation from one's favorite author; all this information given upon each page of the calendar.

While it is true that this new calendar points us determinedly to the future, still as we gaze at it our minds turn backward in a reverie, and we wonder about the first calendar that ever was made, and dream of the slow stages of evolution through which it must have passed to reach its present form. Perhaps, we become so interested in our visioning that we delve a little into the records of the past to learn, if we may, of those first attempts to measure fleeting time.

Probably, some of our very early ancestors kept track of the days by merely notching each one on a stick as it passed. Soon, the phases of the moon formed a measure for time, and the days were grouped into months. It is thought by some authorities that, for a long while, months were the longest measures of time, and this explains the reason why Methuselah and the other Bible patriarchs are described as so long lived. Methuselah's nine hundred and sixty-nine "years" were simply months of 29½ days, which, according to a simple calculation, would diminish Methuselah's hoary age to 78½ years.

Later, when the "monthly" years became inconvenient as measures of time, and when men began to realize that the changes of weather and season were dependent upon the sun, the year was lengthened to five months, easily counted by the number of fingers on one hand.

The five months' year existing in the time of Abraham reduces his 175 years to 72, and Isaac's 180 years to 74. Later still the year was increased to ten months, and, last of all, the twelve-month year was introduced by the Egyptians whose careful observations had finally succeeded in determining the length of the true solar year.

In very early time, shadows were observed to indicate the time of day and also the season. Stakes and pillars were erected, and tall, vertical stones set up on locations where their shadows could be best observed.

Gradually, as it became more and more important that the proper seasons for sowing crops should be better known, the size of these sun-stones was increased, since the larger shadows indicated more accurately the change in seasons, and the totems, monoliths, pointed towers, and obelisks found in so many different localities, were the result. The obelisks are called "Fingers of the Sun," and were used as sun-dial clocks, and also to indicate the seasons. The hieroglyphics on their surfaces record special days and events. The obelisks were simply ancient calendars.

According to a late theory, these efforts accurately to locate the seasons and determine the true length of the year, culminated in the mighty pyramids of the Egyptians. It has been proved that the pyramidal form is the best for giving exact shadows, and also that a very high and large object was necessary to show the slight variations in shadow from day

to day, and especially at the two equinoctial seasons when the shadows are shortest and of nearly equal length.

The pyramids of Egypt, then, according to this theory, are a series of vast experiments to determine the correct length of the solar year, culminating in "The Great Pyramid," whose size, correct "equinoctial slope," and other measures and indications, show that the long-coveted knowledge was finally reached by the aid of this vast monument.

The Egyptians were then able to plant their crops at the proper seasons; there was always "corn in Egypt," and the fear of famine no longer haunted them. They became the granary for the world—the wealthiest and most civilized of nations. Through their herculean efforts the true calendar was born.

Trading with the Egyptians at the port of Alexandria the Greeks received the knowledge of the calendar. Ancient Greek calendar stones have been found showing the twelve months and also with thirty holes on the left sides indicating the days of the month. A peg was stuck into the first hole and moved forward one hole each day, recording the date.

From the Greeks, the knowledge of the calendar passed to the Romans whose conquests spread it throughout Europe. The Roman rulers whose prerogative it was to compile the calendar, took great liberties with it, shortening it or lengthening it to suit their own convenience until Julius Caesar, in the year 46 B. C., established a calendar reform which proved a great blessing to the people. According to this arrangement, months of 30 days alternated with months of 31 days. This plan was afterwards broken into by various changes made by different emperors. For instance, the month Quintilis, which had been re-christened "July" in honor of Julius Caesar's birthday, had 31 days. Augustus Caesar changed the month Sextilis into August in his own honor, and then becoming jealous because Julius Caesar's month was a day longer than his own he took a day from February and added it to August, giving that month, also, 31 days. In the time of Pope Gregory III, the calendar was still

further reformed, assuming, at that time, its present shape.

Before the invention of printing, "Clog Almanacs" were used. These were square, oblong, "clogs" or sticks along whose edges were cut signs and symbols indicating the days and festivals of the year.

The first printed almanac in Europe was published in the year 1457. In Queen Elizabeth's reign the monopoly to sell calendars was limited to two members of the Stationers' Company whose families continued to exercise this privilege until well into the nineteenth century.

Calendar of the Future—a Change that has been Suggested.

And now, having viewed our calendar of the present, and delved into the records of past almanacs, perhaps we may wonder a little about the calendar of the future. Some people tell us that our present calendar, with its months of irregular numbers of days, is most inconvenient and absurd. They suggest the substitution of thirteen months of 28 days each. This would leave only one extra day, which could be placed at the end of the year and used as Christmas Day. By this arrangement each month would begin on the first day of the week and close on the last day of the week. Any given day of the month would always fall upon the same day of the week. The extra day, Christmas, would stand alone—it would have no week-day name. "Leap-Day," occurring once in four years, might be used as a mid-summer holiday. It would also stand by itself at the end of a month and bear no week-day name. The extra month could be placed midway in the year (between June and July). We would all have to rack our brains to think of a name for it.

The advocates of this scheme wax enthusiastic over its advantages and decry our present irregular, confusing calendar. Be that as it may, for this year, at least, we shall hang our new 1913 calendars above our desks, consult them often, and tear off each day the pages which, besides their printed records, shall tell of sorrows and joys, of events personal and national, of battles lost and won.

May this unopened calendar of 1913 prove "A Happy New Year."

BRAMBLE HILL.

BY ROBERT CARLTON BROWN.

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Synopsis of Preceding Chapters.—Nathaniel Edgeworth, eccentric, hard-headed and well-to-do, is passing his declining years upon his 400-acre farm on the outskirts of the village of Turtle Creek. His household consists of Mother Hubbard, housekeeper, and Brigadier General (by courtesy) Hornbill, a fellow veteran; Zeb Wattles, an aged musician who, with his daughter Jerusha, occupies a cottage (rent free) upon the farm, also spends much time with his venerable benefactor. Estrangement and finally death, robbed Nathaniel of his only son some years previous, following which, bitter remorse induced him to grant the means of a liberal education to his sole descendant and grandson, Sidney Edgeworth. In like manner he had befriended his sister's adopted daughter, Susan Dunlap. The story opens with Susan's return from boarding school and her full appreciation of quiet Turtle Creek as she views it from her own motor car. Sidney Edgeworth has completed his course at Harvard and rented an expensive apartment in New York where he is searching for a position as diligently and sincerely as his grandfather's allowance of \$500 per month will permit. Among obstacles encountered are two college chums—Doodle, a typical case of "more money than brains," and Jim, of an altogether better sort, who has found a job in Yonkers. Jim's last night in the big city is made the excuse for an all-night celebration. On their assembling in Sid's quarters in the early morning they find a telegram announcing the death of Nathaniel Edgeworth of Turtle Creek, who, in a heated argument with Brigadier General Hornbill burst a blood-vessel and immediately passed away. After the funeral of his grandfather Sid yearns to get away from Turtle Creek but remains for the reading of his ancestor's will, only to find that the conditions imposed by that document promise to indefinitely delay his return to New York. By the terms of the will Sid inherits the farm at Turtle Creek, and valuable securities in addition provided, that he lives upon the farm, with the exception of two weeks' vacation each year, for a period of four years and during that time acquires, by gift or purchase, an adjoining strip of rough land known as Bramble Hill belonging to the foster father of Susan Dunlap; or, in lieu of acquiring Bramble Hill, he must make the farm earn \$100,000 during the four years. Otherwise, the entire estate reverts to Susan Dunlap. On serious reflection Sid decides to accept the conditions imposed and considers the possibilities in bee-keeping as a start toward his

hundred thousand dollars. The profitable production of wine from the wild grapes going to waste in fields and roadsides is also considered. He wires Doodle for a case of his favorite cigarettes and develops a determination to make the best of his new environment. Jerusha points out the folly of overlooking little things and as a result Sid offers a site for the Old Settlers' Reunion, which is accepted, and prepares to earn a small sum by supplying refreshments for the occasion. At the close of the reunion Jerusha Wattles disappears, concealing herself in the van of the gypsy family which managed the merry-go-round at the reunion, by whom she is discovered the following morning. Escaping from them she makes her way to a Chicago suburb where, through an accident, she falls into the hands of Mrs. Ralmer, a schoolgirl friend of her mother. With the knowledge and consent of her father she becomes the wealthy lady's traveling companion, assuming her mother's maiden name—Elizabeth Walters. Meanwhile Sid's first year on the farm ends without flattering results and he is further discouraged by the fact that a new railroad promises to cut through the farm and very materially reduce its earning power.

Chapter IX.—A Month Off.

Again the old Edgeworth grove rang with many tongues, and Sid presided at the ice cream bucket. Turtle Creek was having her annual outing in the rented grove for the second time. Everything was much the same. Bango was there with poor old Rosa, her nose twitching with another season's fly-bites; and Zara, with a seventh child, a mystic seventh child, but as frowzy headed as the rest. Nothing was much changed. Stimpson had added a new oath or so to his vocabulary, but Miss Dunlap was still at the head of the decoration committee. Miss Bettes, of Bayview, was absent and Jerusha. These were the only noticeable differences—if one excepts the changed manner of Sidney Edgeworth.

He mingled more in the social end of the thing now. He hovered around Susan Dunlap, and in the eyes of some that was good.

They sat together in another little bower of boughs, beneath last year's atrocious Japanese lanterns, re-strung.

The girl was very happy and Sid had had a jolly day of it.

"It'll be such a shame to have the railroad cut through this beautiful grove," remarked Susan Dunlap, leaning back, hands neatly clasped behind the thick coil of her tawny brown hair; her nice frank eyes swept the towering trees, nodding the least bit toward each other in gossip old friendship. A sweet bit in the landscape she was. Sid could never get over thinking that, whenever he was with her.

He considered her thoughtfully with appreciative gaze and replied: "It wouldn't be so bad if the right of way were to extend through the grove alone. The worst of it is, you know, they're to plow up the best part of the farm land."

"But you'd only have it plowed up yourself," she said.

"There's a difference. It'll be expensive plowing for me. Their last offer is only eight thousand dollars; the land is worth more than that; it earns over a thousand dollars a year."

"But father says you're foolish not to accept the offer," she answered. "You see, if you trust it to a condemnation court, he says they may find even a lower valuation on the property."

"Well, I'm willing to risk it for the delay. I ought to get more money out of that land. You see, it leaves me no chance at all to make that hundred thousand dollars. Besides, they may buy Bramble Hill from your father and that—"

"Yes, of course," she said thoughtfully, coloring the least bit and looking off toward the water chute. "Oh, look! there goes Ed Humphrey sliding down. This is a great day for him. There! Splash! See him blow out the water like a whale."

"Ed never was very fond of water," remarked Sid, slipping into the change of conversation. They never talked about the will for more than a minute, something confusing to both always entering.

Young Ewer came along presently and dragged Susan away to pitch in a game of quoits with the young people. Sid declined the grudging invitation from Ewer to join them. The young fellow still jangled on Sid's nerves. He was so eternally watchful, a self-constituted vigilance committee.

Sid was impatient with the interruption; it seemed that each time he was alone with Susan he had to begin getting acquainted all over again. But still, there had been much progress, as his day-dreams bore witness.

Finding himself alone, with not very pleasant thoughts, Sid sauntered over to the merry-go-round, where he stood watching the gay young country fellows treating their girls grandly to rides on the gorgeously trapped-out horses. Happy picture!

Bango stood beside Sid; business was a bit slow, for many sat around eating their evening meal out of big baskets on the ground. Zara was taking the nickles and Bango was enjoying one of those blissful opportunities to look on and smile, as patron of the show.

He turned and spoke to Sid; Sid replied, and a desultory conversation ensued.

"See da leetle girl with blacka da eyes an' hair. Mucha black!" laughed Bango, pointing to a rosy-cheeked lass sitting on her horse backward and galloping around the ring, a charming glow on her face, as though she hoped some day to blossom into a beskirted circus rider. "She get her neeckle's worth all right. You know her?"

"No," answered Sid idly, watching the girl. Then he added reflectively to himself, "She has the spirit of Jerusha, though."

"You say she looka lika somebody you know maybe?" Bango was a very sociable creature at times and did not wish the conversation to lapse through any fault of his.

"Oh, yes," Sid looked down at the gypsy absent-mindedly, having been unconscious for the moment of his presence. "She looks like the girl that ran away the day of the picnic last year."

"Girl ran away. Looka like dees girl?" cried Bango interestedly. "A blackberry! She looka like da blackberry?"

"Why, yes," answered Sid. "What do you know about her? Did you see her?"

The gypsy put a mystic finger to the side of his nose and leered like an owl. "I know. She run away. Vera small leetle girl. Black hair, black eyes. Vera fast da run."

"Yes," replied Sid. "Where'd you see her? She didn't steal a ride in your old Noah's Ark there, did she?"

"She no steala da ride. I giva da ride,"

Bango puffed out his chest as though he were one grand benefactor. "But I no know she run away. She say she leeva in house over da heel pas' Bayview."

"I'll bet it was Jerusha," Sid cried enthusiastically. "Funny I never thought of it before. Your old omnibus headed for Chicago must have been a great temptation to her in her state of mind."

"You want to get her back, maybe?" said Bango shrewdly. "I see her again, een Chicawgo."

"You did! Where'd you see her in Chicago, Bango?"

"You want to get her back?" persisted the shaggy fellow with a wise leer.

"Tell me, where did you see her?" asked Sid, disregarding the persistent question.

"Oh, but you will be glad to see her back. Nota many pretty girl lika her in Toortle Creek. She nica leetle girl. You pay monie maybe to know where she ees?"

"Blackmail, eh?"

"I no ondrasan' what you mean—blackmeel?"

"Well, Black Hand, then?"

"Nah. No Black Hand," Bango grinned. "I knowa da house. I taka you dere an' show da girl. I see her dere, lasta year. Eet ees house of reech people. I taka da merrie-go-around to run eet for da child'n. I go evra year."

"Well, where is the place? You're sure it's the same girl?"

"Yes, only she have on diffren' dress, she run when she see me. I tella da wife, Zara, maybe somebody pay maybe to get her back. She say 'no!' But now maybe you gentleman pay to finda da house?"

Sid was growing very much interested. He'd often thought it would be great if Jerusha were back to talk things over with. Besides, she might help him. There was still that idea she had about the railroad. That might be worth something. Anyway, Sid was disgusted and tired and needed a change. There was two weeks' vacation provided by the will. He hadn't used it the first year, and now, on the drab door-mat of the second year, he had a whole month of freedom due him. By George! It wouldn't be so bad to run down to Chicago and surprise Jerusha and bring back word to please old Wattles. He'd like to see Jerusha again, anyway; they'd been rare companions those few months; he'd never been on the same footing with any other girl. Why—here was an idea! He might make a search in Chicago for Jerusha his excuse to run on to New York. Good! Thoughts were piling up fast; Sid began to glow a little with real excitement. He slipped a dollar into the anxious hand of Bango and asked, "Where was the house where you saw the girl, Bango?"

"Oh, you wanta da girl back, den?" Bango was a good deal of a diplomat.

"Yes."

"Den I helpa you gentleman. I giva you da hand. I tella da wife, Zara, we should geta da girl to go back home, but she notta sure she come from here."

"Well, where's the house, never mind the interesting anecdote of your avaricious struggle, Bango. What street was it on? What number? What were the people's names?"

"Eet ees swell grande da town, just outside Chicog'. Oak Park, eet ees call. Missus Parker ees da lady. I taka you dere an' tell her we come for da chil'."

"Oh, no. I'll go alone, thank you, Bango," answered Sid. "But on what street in Oak Park does Mrs. Parker live?"

"I go dere evra year. I go with you an' ask for da nica leetle girl. I see her dere. I go with you. Maybe Missus Parker be glad to get reed of da leetle girl."

"But what's the street, Bango?" Sid was beginning to lose all patience with the crafty fellow. He jerked out another dollar and put it in Bango's trap-like fist. "I don't want you to mix up in this."

Bango looked at Sid shrewdly and glanced around in the hope of finding Zara disengaged; he needed counsel, for here was a man who slipped dollar bills into the palm as readily as dimes. But Zara was busy with the nickles and the public nursing of her latest frowsy-headed one.

Bango capitulated with direct suddenness. "Eet ees call da Avenue. Eet ees by da station. De Oak Park Ave. You go down onea, dua, trea, four, cinque block. You finda beeg whita da house on da corn', greata beeg gard'n."

"Good!" cried Sid. "Don't say anything to anybody else about this." It would be pleasant to surprise Watts.

"But maybe somebody lika to know," grinned the Italian.

THE CRADLE ROLL CHRISTMAS TREE.

BY CORA A. MATSON DOLSON.

When fruits were picked and shaken, In the glad October weather, We many a romp have taken, I and my babies together.

But now, from my Christmas stories Of today and long ago, My babies grasp for the glories Of a joy they are soon to know.

"To the Christmas tree," says Mary, "We're going to the Christmas tree; And on it will be the very Best things we ever did see!"

Then George, who cannot remember Of so long ago as last year, When the starlit night in December Brought the whole world Christmas cheer,

Exclaims, as his wee heart grapples With the vision of joys to be, "We're going to church for the apples They've hung on the apple tree!"

"Oh, no; cut out the blackmail, Bango; return to your duty as a decent citizen, remember the tenets of your political party and vote straight," as Sid handed him some change wearily.

The little eyes brightened. "Bango say nothing."

It was rather good to be packing one's grip and again going off for a whole month. Think of that!

Still, when Sid was actually on the station platform, with Hermann sweating over his steamer trunk and running about on a thousand aimless errands (to show Sid what a really important duty his was, though it paid but fifty dollars a month) he seemed suddenly concerned about his attachment for the quiet little town. There was something so strange in leaving it for the city. Sid was quite disgusted with himself for his weakness, but he couldn't deny the slight sinking sensation at leaving, as though he were dropping in an elevator.

Well, it was fine to be in the city at last; even Chicago! Sid gloated over the cement sidewalks and the newsboys, buying each extra as it was offered and being very prodigal with the change; his heart chimed with the city pulse, he thrilled with the sheer joy of living again.

He registered at the Annex and revelled for a whole day in taxicabs. There was plenty of money left over from last year's profits of the estate; that was his; he would spend it royally if he never had another cent. This would be one glorious holiday.

He went to a Turkish bath and rejoiced in the comfort of being back amid familiar surroundings, tired city men and servants.

He ordered beer at luncheon and was slightly worried that it didn't taste just right. Of course, it had been so long. One would have to get in training again, get used to things all over.

He bought a new stock of Utopias; they were fine, and still one didn't have the same contented feeling after a Utopia as after the old cornob Hornbill had urged and finally induced him to break in.

Sid was a bit awkward and behind the times; but he limbered up nicely and came back to the joy of life. Still, even on that first evening, he missed the cool breath across the meadows, and felt it wouldn't be so bad to be back sitting on the doorstep with Hornbill, watching the sunset. Sid had mechanically looked for the evening color-riot in the sky, and found only a sooty, scraggly, brick-topped sky-line. Well, it was fun to be back, anyway, but a man can be just as lonesome in the city as in the country—maybe more.

The next day he hurried out to Oak Park. He'd see Jerusha. That would be great. She seemed a very dear old friend; he was alone in the city, knew nobody.

Yes, Bango had told him right. Five blocks from the station, straight north on Oak Park Avenue, was that big white house with the huge garden. Rather nice! Sid asked the policeman on the corner who lived there. The Parkers. Yes, that was right. The Parkers; and they must be rich people, it was a splendid menage, if one could judge from the outside, the up-keep of the grounds, the stable, the garage and all. Well, Jerusha had fallen into luck if she had been taken in there. Of course, she wouldn't be a servant. Jerusha wasn't that kind. She might be a sort of governess or companion, but surely not a servant. Still, Sid wondered as he walked up the broad cement to the front door, just what Jerusha's position would be in the great household.

(Continued next week.)

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NOTICE

At the annual meeting to be held in the City of Hastings on January 14, 1913, to commence at ten o'clock A. M., the members of the Michigan Mutual Tornado, Cyclone and Windstorm Insurance Company will vote on amendments of sections 5 and 7 of the charter of the said Company. Dated Hastings, Mich., December 9, 1912. D. W. ROGERS, Sec.

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Farm Commerce.

THE NOMID SYSTEM OF DISTRIBUTING FARM PRODUCTS.

MICHIGAN farmers are fortunately situated for selling their goods by the Nomid system. There is within her borders more than a score of cities of over 10,000 people while just across the line are large centers of population aggregating millions of people who can be reached by Wolverine producers. More and more will the soil of this commonwealth be used to supply the immediate needs of these great cities for every year the demand reaches larger proportions while the area for satisfying that demand can expand little beyond present limits. Many producers have recognized the marketing advantages of the state and have adapted a direct selling method, and it is the experience of these and others that we hope to classify for the benefit of those who desire light and help in selling their products.

It has been demonstrated by long experience that the Nomid system will save money for the producer. The writer knows men who have followed the plan for from 15 to 25 years and they are still enthusiastic over it. Farmers who testified before a recent investigating board looking into the ways of marketing produce, stated under oath that they realized from five to 50 cents more per bushel for potatoes and apples than they could had they sold by the ordinary method, from one to 15 cents per dozen for eggs and about the same amount per pound for butter. So it is reasonable to believe that experience justifies the attention of readers of the Michigan Farmer to this plan of marketing.

The aim of the chapters in which this treatise is divided, is to furnish practical information on the various sub-topics given. The work is not an elaboration of a theory, and the author has absolutely refrained from the use of impassionate language which so commonly characterizes writings of this kind. Neither does he claim that herein lies a panacea for all our marketing ills. But it is a practical plan that will place the producer of good a step in advance of his present position and prepare him, as well as the consumer, for effective, co-operative work.

What the Chapters Contain.

We have attempted to treat this subject in the most natural way by taking up first, methods of securing customers, following this with the completing of agreements, the arranging of details, of delivery, of making payments, etc., through to a presentation of legal topics affecting the rights of the different parties so dealing. The following is a brief resume of the different chapters:

Chapter I treats of the definition of the system and its application, in which the Nomid system is defined; shows how the system is applied to the sale of farm products, how the individual as well as organizations can avail themselves of its advantages, points out the economy in the system as well as the superior quality of good delivery. The aim of the present system is also presented, together with an argument showing how the Nomid plan will aid in correcting some of the present faults of the middleman way. The chapter will close with a discussion of the educational advantages of the plan under consideration.

Chapter II gives specific ways by which producers and consumers may get together. Among these different methods are personal solicitation, advertising, correspondence, the utilizing of county fairs, city markets, friends, etc. The purpose of the chapter is to furnish a definite working basis that any party who wishes to undertake the system may proceed at once to work under the plan.

Chapter III gives different ways in which the price of the article may be set or determined. The chapter points out the importance of having an understanding on this point. It shows that the price may be regulated by general market conditions, or quotations, by being set for all, or part of the year, or for each month, or it may be made on the presentation of the goods, or made by the producer himself and stated in bill sent with goods.

Chapter IV reviews the ways in which goods may be delivered to the consumer. It points out how delivery may be made

on the farm, by the producer's conveyance, on public markets, by third parties and by parcels post.

Chapter V. The different methods of making payment are discussed in this chapter. Experience has shown that payment may be made on the delivery of the goods, upon the receipt of the bill, at the end of the month, etc. Other subjects will be given general notice in this chapter.

Chapter VI presents miscellaneous information growing out of experience in handling goods by the direct method. This information not only concerns the producer, but will be found helpful to the consumer as well.

In Chapter VII is undertaken the task of giving definite details for the preparation, shipping and storing of several products that particularly lend themselves to the Nomid system of distribution. Among the products included in this list are butter, eggs, fruit, vegetables, potatoes, poultry, etc.

The last chapter deals with legal topics affecting the parties in a business of this kind. It is not the purpose of this chapter to furnish information to the legal profession in assisting on cases that are to be presented at court, but rather to aid the farmer and the man who buys from him with knowledge of their rights and obligations in making contracts of sales, in warranting goods and in dealing with railway companies and other common carriers.

Chapter I.—Definition and Application.

Nomid System Defined.

The Nomid system of selling and buying as applied to farm produce is a method of exchange whereby the producer for a price sells his goods to the consumer without the intervention of the middleman. It is a direct system of transferring the title in goods to the final user. By it, the middlemen are eliminated. Only the producer and the consumer, or the agents of either or both, handle the goods. The property exchanged does not leave the full control of either one or the other of these two parties. The price paid by the consumer all goes to the producer except the legitimate charge for handling, which charges may become necessary where a third party is called upon to carry the goods or to perform some work upon them.

The System in Use.

The Nomid method will ordinarily work into a regular trade. The mutual benefits to both producer and consumer encourages continuous dealing to the end that the former obtains in some city, or cities, certain persons who expect to take and to whom he expects to send, his produce. By direct dealing, the farmer and his city customers become quite as well acquainted as do the farmer and the middleman under the present system, and there is no more excuse for misunderstandings, or disappointments, in the one case than in the other. Actual experience shows this to be true. For example, the New York State Food Investigating Committee, after interviewing 211 producers who had sold goods by this method, stated that only 10, or less than five per cent, were emphatic in their complaint about making collections. The complaints of collections from selling to middlemen would probably equal, if not exceed, this percentage. Men who have once started to sell goods by the direct method seldom go back to the old system again. The system, therefore, follows the usual custom and becomes an established fact with each party having full confidence in the other.

Adaptation.

While the present organization of society will not allow the universal adaptation of the Nomid system, the use of this system will be found expedient in a much wider field of merchandising than first thought would carry it. The extent to which this system is used in exchanging articles that are ordinarily sold over the counter may be appreciated by a glance at the long list of things sold by our mail order houses. Tabulate the goods sold by every store in the village or small city, and the list no doubt would come short of the variety of articles offered by these great and growing institutions, and the business of these concerns is increasing rapidly, due largely to the

fact that their prices are below those quoted by the retail stores. But it is to the use of this system in the selling of farm products that the present volume is concerned.

The question, to what extent can farm products be sold directly to the consumer, may be answered in part by replying to the other question, how near each other must the parties live to deal directly in these products? That a producer within a reasonable driving distance of a city, can so dispose of his products, is unquestioned. That the introduction of the auto-truck and the automobile is doubling the area from which products are carried and sold direct, does not admit of argument. That the gradual decline in the scale of values paid for farm products is rapid enough as one recedes from the city to make it a profitable undertaking to ship the goods by express or freight direct to the consumer, is a fact that is now becoming better understood by individual farmers scattered here and there over the country. The web of railroads binds the centers of population to practically every fertile section of America, thus bringing opportunity to our producers of farm products to ship to customers in these cities. Besides, cities and country are now being still closer linked by electric lines, rural free delivery and parcels post routes. By these, and possibly other means of transportation, the sale of goods direct to the real user, becomes possible, even though the parties may live a hundred miles or more apart. To illustrate how largely the method can be applied in the eastern states, one has but to note that the average area or territory for each city of more than 50,000 inhabitants lying east of the Mississippi river, is 10,885 square miles which area would be equal to a circle having a radius less than 60 miles in length. When the great cities of half a million and more people, and the towns and cities of less population than 50,000 people are also considered, it at once becomes apparent that the average producer is not so far from those who consume the products he raises, as he may have grown to believe.

The next question to present itself is, what farm products may be sold by the Nomid System? There are conditions under which a direct sale of any or all products may be affected by this system. On the other hand, there will be conditions that may prohibit the exchange of goods usually handled after the direct plan. To be sure, certain products need to be prepared by some process before they are ready for their final purpose, as wheat must be milled and hides tanned before used for bread and shoes respectively; but the grower is now learning that he can receive a greater profit in selling his wheat direct to the miller and his hides direct to the tanner. So to make a list that would include all the products that can be handled by the Nomid system would be an endless task. The usual products that are moved thus are eggs, butter, milk, cream, poultry of all kinds, fruit, potatoes, vegetables, onions, meat, nuts and cereals. From this consideration it will therefore be seen that the Nomid system has a wide range of usefulness.

Applicable to Organizations.

Although it is the purpose of this discussion to encourage the individual to seek private customers, and these chapters are written with that practical view in mind, the Nomid system is suited to the use of organizations. In fact, the greatest economy will probably be found where producers and consumers club together and move products in large quantities. Among the many organizations that have used, or may use, the direct selling method are co-operative selling and buying organizations, labor unions, social clubs, church societies, community associations, granges, farmers' clubs, gleaner societies, etc. In our complex society, with the per capita of wealth so large as it is, it is difficult to secure effective co-operation except in certain conditions which make it necessary, and for this reason, the individual will probably be able to find a satisfactory market more quickly by seeking private customers alone than he will through organizations. However, when the producer and the consumer learn that they have mutual interests, it will become easier to effect co-operative efforts among both.

Greater Economy in Distribution.

That there is less expense attending the sale of farm products by the Nomid system than by the middleman method is apparent after a careful analysis of conditions. In the first place, farm pro-

ducts are produced in small quantities. Under the ordinary system of selling, these small quantities are collected into larger stores by some local man. These stores from several communities are again collected by a wholesaler, or broker, to form a still larger stock which is probably housed in some of the large consuming centers. There the wholesalers parcel out this large stock to retailers who in turn, sell the goods to the final consumer in small units again. Throughout the course from the farm to their final destination, the products are gradually deteriorating in actual value, while the cost is rapidly increasing through the many commissions exacted by each person whose hands they pass through, and also by the charges for handling. On the other hand, where the producer and consumer deal directly, the goods are sent over the shortest possible route which not only decreases the time they are in transit, but also affects, in many instances, a considerable saving in railroad charges due to the shorter carriage, although the rate for the smaller quantity may be higher than where large amounts are shipped. No commissions are required where the goods are sent direct. An example will illustrate: An eastern farmer sold a barrel of apples for \$2.25 on his trees; it cost 65 cents to sort and barrel the fruit, and 85 cents for freight charges, cartage, storage and labeling, and the middlemen receive for their commissions, \$3.75. The price paid by the consumer was \$7.50. The producer and the consumer lived 35 miles apart. Had this fruit been sent direct to the consumer, the producer could have charged \$5.00 for the barrel of apples, which would have given him a satisfactory margin, and the consumer could have paid this price and all the freight charges and yet saved \$2.00 over the price paid by the middleman method.

Sixty-five letters received from farmers in different localities within a radius of 100 miles from a city of 500,000 inhabitants, showed the price paid to farmers for eggs, to average 22 cents per dozen, while the average retail price for eggs in the city on the different dates borne by the letters, was 38½ cents. Eggs shipped to this same city from a distance of 110 miles cost three cents per dozen, delivered at the door of the consignee in 12-dozen crates. It cost 10 cents to return the crate to the shipper.

To further illustrate the expensive middleman system of distribution, reference is made to the work of Benj. F. Yoakum, a careful railroad financier, who has made an extended study of the marketing problem. Mr. Yoakum has used the government's crop statistics to show that the value of agricultural products of the country in 1910 was nine billion dollars. Assuming that one-third of this product is used on the farm, which is probably a very conservative estimate, then six billion dollars' worth would be sold by the producer. By careful investigation he has found that the final consumer pays about thirteen billion dollars for the products which the producer receives six billion dollars for. From this, it appears that the farmer gets on an average but 46 cents of every dollar which the consumer pays. The work of Mr. Yoakum appears to be conservative according to the findings of the New York State Food Investigating Commission which, after a careful study of the question, states that "the producer seems to be receiving about 40 per cent of the retail price." With these wide margins, it is apparent that there is opportunity for economizing in the direct distribution of the farm products under ordinary conditions, at least.

The above findings are further substantiated by general observation, which is impossible of being reduced and put in definite percentage figures, but which nevertheless unerringly harmonizes with a general fact. Wherever consumer and producer meet and compare the values placed upon products which the one uses and the other produces, there arises, without exception, exclamations upon discovering the great margin between the two. On the farm and in the streets men are gradually coming to know that the margin of profits going to the middlemen is too large, that the accommodations which are offered by these men are worth what is charged.

Quality of Goods Delivered.

The consumer gets better goods for the price he pays under the Nomid system than he does under the present indirect system of distribution. There are several things which work out this result. Under the direct system the shipper realizes that he will be held responsible for the grade of goods he sends. He can-

not shift the responsibility for packing second grade apples with fancies. If he seeks to pawn off a lower grade of butter for a high grade he will suffer in losing his patrons. Again, where the grower knows the consumer he is more particular than where he is dealing entirely with a stranger, or where his product goes to some unknown person for consumption, even though he may dispose of it to a middleman whom he knows. In the third place the goods reach the consumer quicker. Take eggs, for instance. The usual course is that they lay about the country store for from a few days to a week. Another week is usually passed before the centralizer gets the eggs or the country grocer ships them. A third week elapses by the time they have gotten into the hands of the city wholesale dealer and the eggs have grown to be fully four weeks old when the retailer passes them over the counter as "fresh" eggs. They are perhaps as fresh eggs as he is able to get them, but they taste quite different from eggs sent direct from the producer to the consumer to reach him inside of a few days or a week after the first eggs in the crate were laid. Again, it often happens that the retailers get the poorer grades of a product after all the good grades have been removed. When the farmer sends goods direct, the consumer has the product before any sorting of the best grades is done. These are some of the reasons for the consumer getting better goods under the direct system.

(Continued next week.)

THE GOVERNMENT SUIT AND THE BUTTER MARKET.

All kinds of reports have been current since the filing of the suit of the federal government against the Elgin Board of Trade and the American Association of Creamery Butter Manufacturers, commented upon in the last issue. Doubtless a more correct understanding of the proposition and its influences, whether wholesome or otherwise, will follow the trial of this suit and as this is a proposition of vital interest to a large proportion of our readers we shall undertake to follow closely and present such information as will enable them to make correct deductions as the facts may become apparent.

A preliminary investigation of the proposition has resulted only in bringing out the views of the rival interests in the Elgin board as voiced by their contemporaries outside of that organization, which, as previously noted, consist of big manufacturing and the big selling interests in the butter trade. In order to prepare the reader for a more full and correct understanding of the situation as it may develop, let us consider the Elgin situation as represented by the claims of the two interested classes as above noted.

Early in the development of the present day methods of manufacture, the country round about Elgin was developed along dairy lines and this became the early center of creamery butter production. Probably with an idea of advertising that fact the Elgin Board of Trade so-called, was organized, ostensibly as an organization through which transactions for butter could be carried on as transactions for the purchasing and selling of grain are carried on on the Chicago Board of Trade. Membership in this body was not limited to the local interests in the trade, but included men from Chicago and many other points with like interests. Unlike other organizations, the custom grew up of having a price or quotation committee who fixed an official quotation for butter each Monday, on which day the board meets. This committee reported to the board and its reports went as to the market, unless objections were received and a vote taken. In this event outside interests charged that the local membership was padded to an extent which enabled a voting control on this and other points.

Regardless of whether the claim may be substantiated in the government suit, it appears that the suit is based upon the claim that this machinery has been used to manipulate the official quotations of butter and the facts that may be brought out in the suit will furnish the public with more accurate knowledge upon the points involved. There is a very general feeling among butter dealers that there has been such manipulations in the matter of quotations, the claim being made that such quotations have been fixed at the highest or lowest points in the range of sales, instead of at the point representing the maximum sales, as

might best suit the big manufacturing interests involved.

The price fixed upon by the Elgin board did not greatly influence the market in big centers like New York and Chicago where the price is regulated by the daily trade. In other markets, among them Detroit, the Elgin price largely governed, being shaded either way in accordance with wide market variations on the large markets, especially in the lower grades of butter. Also a great many, perhaps a majority, of the creameries throughout the state, base the price of butter-fat on the Elgin market for each week, making a staple price during the week. With no more accurate knowledge than is possessed by the other market interests whose general opinion has been above expressed, there seemed to exist a feeling on the part of creamery men who are reasonably well posted that the Elgin quotations have been on the whole a good thing for the producing element of the dairy industry, the idea being that these weekly quotations have prevented a forcing down of prices during periods of accumulation and on the whole, been a factor of stability in the market. The Michigan Association of Creamery Managers expressed themselves in favor of using Elgin quotations for settling with patrons for butter-fat, although the same manufacturers have, of course, been obliged to sell the bulk of their products upon the open market where prices were made wholly upon a competitive basis.

Thus may be outlined the feeling on this proposition among those who are in a position to know most about it and yet who are not on the inside of the true situation. So far as the immediate influence of this suit upon the butter market is concerned it is somewhat problematical. The decline in price has been confined to the lower grades of storage butter, of which there is larger stock in the country than was the case last year, and may or may not have been precipitated by the filing of this suit. Fresh made creamery butter that will score extra or first in quality has maintained a high price level, extra running around 34 cents in Chicago. This quality of butter is still retailed in Detroit at 42 cents per pound, showing too wide a spread in price and favoring an increase in sales of lower grades of butter and of butter substitutes for general use.

Modern conditions have practically forced the farmer out of the dairy manufacturing business. However, there still remains an excellent opportunity to work up a direct trade in either first-class dairy butter or in creamery butter which can be secured at local creameries for distribution to such a trade, as not a few farmers are demonstrating at the present time. This is a trade best suited to those who live within driving distance of the market, but can be profitably conducted where shipments are made. It is simply a question of whether the farmer has the time or the inclination to add such a department to his business. In case he has there is opportunity for the making of a good profit on the time and effort expended.

THE APPLE DEAL.

There has been no large improvement in the apple trade. Up to date prices show very little change from those paid in November. The delivery of this fruit continued much later than usual, due to the favorable weather that prevailed and to the large amount of fruit produced in the country. The heavy offerings have made it difficult to clean up the markets as early as the dealers have heretofore with the result that prices show no general upward tendency to date.

It is the belief of many that the size of the country's crop for the past year has been a little overestimated. Federal crop reporters seem to share this belief. It is concluded from general information gathered from widely different sections that much of the crop was allowed to waste in the orchards in spite of the reports that offerings of lower grades upon the various markets were almost unprecedented. Recent agitation of the apple industry has awakened many to give greater attention to the crop and it is certain that a larger percentage of general farmers who have orchards endeavored this past fall to get their fruit to the markets. This same agitation has caused people to notice fruit wasting on trees which possibly may account in part for the notice given such waste in the market press. It is certain, however, that there was a big crop of apples in this country, but probably not a record one.

Consumers have developed an appetite

for the fruit. The lower prices that have prevailed enabled many to put in apples who are not in the habit of doing so when quotations are higher. The consumption of those put in earlier naturally creates a desire for more, which desire, because of the cheapness of the fruit, will to a large extent, be satisfied. Thus it is predicted that there will be a larger consumption of apples during the next three months than in seasons when the fruit is scarce and the price up.

If this larger consumption materializes it should be a helpful influence in advancing quotations and if values follow the usual course taken in a season like the present, they will advance. But careful students of the situation are not so optimistic of any large change in values as are those who have only a general knowledge of conditions. Cold storages, east, west, north and south, now contain an immense volume of apples that will go onto the market as soon as the markets have cleared and prices show an advance sufficient to bring them out. Conservative men, therefore, look for a fair advance in values later in the winter season but do not anticipate any wide expansion as so frequently occurs after a fall when values ruled low, much of the fruit remained unharvested, and people got the idea that they could be liberal in the use of this health-giving pome.

Prices in Chicago rule about steady with the best kinds selling up to \$3.75 per bbl. The usual price is between \$2 and \$2.50 per bbl. and this for fruit of fairly good quality.

WHO GETS THE PROFITS?

But a few weeks ago cold storage eggs were being sold from 30 to 45 cents a dozen. Then the women of New York, Philadelphia and Chicago started a crusade and managed to sell eggs for 25 or 26 cents a dozen. Then the price dropped in Washington to 22 cents—the lowest price per dozen eggs have sold for in December for many years. One of the officials of the District of Columbia government is prepared to show Congress, should there be an agitation for a cold storage law, that eggs sold in Washington last May for 13 cents a dozen were marketed in Washington for 40 cents. This information he received in an unusual way. A few days since he noticed on an egg which he had purchased, the name and address of a girl in Wisconsin. Prompted by curiosity to know something of the age of the egg, he wrote to the address and received a reply stating that it had been sold last May, the price being 13 cents a dozen. "The cost of shipment to Washington," he stated, "could not have been more than three or four cents a dozen, and the charge for storage probably not more than one cent a dozen. This looks like a profit of about 20 cents a dozen on eggs that had been in cold storage six months. Who reaped the profit? If Congress could ascertain the answer to that question it might get some new light on the high cost of living problem."

MARKET ITEMS.

There is much opposition on the part of those who retail fruits and vegetables in cities of Massachusetts to the law recently enacted by the legislature of that state providing for the use of scales instead of measures for selling from wagons. Retailers will petition the legislature to amend the law so that sales may be made by dry measure or by numerical count as well as by weight. It is evident that such an amendment would nullify the measure which was made into law to protect innocent purchasers against unscrupulous dealers who were expert in placing fruit or vegetables in the measure so as to deceive the buyer as to the amount purchased.

From the railroads handling the produce from Long Island it is estimated that growers sent to New York and Brooklyn this year about 70,000 tons of potatoes and around 13,000 tons of cauliflower. A major portion of the cauliflower is handled by the cauliflower association of the island.

A bill has been passed by the United States Senate providing for a division of markets in the Department of Agriculture. The measure, which was introduced by Senator Hoke Smith, of Georgia, is now before the House. It is hoped that Congress will take steps to give the fruit and vegetable men, as well as other producers, reliable data regarding crop conditions during the growing season that growers may have a satisfactory opinion of the production of any crop in which they may be interested.

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MARKETS

Realizing the importance to our readers of reliable market quotations we spare no trouble or expense to insure the correctness of the quotations in our columns. Special representatives at all leading market centers insure the subscriber accurate market reports, uninfluenced by any factor of trade. All quotations are correct for the dates on which they are made.

GRAINS AND SEEDS.

December 24, 1912.

Wheat.—The wheat market showed rather unexpected strength the past week. Regardless of a better outlook for the settlement of the war in Europe prices have steadily advanced since a week ago. This strength is due largely to home conditions. In spite of heavy receipts that have arrived at primary elevators the visible supply last week showed an actual decline. This is due to heavy buying. Millers are finding an excellent demand for flour at present and are therefore taking a large quantity of cash grain. It is also believed that the Canadian crop has been overestimated and that the farmers of that section will not be able to support the bears to the extent that was earlier anticipated. Argentine has experienced considerable bad weather which will reduce the percentage of the higher grades of grain to come from there. The European demand is strong, especially from the continent. The advance during the past week has amounted to nearly five cents a bushel for cash grain. One year ago the price for No. 2 red wheat was 96½¢ per bu. Detroit quotations are:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	1.07½	1.06½	1.12	93½		
Friday	1.09½	1.08½	1.13½	94		
Saturday	1.09½	1.08½	1.13½	94		
Monday	1.10	1.09	1.14½	94½		
Tuesday	1.10½	1.09½	1.14½	94½		

Chicago, (Dec. 24).—No. 2 red, \$1.09½ @1.10½; May, 92c; July, 88½c.

New York, (Dec. 24).—No. 2 red at elevators, \$1.08; May, 97¢@98c per bu.

Corn.—This cereal occupies a slightly stronger position than it did last week. It is probable, however, that but for the strength in wheat, the basis of corn dealing would have remained about steady with a week ago. A very good general demand exists and offerings are moderate. The visible supply shows an increase of little over a million bushels. Only a small volume of business is being done on the local market. One year ago the price for No. 3 corn was 63½¢ per bu. Detroit quotations are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	49	50
Friday	49	50
Saturday	49	50
Monday	49½	50½
Tuesday	49	50

Chicago.—No. 2 yellow, 48½¢@49c; May, 49c; July, 49½c per bu.

Oats.—For the first time in several weeks this cereal has developed a weak spot. Just why this should have occurred is hard to say since the visible supply shows a rather heavy decrease the past week and the influence of an advancing wheat and corn market should help to bolster up prices. Nevertheless, the local market shows a decline of 1c from the price of a week ago. One year ago the price for standard oats was 50c per bu. Detroit quotations are:

	No. 3	Standard.	White.
Thursday	37	36	36
Friday	37	36	36
Saturday	36½	35½	35½
Monday	36	35	35
Tuesday	36	35	35

Chicago.—No. 2 white, 35½¢; May, 33½¢; July, 33½c per bu.

Beans.—This market is following its usual course by attracting very little attention at present. While values in Detroit have improved, those in Chicago show a decline. There was a good yield of beans last fall, but the quantity of fancy stock is small, due to the inclement weather which prevailed during the harvesting season. A more active market is anticipated after the holidays. One year ago the local price for cash beans was \$2.27 per bu. In Detroit cash and other shipments are now quoted at \$2.20 per bu.

Chicago.—Hand-picked choice, \$2.30@2.35; prime, \$2.15@2.25; red kidneys, choice, \$2.35@2.50 per bu.

Clover Seed.—This market continues strong. Detroit quotations have not changed while in Toledo a slight advance is noted. There is a good demand for clover seed with supplies ordinary. Transactions are in comparatively small quantities.

Detroit.—Prime spot, \$11.30; alsike, \$12.60 per bu.

Toledo.—Prime spot, \$11.47; March, \$11.55; prime alsike, \$12.90 per bu.

Rye.—No change has occurred here, the market continuing dull and steady. Quotations are:

Detroit.—Cash No. 2 rye, 62c per bu.

Chicago.—Cash No. 2 rye, 63½¢ per bu.

FLOUR AND FEEDS.

Flour.—Jobbing lots in ½ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.60; second, \$5.30; straight, \$5.20; clear, \$4.90; spring patent, \$5.10; rye flour, \$4.80 per bbl.

Feed.—Detroit jobbing prices in 100-lb. sacks are as follows: Bran, \$23; coarse middlings, \$23; fine middlings, \$28; cracked corn and coarse corn middlings, \$29; corn and oat chop, \$20 per ton.

Hay.—Market rules from 50c@\$1 lower at Detroit and New York, but steady in Chicago. Carlots on track, Detroit: No. 1 timothy, \$15.50@16; No. 2, \$14@14.50; light mixed, \$14.50@15; No. 1 mixed, \$13.50@14.

Chicago.—Choice timothy, \$19@20; No. 1, 16@17.50; No. 2 and No. 1 mixed, \$14@15; No. 3 and No. 2 mixed, \$10@13; clover, \$7@12.

New York.—Market lower; standard, \$21 per ton; No. 1, \$21.50@22.75; No. 2, \$20@20.50.

Straw.—Car lot prices on wheat and oat straw on Detroit market are \$9@10 per ton; rye straw, \$10@10.50 per ton.

Chicago.—Wheat straw, \$6.50@7; oat straw, \$7@7.50; rye straw, \$7@8.50.

DAIRY AND POULTRY PRODUCTS.

Butter.—Fancy qualities hold very firm in all markets but the lower grades are encountering strong competition from storage offerings and from substitutes. Locally there has been no change in values during the week. Jobbing prices in the Detroit market are: Fancy creamery, 35c; firsts, 32c; dairy, 22c; packing 21c per lb.

Elgin.—Market firm at 34c.

Chicago.—A firmer feeling is in evidence here, although prices show little change. Fancy stock sells readily at quotations but there is a tendency to shade the under grades. Quotations are: Extra creamery, 34c; extra firsts, 31@33c; firsts, 30@31c; seconds, 26@27c; dairy extras, 31c; firsts, 27c; seconds, 25c; packing, 12@22c as to quality.

New York.—Market firm with extra creameries higher; other grades unchanged to a trifle lower in some instances. Creamery, extras, 37@37½c; firsts, 32@35c; seconds, 29@31c; thirds, 27@28c; state dairy, best, 32@34c; good to prime, 28@31c; common to fair, 23@27c; packing, 22@23c as to quality.

Eggs.—Demand generally good for fancy qualities at former values. Lower grades have been affected somewhat by heavy selling of storage stocks in big markets. At Detroit current offerings, candled, and cases included, are quoted at 26c, a loss of 4c since last week. Current receipts, candled, cases included, selling at 26c per dozen.

Chicago.—Market firm with demand largely confined to best new-laid stock and superior grades of storage offerings. Mixed receipts are slow sale. Miscellaneous lots, 19@25c; cases included; cases returned, 18½¢@24½¢ as to quality; ordinary firsts, 19@20c; firsts, 24@24½¢ per dozen.

New York.—Market unsettled, with under grades showing tendency toward lower values. Fresh gathered extras, 35@36c; extra firsts, 33@34c; firsts, 29@32c; seconds and lower grades, 25@28c; western gathered whites, 30@36c.

Poultry.—Detroit.—The light supply of dressed turkeys has given market a strong tone, while chickens are weak and lower because of heavy shipments. Geese show firmness at a cent higher values. Dressed—Spring chickens, 13@14c; hens, 12@13c; old roosters, 10@11c; turkeys, 21@24c; ducks, 16@19c; geese, 14@15c per lb. Live.—Spring chickens, 13@13½c; hens, 12@12½c; No. 2 hens, 9c; old roosters, 9@10c; turkeys, 17@20c; geese, 13@14c; ducks, 15@16c per lb.

Chicago.—Prices remain about steady with last week. Turkeys are selling quickly at the quotations while chickens are slow and draggy. Quotations on live are: Turkeys, good weight, 15c; others, 10c; fowls, good, 11c; spring chickens, 10½c; ducks, large, fat, 14c; do., Indian runners, 12c; geese, full feathered, 12c; do., plucked, 8@10c per pound.

New York.—Dressed stock firm and a shade higher. Fresh killed western chickens, 14½¢@19c; fowls, 13@16½c; turkeys, 20@24c per lb.

Cheese.—Brick cream and Michigan flats quoted lower; business fairly active. Quotations: Wholesale lots: Michigan flats, 16@16½c; New York flats, 18½¢@19c; brick cream, 16½¢@17c; limburger, 17½¢@18½c; imported Swiss, 28@29c; domestic Swiss, 21@22c; block Swiss, 19½¢@20c per lb.

Chicago.—Twins are ½¢@1c higher due to temporary decline in supply. Other kinds plentiful and meeting a fair demand. Quotations: Twins, 15½¢@16c; daisies, 16@16½c; young Americas, 16@16½c; limburger, new, 15½c; brick, choice 15@15½c per lb.

Veal.—Detroit.—Steady, fancy, 12½¢@13½c; choice, 10@11c per lb.

Chicago.—Quiet and easy under an indifferent demand. Fair to choice, 80@110 lbs., 12@12½c; extra fancy stock, 13@13½c; fair to good chunky, 10@11½c per lb.

FRUITS AND VEGETABLES.

Apples.—Detroit trade easy; prices remain unchanged. Detroit quotations are: Baldwin, \$2.25@2.50; Greening, \$2.50@2.75; Spy, \$2.75@3; Steele Red, \$3@3.50.

Potatoes.—Detroit.—Little improvement is noted. The trade is dull, due to the holidays. There is no change in values. Michigan stock in car lots, 53c in sacks, 48c in bulk.

Chicago.—Market a shade easier, with receipts lighter than a week ago and prices lower. Fancy stock sold in bulk as high as 40c and sacked at 45c on Monday.

New York.—Michigan offerings are finding quicker sales than eastern grown stock. Western offerings, 60@62c per bu.

Onions.—Conditions are unchanged with most of the important markets overstocked.

Detroit.—55c per bu.

New York.—Western, per crate, for white, 50c@\$1; 100-lb. bags red and yellows, 60@85c.

Chicago.—Weak. Home-grown yellow, 35@40c; fancy, 75c per 65-lb. sack.

Cabbage.—Although this deal is far from satisfactory, there was some improvement at certain points. Chicago especially, reports prices in advance of last week's quotations.

Detroit.—Per bbl., \$1@1.25.

Chicago.—Holland bringing \$7 per ton, but the undertone was bearish on the

Red cabbage is scarcer and quoted at \$1.25@1.50 per bbl. Common kinds, 70c per bbl.

MISCELLANEOUS.

Wool.—The business of the past week was confined to the sales of small lots which indicates that manufacturers are not over-supplied. Fleece wools are in excellent demand and limited supply. Quotations:

Chicago.—Medium, unwashed, 24@26c; coarse do., 21@23c; tubs, washed, 27@35c.

Boston.—Mich. fine, 20@21c; do., ½-blood, 28@29c; do., ¾-blood coming, 29@30c per lb.; do., ¼-blood, 29@30c.

Provisions.—Ruling prices in Detroit are steady with those of last week. Quotations:

Detroit.—Family pork, \$22@23; mess pork, \$19; clear, backs, \$22@24; hams, 14½¢@16½c; briskets, 11@12c; shoulders, 13½c; picnic hams, 13c; bacon, 16@18c; pure lard in tierces, 11½c; kettle rendered lard, 12½c per lb.

Chicago.—Mess pork, Jan., \$17.92½; lard do., \$9.95; short ribs, do., \$9.77½.

Honey.—Detroit.—Steady. Choice to fancy comb, 16@17c; amber, 14@15c; extracted, 9½¢@10c per lb.

THE LIVE STOCK MARKETS.

Buffalo.

December 23, 1912.

(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York).

Cattle.

Receipts, 150 cars; market strong at last week's prices. A few choice loads brought 10c higher than last week. Best 1350 to 1500-lb. steers, \$8.75@9.25; good to prime 1200 to 1300-lb. do., \$7.75@8.25; good to prime 1100 to 1200-lb. do., \$7.25@7.75; coarse plainish 1100 to 1200-lb. do., \$7@7.25; medium butcher do., 1000 to 1100 \$6.25@7; butcher steers, 950 to 1600, \$6@6.50; light butcher steers, \$5.25@6.75; best fat cows, \$5.50@6; butcher cows, \$4.50@5; light butcher cows, \$3.75@4.25; cutters, \$3.50@3.75; trimmers, \$3.25@3.50; best fat heifers, \$7@7.50; medium butcher heifers, \$5.75@6.25; light butcher heifers, \$4.50@5; stock heifers, \$4@4.25; best feeding steers, \$6.25@6.75; fair to good stockers, \$5@5.25; light common stockers, \$4.25@4.50; prime export bulls, \$6.25@6.75; best butcher bulls, \$5.50@5.75;ologna bulls, \$4.50@5; stock bulls, \$4.50@5; best milkers and springers, \$6.50@7.50; common to fair kinds, \$4@5.50.

Hogs.

Receipts, 90 cars; market 5c higher; heavy, \$7.65; yorkers, \$7.65@7.70; pigs, \$7.60@7.70.

Sheep and Lambs.

Receipts, 72 cars; market active. Top lambs, \$8.60@8.65; culls to fair, \$5.50@8.25; yearlings, \$5.50@6.50; wethers, \$4.75@5; ewes, \$4@4.25.

Veal Calves.

Steady. Tops, \$10.50@11.25; fair to good, \$7.50@10; heavy, \$4.50@6.50.

Chicago.

December 23, 1912.

Cattle. Hogs. Sheep. Received today10,000 28,000 25,000 Same day last year, Christmas Holiday. Received last week...67,248 132,038 126,243 Same week last year, 58,742 185,202 89,096

Christmas week starts off with a remarkably meager run of cattle, even for the Monday preceding the great feast, and buyers are tumbling over each other to secure their shares, while prices are away up, the advance averaging all of 25c. Hogs, too, are higher, although their rise is but 5¢@10c, with sales at \$6.90@7.50, the receipts being fair for this time. Sheep and lambs are headed upward because of the moderate supply, particularly of the better class of stock, and lambs are called from 15¢@25c higher, some prime lambs going at \$8.25. There will be no live stock markets Wednesday. The hogs coming here are showing steady decreases in average weights. The average last week was 219 lbs., against 228 lbs. three weeks ago, 214 lbs. a year ago and 224 lbs. two years ago.

Cattle prices have had unusually big breaks recently on account of greatly increasing supplies at a time when the general demand was very poor, and sales were made last week of beef steers 75c@1.50 per cwt. below prices paid on the opening day of the previous week, with the biggest fall in fat beefs. Sales were largely at \$6.75@8.50, with Monday sales up to \$9.50@9.85 for strictly prime lots and no sales above \$9.25 by Wednesday. While dealers had been fearing that lower prices were coming, such a shaking up in a short time had not been generally anticipated, and it is highly probable that it will serve to stimulate premature marketing of half fattened stock by stockmen, thereby increasing the demoralization and at the same time cutting severely into the future supply of matured beefs. However, owners of cattle that are fattening well should consider carefully before deciding to cut loose, for where the cattle were bought right, with cheap feed, they should make fair profits by holding until fat, although it may not pay to wait until the cattle become extra heavy. The cheaper steers fed on grass sold at \$5.40@7.20, while short-fed lots brought \$7.25@8. Butcher stock was decidedly lower in price, although the decline was not nearly so marked as in steers. Cows and heifers for the butcher trade went at \$4.20@7.50, with not much doing above \$6.50, while cutters went at \$3.65@4.15, canners at \$2.60@3.60 and bulls at \$4@6.75. The smallest decline in any class of cattle took place in stockers and feeders of a desirable kind, there being a good demand. Stockers sold for \$4.40@6.85 and feeders carrying good weight for \$6.40@7.75, while feeding heifers were salable at \$4.75@5.25. Calves were active at lower prices, selling at \$4@10 for the poorest to the best, and milch cows sold moderately at \$40@90 each. Fancy heavy beefs showed up after Monday, and it was thought some would have brought around \$9.75@9.85. Few cattle of that kind are left in feeding districts.

Hogs had rallies at times last week, but the undertone was bearish on the

whole, and sales took place at the lowest quotations recorded in a period of nine months. The receipts were usually up to most expectations in number and quality, and the continued small eastern shipping demand enabled the local packers to hold prices down. Prime barrows of strong weights sold the highest, being the favorites with buyers, while the best lots of hogs that tipped the scales around 185 to 195 lbs. went about 10c below the best heavies. Pigs arrived in good numbers, hog cholera in Iowa and other states tending to force many lots on the market. The hogs arriving were all wanted by slaughterers, as there is a very large consumptive demand for cured hog meats and lard, while the daily sales of fresh pork products are enormous, largely because they are decidedly the cheapest meats offered for sale at a time when beef remains extremely high, despite the slump in prices for live cattle of all kinds. At the close of the week hogs brought \$6.85@7.40, compared with \$6.95@7.45 a week earlier, with sales of pigs at \$5.50@6.90, of stags at \$7.30@7.60 and of boars at \$3@4, throwout packing sows bringing \$6.25@6.85.

Sheep and lambs sold at very high prices last week as compared with a few weeks ago and a year ago, although increased receipts early in the week brought about largely by the boom in values a week earlier enabled buyers to force some sharp declines all along the line. As usual, lambs of a good finish and of the suitable weights sold much the most readily and at a big advance over anything else in the live mutton line, and feeder lambs, because of their scarcity and strong demand, held their ground well after a little weakness, selling as high as before. The range shipping season is closed, but numerous flocks of range stock that had been placed in railroad feeding stations for finishing have been showing up in the market recently. It is perhaps needless to remind sheepmen that because of the greatly reduced numbers of sheep and lambs in feeding districts this winter, there is a fine chance for owners to make substantial profits on finished flocks. At the close of the week lambs sold at \$5.50@8.15, being 50¢@75c lower than a week earlier, but feeder lambs were higher, selling at \$6.60@7.50. Moderate declines were recorded in some of the sheep and yearlings, the former going at \$5.35@7, while wethers brought \$4.50@5.25, ewes, \$3@4.50 and bucks \$3@3.50.

Horses had but a limited sale last week, there being a small number of buyers in attendance, and aside from a demand for a few animals of the better class at well maintained prices because of the scarcity of such horses, trade was draggy at easy values. The cheaper class of horses went on the basis of \$75@125, with a better class offered at \$150@200, while limited numbers of a higher class sold between \$200 and \$260. Once in a while a Percheron sells at \$275@300, and a short time ago a pair of gray grade Percheron geldings that weighed 3,850 lbs. were taken by an eastern buyer at \$725. A real revival in business is scarcely probable before the middle of February.

LIVE STOCK NEWS.

While beef cattle of every description from canners and cutters up to strictly prime finished corn-fed beefs of heavy weights, are still commanding very much higher prices than in former years, there has taken place a marked change in general conditions recently and the bloom is off, at least so far as the former great strength in prices for the choicer cattle is concerned. The packers have within a short time put a damper on prices for choice to extra beef cattle, while paying a great deal more attention to the cheaper class of steers, cows and heifers that can be converted into comparatively low-priced cuts of beef. Probably the worst feature of the market is the prevailing tendency of the retailers of meats to maintain high prices irrespective of whether the market for live cattle is up or down, and irreparable injury is being done to the cattle trade in this manner, causing the average family to substitute cheaper meats for beef.

Hogs have had some pretty hard bumps since the downward course of prices began some months ago, recent sales in western markets having been made at the lowest prices recorded in nine months. Should the receipts be well maintained, there is no telling how much lower prices may go, as there is but a small eastern shipping demand most of the time.

A short time ago E. J. Skafie, one of Wisconsin's best fatteners of sheep and lambs, appeared on the Chicago market with a shipment of a double-deck of choice fed western lambs that tipped the scales at 81 lbs. and found a purchaser at \$8.25 per 100 lbs. The flock was of Idaho breeding, bought on the Chicago market about ten weeks previously at an average weight of 63 lbs., and costing \$6.90 per 100 lbs. The shipment was the first made from a band of about 1,000 head the owner is now feeding, and the lambs were marketed after the shortest feed Mr. Skafie has ever made. He is a persistent market-topper, living in a part of the state of Wisconsin where many lambs are fed every winter. He said there are about 12,000 lambs feeding around Livingston, being a few more than were fattened last winter. The lambs he marketed were run on grass the first four weeks after coming into his possession, and run on rape pasture and in a corn field the last six weeks.

The continual marketing of good breedings cows and heifers at a period when every breeder should be kept back to assist in restoring the beef supply to normal proportions is a disagreeable feature of the cattle trade, as is the marketing of large numbers of excellent beef calves that should be held until they become finished beef cattle.

George Pratt, for many years the head of the Chicago hog buying Armour & Co. force, predicts a drop in hogs this winter to a \$7 basis. Many farmers are unloading their cattle holdings and selling their young hogs at the same time.

THIS IS THE LAST EDITION.

In the first edition the Detroit Live stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday, the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.
December 26, 1912.
Cattle.

Receipts, 494. Bulls and canners steady; other grades 10@25c higher than last week.

We quote: Extra dry-fed steers, \$7.50 @8; steers and heifers, 1000 to 1200, \$6.75 @7.50; do. 800 to 1000, \$6@6.75; do that are fat, 500 to 700, \$4.25@5; choice fat cows, \$5.50; good do., \$4.25@4.75; common cows, \$3.75@4.25; canners, \$3@3.50; choice heavy bulls, \$5.50@5.75; fair to good bolognas, \$4.75@5.25; stock bulls, \$3.75 @4.25; choice feeding steers, 800 to 1000, \$5.50@6.50; fair feeding steers, 800 to 1000 \$5@5.50; choice stockers, 500 to 700, \$5@5.25; fair do., 500 to 700, \$4@4.75; stock heifers, \$4@4.50; milkers, large, young, medium age, \$4.50@7.50; common milkers, \$3@4.00.

Haley & M. sold Thompson Bros. 4 cows av 921 at \$3.60, 15 butchers av 702 at \$4.60; to Mason B. Co. 16 do av 800 at \$5.15; to Sullivan P. Co. 10 do av 854 at \$5.75; to Breitenbeck 6 cows av 870 at \$3.90; to Bresnahan 4 do av 1017 at \$3.85, 7 cows av 900 at \$4.25.

Bishop, B. & H. sold Goose 10 butchers av 477 at \$4.25, 19 do av 380 at \$4.40; to Thompson Bros. 2 do av 810 at \$3.50, 6 do av 1050 at \$4.50, 4 steers av 1100 at \$5.50; to Parker, W. & Co. 17 butchers av 700 at \$4.65; to Newton B. Co. 2 bulls av 1150 at \$5.25, 4 cows av 850 at \$4, 2 do av 900 at \$3.50; to Sullivan P. Co. 7 do av 950 at \$3.40, 1 heifer weighing 790 at \$6.25, 1 bull weighing 1190 at \$5.50, 1 steer weighing 1000 at \$7.50; to Nagle P. Co. 18 cows av 750 at \$4.

Roe Com. Co. sold Thompson Bros. 10 butchers av 562 at \$4.85, 2 steers av 1085 at \$5.50; to Sullivan P. Co. 5 cows av 852 at \$3.60.

Young sold Mich. B. Co. 5 steers av 914 at \$6.75, 2 do av 885 at \$5.50.

Adams sold same 2 cows av 920 at \$5.25, 2 steers av 900 at \$6.52.

Sandall sold Bresnahan 7 cows av 924 at \$3.50.

Spicer & R. sold Mich. B. Co. 3 cows av 900 at \$3.60, 1 heifer weighing 1060 at \$7, 1 bull weighing 1160 at \$5, 1 do weighing 620 at \$4.50; to Kamman B. Co. 1 do weighing 1400 at \$5.75, 1 do weighing 710 at \$4.50, 2 heifers av 840 at \$5; to Rattkowsky 1 cow weighing 1000 at \$4, 3 do av 820 at \$4; to Brown 5 do av 876 at \$4; to Sullivan P. Co. 13 butchers av 888 at \$5, 4 cows av 920 at \$3.75.

Veal Calves.

Receipts, 208. Market steady at last week's prices. Best, \$9.50@11; others, \$4 @7.50; milch cows and springers strong.

Bishop, B. & H. sold McGuire 12 av 135 at \$10.50, 2 av 130 at \$8, 5 av 125 at \$10.50; to Goose 1 weighing 120 at \$10.50, 1 weighing 230 at \$5.50; to Goose 12 av 150 at \$8; to Mich. B. Co. 1 weighing 140 at \$10.50, 7 av 140 at \$10; to Sullivan P. Co. 3 av 160 at \$6, 4 av 145 at \$11, 3 av 140 at \$10.50; to Thompson Bros. 12 av 120 at \$7.50; to Hammond, S. & Co. 8 av 120 at \$9.60, 1 weighing 390 at \$6.50, 2 av 155 at \$10.50; to Parker, W. & Co. 1 weighing 120 at \$10.

Youngs sold Burnstine 3 av 150 at \$10.50.

Sandall sold Mich. B. Co. 13 av 130 at \$9.25, 2 av 255 at \$4.50.

Kalaher sold same 2 av 120 at \$9.50.

Sheep and Lambs.

Receipts, 1,835. Market 25@50c higher than last week. Best lambs, \$8.25@8.50; fair to good do., \$7.50@8; light to common lambs, \$4.50@5.50; fair to good sheep, \$3 @4; culs and common, \$2.75@3.25.

Bishop, B. & H. sold Nagle P. Co. 125 lambs av 65 at \$7.50, 23 do av 68 at \$7.75, 12 sheep av 90 at \$3, 8 do av 115 at \$3; to Thompson Bros. 19 do av 110 at \$3.50, 5 do av 120 at \$3.50; to Chapman 5 do av 75 at \$2.50, 129 do av 75 at \$3.50; to Hammond, S. & Co. 13 sheep and yearlings av 120 at \$4; to Sullivan P. Co. 20 lambs av 47 at \$5; to Chapman 18 sheep av 105 at \$3.50; to Parker, W. & Co. 5 do av 75 at \$2, 43 lambs av 67 at \$8; to Sullivan P. Co. 2 sheep av 105 at \$3.

Hogs.

Receipts, 1935. None sold up to noon; looks 20@30c higher than last Thursday.

Range of prices: Light to good butchers, \$7.40@7.50; pigs, \$7@7.10; light yorkers, \$7.25@7.35; stags one-third off.

Bishop, B. & H. sold Parker, W. & Co. 507 av 200 at \$7.55, 410 av 180 at \$7.50, 250 av 150 at \$7.45.

Roe Com. Co. sold Sullivan P. Co. 14 av 150 at \$7.40, 17 av 180 at \$7.50.

Bishop, B. & H. sold same 193 av 190 at \$7.55.

Spicer & R. sold same 60 av 140 at \$7.40.

Spicer & R. sold Hammond, S. & Co. 310 av 200 at \$7.55, 110 av 180 at \$7.50, 100 av 140 at \$7.40.

Haley & M. sold same 160 av 200 at \$7.55, 460 av 180 at \$7.50, 240 av 150 at \$7.40.

Friday's Market.
December 20, 1912.
Cattle.

Receipts this week, 2,473; last week, 2,378. Market steady at Thursday's prices. We quote: Extra dry-fed steers \$7.50@8; steers and heifers, 1000 to 1200, \$6.75@7.25; do. 800 to 1000, \$6@6.75; do. that are fat 500 to 700, \$4.25@4.75; choice fat cows, \$5.50@5.75; good do., \$4.25@5; common do., \$3.50@4; canners, \$3@3.50;

choice heavy bulls, \$5.50@6; fair to good bologna bulls, \$4.50@5; stock bulls, \$3.75 @4.25; choice feeding steers, 800 to 1000, \$5.50@6.60; fair do., 800 to 1000, \$5@5.50; choice stockers, 500 to 700, \$5@5.50; fair stockers, 500 to 700, \$4@4.75; stock heifers, \$3.75@4.25; milkers, large, young, medium age, \$4.50@7; common milkers, \$3@4.00.

Veal Calves.

Receipts this week, 722; last week, 644. Market steady at Thursday's prices. Best, \$10@11.50; others, \$4.50@9.50. Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 7,575; last week, 9,375. Market steady at Thursday's prices. Best lambs, \$7.75@8; fair to good lambs, \$7.25@7.60; light to common do., \$4.50@5; fair to good sheep, \$3@4; culs and common, \$2.75@3.

Hogs.

Receipts this week, 7,352; last week, 12,948. Market 5c higher than on Thursday. Range of prices: Light to good butchers, \$7.20@7.25; pigs, \$6.90@7; light yorkers, \$7.10@7.15.

LIVE STOCK NOTES.

A Missouri farmer is breeding deer for the market, and sells them to parks, circuses and private individuals. The demand exceeds the supply, and fawns sell for \$50@75 per pair, while adults bring \$75@85 per pair.

The sensational smash-up in prices for cold storage eggs has been well advertised throughout the entire country, the cause being mainly the recent abolition of the price committees by the Chicago Butter and Egg Board and the Elgin Board of Trade. These commercial bodies were moved to take this step because of threatened prosecution by the federal government for maintaining a trust. Enormous quantities of eggs placed in storage last April have been dumped on the market by speculative holders, causing such big drops in prices as to result in severe losses. Recent sales have been made in the Chicago market of April eggs at 16½c and 17c per dozen, these eggs having cost owners eight months ago 22 to 23c per dozen at wholesale. The cost of storage has amounted to \$1.20 per case, and the decrease in the market price has reached \$1.65 per case, making a total loss of \$2.85 per case. According to the last official report of the Warehouse Association of Chicago to the Chicago Butter and Egg Board, there were at that date 1,690,000 cases of April eggs in its houses in Chicago, New York, Philadelphia and Kansas City, most of the holdings being owned in Chicago. It is estimated that owners have lost by the slump in prices approximately \$4,821,000. Fresh eggs are affected sympathetically, but they still come high, recent sales at wholesale having been made at 30c per dozen for the best.

Curiously, while the cattle feeding districts are nearly all the time shipping large numbers of half finished and warmed-up cattle to market that should be kept on the farm for considerably longer periods, there is most of the time a large demand in Chicago and other western markets for feeders to return to the country, and the inference from this is that there are a great many farmers who are not in the habit of carrying on the cattle feeding industry according to strictly business principles. The demand has been running much more strongly on the better class of feeders than was the rule several weeks ago, and it is known that many farmer-stockmen have awakened to the fact that there is a big shortage of cattle in most feeding districts and that good money will be made by carrying on the business correctly. Choice stock steers and feeders of good breed and carrying considerable flesh are bringing much higher prices than in most former winters, but they are really offered at reasonable figures as compared with the ruling prices for finished beef cattle. The only matter of doubt is as to whether large margins of profit will prevail by the time when these cattle are ready to

be returned to market as fat beefees, and this doubt is all that holds many farmer-back from refilling their feed lots. The feed end of the business is easy enough, for there is everywhere a superabundance of cheap feed, and with a bumper corn crop and low prices, the time would appear to be propitious for feeding live stock, provided the stock does not cost what looks like an exorbitant figure. At any rate, there are numerous stock feeders of many years' experience who show their absolute faith in the industry by feeding the usual numbers of cattle, with hogs to follow.

VETERINARY.

(Continued from page 594).

chew boards and rubbish? These cows are fed ensilage, corn fodder, beet tops with ground oats and peas mixed. G. M., Charlevoix, Mich.—Mix together equal parts powdered sulphate iron, ground gentian, ground ginger, powdered catechu and bicarbonate soda and give her a tablespoonful or two at a dose in feed three times a day. Feed a good quality of oats and timothy. Give your cows a dessert-spoonful salicylic acid and two table-spoonfuls bicarbonate soda and two table-spoonfuls of charcoal at a dose in feed three times a day; also salt them well.

Septic Infection.—I have a cow that aborted last August which I milked for a while, but as she did not give enough to make her profitable for dairy purposes, I concluded to fatten her, but she fails to lay on flesh. W. J. B., Howell, Mich.—Give her ½ oz. powdered nitrate potash, 1 oz. ground gentian, 1½ drs. ground nuxvomica and 1 oz. of ground ginger at a dose in feed three times a day. She should be kept in a comfortable stable, well fed and not allowed to exercise much.

Heifer Fails to Come in Heat.—I have a heifer that has not yet come in heat and I would like to know what can be done for her. R. P., Fenton, Mich.—Manipulating her ovaries by hand would perhaps induce her to come in heat, this is done by introducing hand in rectum and the other hand into vagina to place ovaries in a position so that they can be reached. In a heifer that is young and small; this can only be done by a person with small hands and in some cases cannot be done at all. If she is a twin calf and other was a male, she will never breed.

Goutre.—About five months ago I noticed a small lump in my dog's throat; but I did not give it much attention. I am told that it is a case of goutre and that he should have treatment. C. F. M., Capac, Mich.—If your dog weighs 35 or more pounds give him 5 gr. doses of potassium iodide two or three times a day and take good care of him.

Dairy Question.—I recently purchased a six-year-old cow due to freshen on Jan. 9, 1913, and she is giving six quarts of milk a day, but of a poor quality for it is strong and bitter. This cow is fed good clover hay with ground corn, oats and bran added, and I cannot understand why she should not give good milk for

she does not appear to be sick. W. C., Battle Creek, Mich.—Your cow should have been dried just as soon as she began to give milk of poor quality. Give her 1 oz. cooking soda and 1 oz. hyposulphite of soda at a dose in feed three times a day.

Cough.—Nearly one-half of my hogs are troubled with a cough which first appeared some two months ago. H. C. H., Middleville, Mich.—Your hogs died the result of pneumonia. The others have only a cold affecting mucus membrane of air passage, and will be benefited by giving equal parts of powdered licorice, ground ginger and muriate ammonia. One-half of a teaspoonful at a dose to each hog that weighs 75 lbs. or more. The medicine should be given two or three times a day.

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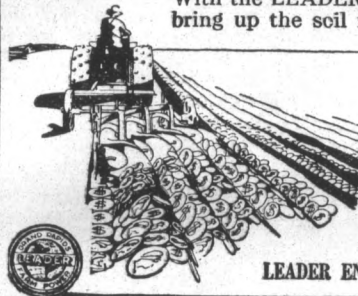
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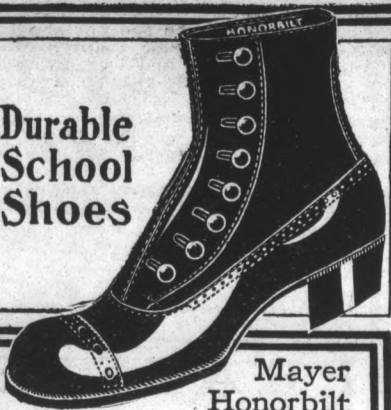
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Woman and Her Needs At Home and Elsewhere

That Chance You Are Looking For.

"Gladys would make a great musician if she ever got a chance. She has the talent, but her folks can't afford to send her," said my neighbor.

"Do 'her folks' need her at home, or do they need the money she earns?" I asked.

"No, they don't need either her or her money, they have enough to get along. But they haven't any to pay for her lessons."

"If that is all that is keeping Gladys from being a great musician, she isn't worth the chance," I said. "Why doesn't she get out and make her own chance? If she had the merest glimmerings of anything great in her she would be so taken up with her music that she could not help getting ahead."

"I suppose she never thought of it," said my neighbor. "She'd probably have to go without clothes and things to get the money. Do you think it would be worth while?"

"That all depends on what Gladys thinks is worth while. Personally I never had much use for girls who settled down at home and felt sorry for themselves because they hadn't any 'chance'. The girls that arrive make their own chance."

And then, because I thought at once of the girls who are worthy the chance, but who need just the word to encourage them I decided to tell them how one girl got her musical education, and how many others are getting it. This girl read an advertisement in her farm paper asking for a girl who was willing to do some housework in return for piano lessons and the time to practice. She answered the advertisement, and promptly got a letter back from a well-known piano teacher in a nearby town. A few questions in the town about the woman showed that she would be fair and the girl went into the home. She was faithful, conscientious and a hard worker, as well as being a girl with talent, and she soon pushed ahead. It was six years ago that she answered the advertisement. This fall she went back home ready to teach the girls in her neighborhood and her teacher advertised again for another country girl who wanted a chance.

This case is not an exceptional one. Every musical school is being constantly called up by women who want a girl student to help out in the home in return for board and a piano to practice on. And there are many women who would be glad to board the girl who wants to go to an advanced school in return for the help she could give mornings and nights. There are plenty of chances for the girls, in fact, more chances than there are girls who want to take them. It isn't necessary to go to a city, you can find your chance near enough home so that you could go back every week end.

The great trouble is that so few girls are willing to work hard for the thing they want. If someone came along and offered them money for tuition, board and pretty clothes, they might think it worth while to study and improve themselves. But if they must grind, go without smart clothes and work while others play they would rather stay at the bottom.

And it isn't easy to be the girl who works her way up, I'll admit that. There is not only the hard, unremitting toil, but there are the unkind remarks of the girls who have more money than charity, and their assumptions of superiority to overlook. In your heart you may be positive of your own superiority, but if you haven't the money and clothes to back you it is hard to show them where they fail.

There is the brighter side, though. The people whose opinion is really worth while are always your friends. There are always some who respect worth more than clothes and who stand ready to help you. And then the satisfaction when you win out! For there will come a day when you will arrive, when your work will be the thing that everyone looks at, not the clothes you wear or the home you came from. Even the girls who weren't friendly will admit you are above

them, though they may add under their breath that they can't see how such a queer, badly dressed pook ever did it.

It's worth trying. If you have a talent for books, music or painting, you ought by all means to see what you can do with it. It means months and years of plodding, of disappointment and hope alternated by gloom, but the reward more than repays for the toil. Besides, if your talent is worth while it won't let you sit down and not cultivate it. It will bother you so much you'll simply have to give it a chance.

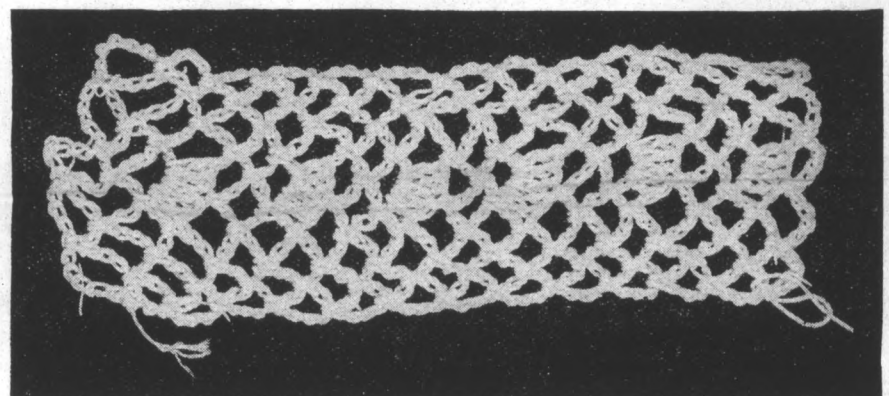
DEBORAH.

IRISH CROCHET INSERTION.

BY ELLA E. ROCKWOOD.

With No. 30 white thread and a medium fine hook make 30 chain for a foundation. Turn and insert the hook in the tenth stitch from the ends, drawing the cotton through the stitch and the loop at the same time. Chain five and catch into the fifth stitch next on the foundation in the same manner. Make five of these loops, which will conclude the 30 chain of the foundation.

Make six chain, turn and catch with a single stitch under the last loop of the first row. Chain five, catch as before and continue to the end of the row. Chain



six, turn, catch in loop, chain five in the other loops as in first row. The rows are alike except that every fourth one has a group of five treble crochets in the center loop. Chain five for every loop except the first in each row which has six.

This insertion is so simple that any one at all familiar with the work can follow the pattern from the illustration. It works up rapidly and is very neat for towel ends, pillowslips and underwear. In finer thread it is attractively arranged in shirt waists and muli dresses. By crocheting a row of shells along one side the pattern is converted into an edging. The popularity of Irish crochet at the present time creates a great demand for these patterns which can be made into such acceptable holiday gifts.

DIET.—No. 5.

The Balanced Ration.

The busy farmer's wife has but little time to study her day's rations. Her most pressing problem seems to be not how to give the family a properly balanced dietary, but how to find time to cook three meals a day and get them on the table in time. Yet if she is to do her whole duty by her family she must feed them as wisely as her husband feeds his stock.

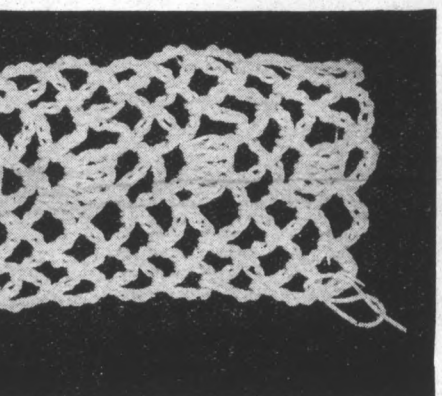
To do this it is not necessary for her to sit down each evening and figure out with pencil and paper just how many calories each member of the family must have in order to work properly and just what foods will furnish the required food elements most cheaply. She must, however, bear in mind that the body needs three sorts of food, proteins, carbohydrates, or starches, and fats. That the adult needs about four times as much starch as protein, and fat equal in amount to the protein. Authorities differ in the amount of protein required, some saying that the starch should be only three

times the amount, others five, and still others only allowing about three-fourths of an ounce of protein daily. Children need a larger proportion of protein than adults as the protein is the tissue builder and is needed during the period of growth.

Bearing in mind that the proteins are furnished by lean meat, the albumin of eggs, milk, and the legumes, or beans, peas and lentils, and the starches by the cereals, vegetables and baked goods, she can, without too much labor, but by giving her thoughts to it daily, come in time to furnish a fairly well-balanced regime.

As a rule, the farmer's wife errs on the side of too much starch. It is too far from markets to get fresh beef and mutton daily; in 99 cases out of 100 the family does not like milk, and very often there are two or three members who will not eat eggs, so the family suffers for protein. Pork is the meat most often used and this gives too great an excess of fat. The cook who is shrewd and really wants to give her family the right sort of a diet can get around the difficulty by giving them the milk and eggs in the form of custards, tapioca and rice puddings, in bread puddings, cream soups, etc. She can use milk in making her bread and serve it in gravies, and in a number of ways increase the protein supply without letting the family know they are eating something they think they do not like.

Take a typical dinner such as the one



given below, and from the table of food values figure up the ratio of proteins to carbohydrates, or starches, and the percentage of fat. An average dinner planned by a woman far from markets for fall or winter days, would be something as follows:

Pickles	Turnips	Pork and Beans
Cookies	Bread and Butter	Jelly
Doughnuts	Tea	Pie

The analysis of these foods show the following percentages of the various food principles:

	Water.	Protein.	Starch.	Fat.	Minerals.
Potatoes	75.5	2.5	20.9	0.1	1.
Fat salt pork	7.9	1.9	86.2	3.9	
Beans	68.9	6.9	19.6	2.5	2.1
Bread	32.9	8.1	55.3	2.6	0.5
Butter	11.	1.	85.	3.	
Turnips	62.7	0.9	5.7	0.1	0.6
Pickles	92.9	0.5	2.7	0.3	3.6
Crabapple jelly	42.4	0.3	54.4	2.4	0.5
Cookies	8.3	7.	73.2	10.2	1.3
Doughnuts	18.3	6.7	53.1	21.	0.9
Custard pie	62.4	4.2	26.1	6.3	1.0

It will be seen by a study of these analyses that this is not a well-balanced meal. Instead of the percentage of fats and proteins being equal, the fats are nearly five times as great as the proteins, while the proteins are about one-eighth of the carbohydrates instead of one-fourth. This dinner could be improved by omitting the doughnuts and fat pork, which are both rich in fats, and substituting lean pork and another vegetable. The jelly, too, shows an excess of carbohydrates, but as only a small amount of this would be eaten by each person, its omission would make but little difference. Corn, spinach, parsnips and onions are all richer in protein than turnips and one of these vegetables could well be used instead of turnips, leaving

the turnips for a meal when beef or mutton is cooked. Onions, corn or parsnips might be served creamed, the milk adding to the supply of protein in the food.

HOME QUERIES.

Household Editor:—What are canapes?—Curious.

Canapes are thin slices of white, graham or brown bread dipped in melted butter, then fried or toasted, and covered with anchovy paste, caviare, paste, cheese, fish, ham, or any cold meat or nuts made into a paste. They are served at the beginning of a formal dinner.

Household Editor:—What is the best way to make an egg-nog?—Nurse.

The best way to make an egg-nog is to beat the white and yolk separately, beating the sugar into the yolk, then mix with enough milk to make one cup. The taste of raw egg may be disguised with a sprinkle of nutmeg, a couple of tablespoonfuls of grape juice, or a little flavoring, as lemon or vanilla. If the patient can not take cold drinks the milk can be warmed, and if the egg is beaten rapidly while the milk is being added, the albumin will not coagulate.

Household Editor:—Can you tell me what will remove flyspecks from wall paper? I have a flannel baby blanket embroidered with silk. It was white 35 years ago, but is yellow now with age. I do not like to color it. Can you tell me any way to bleach it? I enjoy your paper very much, especially the Household Department, and the mothers' suggestions most of all. I have six healthy little children from four months to nine years. When I get time I will write and tell the mothers how I keep them well.—A. W.

I do not think anything will clean your paper very successfully. Slightly underdone bread is said to be a good cleaner. You might try it on a small spot. Or buy one of the wall-paper cleaners on the market, a small sample, and see how it works. I am afraid nothing will whiten flannel that has lain for 35 years, unless it be something that will also rot the fabric. Perhaps some reader can advise you better. Please do not write on both sides of the paper.

Household Editor:—How do you clarify fat after frying friedcakes, so you can use it again?—Beginner.

Paré a potato and slice it in the fat, then push to the back of the range until the potato has browned. Strain the fat through a cheesecloth and it is ready to use again.

Household Editor:—Can you suggest any home treatment for stammering, where the case is not very bad?—Stammerer.

Any thing that will help your nerves will help stammering. Get plenty of fresh air, take long walks in the daytime and sleep with your windows wide open. Eat plain, simple food and take deep breaths. Draw a full breath before you speak and do not start to say anything until you have your sentence framed in your mind. It is better to be called slow than to stammer. At the successful stammering schools the students are taught to beat time as they talk, a stroke to right or left with each syllable. Their sentences are like this: "Can—you—tell—me—where Mr.—Doe—lives?" With each word they wave the hand like a music master, keeping perfect time and making their speech conform to the motion of the hand. Try this and see if it doesn't help.

Household Editor:—I am troubled with a sour stomach. Will you please print a remedy?—Mrs. J. C.

Give your stomach a rest of 24 hours, taking nothing but hot water, which you must sip slowly. Then eat four small meals daily at regular intervals, taking care to eat slowly, and chew the food thoroughly. What you must eat will depend largely on your own idiosyncrasies. If you have been eating little animal food, your trouble is probably due to an excess of starch, and you would be better to take mostly milk and eggs until your stomach is settled. If you have been eating a great deal of fat, pork, butter, gravies and pan-cakes, stop this and take instead, well cooked cereals, dry toast and crackers. Too much sweet, cakes, pies, doughnuts and candy, is often the cause of bad stomach. Whatever you have been eating to excess, eliminate entirely, and be sure all food is well cooked. Indigestion is often caused by badly cooked food. Toast to be digestible should be in thin slices and dried all the way through, not simply brown on the outside and a soggy mass in the middle. If your stomach does not respond to home treatment see a good doctor.

Household Editor:—How do you prepare rice water?—Mother.

Put one teaspoonful of rice in a double boiler with one pint of water and cook three hours, adding water as it cooks away, to keep the amount a pint

when finished. Or boil two hours on the stove.

Household Editor:—What can I do with egg yolks after using the whites for frosting?—Amateur Cook.

Drop them carefully in cold water or beat in a bowl and cover with a saucer and set away for future use. Or you can drop them in boiling water and cook and serve in soup. Or they can be cooked and mashed and spread on bread with a little salad dressing for the children's lunch. They might be scrambled with bits of dried beef and make a hot dish for supper.

Household Editor:—Will someone publish the best way to fry liver, especially beef liver? I would also like a recipe for a good stuffing for baked heart.—Mrs. F. A. C.

Beef liver is best prepared in this way: Put a few slices of salt pork or bacon in a frying pan and fry for three or four minutes, while the liver is parboiling. Then remove the pork, dip the liver in flour, put it in the fryingpan, arrange the pork on top and slice on two or three onions. Season with salt and pepper, pour on one pint of boiling water, cover, and cook slowly in the oven for one hour. This is such an improvement on fried liver that you will never want it fried again. A good stuffing is made as follows: Two cups of bread crumbs, half cup of melted butter, one-third cup of hot water or milk, one-fourth teaspoon of salt, one-fourth teaspoon of pepper, one chopped onion or a little sage, or both, one beaten egg. You can omit the egg and add more seasoning to taste.

Pumpkin Pie Without Eggs.

Household Editor:—Seeing the question how to make pumpkin pies without eggs, I will give you my recipe. Prepare the pumpkin as usual, then take one quart of pumpkin, two quarts of milk, season to taste with cinnamon and ginger, one pint of sugar, put on stove and cook. Stir so not to stick to bottom when boiling. Stir in five tablespoonfuls of corn starch. When cooked well put in shell and bake a nice brown. I have more recipes without eggs if the readers would like to have them. I would like to ask if any of the readers could tell me what to use to whiten a linen tablecloth that has been stained with tea.—Mrs. L. B. F.

Make a weak solution of chloride of lime and soak the spots in that. Rinse thoroughly to remove all lime.

CHILD CULTURE BY MENTAL SUGGESTION.

BY F. M. CRAIG.

First win the child's love and confidence. Explain to it that you wish to help it develop a noble character, and that if it will work with you, you will surely succeed. Every morning have it repeat after you these or similar words: "This day, God helping me, I will be kind, good, pure and true. I will do all I can to make others happy. I can and will do right." If it has any fault to overcome, earnestly and impressively repeat to it affirmations adapted to its need, and have it also repeat them several times each day and at bedtime every night, but always when it is in a passive, receptive mood. For instance, if it is selfish, say to it: "You will not, you must not be selfish. Deep down in your little heart you are kind and loving. You will always do unto others as you would have them do unto you." Embrace every opportunity to praise it for the opposite virtue. If you put your whole soul into these affirmations, believe them yourself, and repeat them a sufficient number of times to make a deep, abiding impression on the child's mind and soul, experience proves that they will almost invariably become controlling factors in its character.

Every true life and every noble deed is inspired by an enlightened intellect, conscience and love. To develop these qualities in the child they must be constantly appealed to and made the ruling motives of conduct. Teach it what is right and wrong—and why, and that it should do right for right's sake, not from fear of punishment or hope of reward. seek to have it obey its conscience as the voice of God in its soul. Encourage it to do acts of kindness and helpfulness. Teach it the laws of personal purity. Impress upon it that every good thought and act helps to develop a beautiful soul, the one absolutely essential condition of highest happiness in this life and that to come; that every evil thought and act deforms its soul and must inevitably result in misery and unhappiness.

Above all, exemplify in your own life what you would have the child become. "Like begets like." An angry word excites anger; love awakens love. Nag-

ging, scolding, etc., destroy its finer feelings and aggravate the worst elements in its character. By always living, thinking and desiring the noble, the good and the true, you may most surely create these conditions in the child.

When the little mind is unfolding beneath the mother's heart, then is her golden opportunity to mould it as she will. Since it is developed by and through the action of her vital, mental and spiritual forces, every absorbing thought and earnest desire she entertains during this period leaves its impress on the forming brain cells for good or ill—"a chisel that cuts to make or mar the statue of a soul." All that is best and purest within her should awaken to meet the needs of her little one. She should cherish only beautiful, kindly, happy thoughts and aspirations, and pray silently, earnestly, every waking hour that it may be lovely, pure and good. She thus becomes fully receptive to the influence of the Divine Spirit, and the Power of the Highest will overshadow her and fashion a beautiful soul, that will ever prove a joy to the parents and a blessing to mankind.

THE UPSTAIRS STOVE.

BY HILDA RICHMOND.

In farm houses where there are no furnaces or other heating plants the upstairs is very apt to be icy all winter, and while it is very healthy to sleep in a cold room flooded with pure, fresh air, a fire to dress by and to bathe by and to lounge by is a very comfortable institution. Young people especially like the comfort of a warm room upstairs, and in many instances mothers who worried because their boys and girls showed a tendency to want to be away from home nights, found the solution of the problem in the simple means of keeping up a fire upstairs. There are many other country housekeepers who would readily put up the stove upstairs, if they could only be convinced that it is really needed, and is not too much trouble.

Well, as to the need, just try it one winter and see the results. A room where one can dress in comfort, get ready for bed leisurely, bathe and lounge, is a luxury that ought not to be a luxury in any country home. True, the kitchen is glowing with heat from a fine range, the sitting-room is bright and cheerful and the dining-room warm enough for comfort, but the upstairs fire has charms that nothing downstairs can give. Letter writing, studying, reading or even indulging in a little laziness is often not to be thought of downstairs where conversation, music or other distractions are going on, so the comfortable refuge upstairs is just the place for anyone who wants to be quiet for a longer or shorter period. Be sure the young folks will not grow selfish and want to remain up there all the time for that would make the room common and worth nothing. Often bathing in the kitchen, the common practice of most country homes without bath rooms, is attended with real peril in the long icy journey upstairs, and the warm room above does away with all this danger and inconvenience.

Whether the fire will be a great deal of trouble or not depends upon the kind of stove chosen. The best one for this purpose is a large, substantial one of the air-tight variety. One of these stoves in a large country house which was built years ago, and is therefore draughty, never has the fire out from fall to spring, yet only a very small amount of fuel is used. In the fall or late summer the old chunks from the apple orchard and from the wood lands are gathered together and when the fire is started a heavy piece of wood is put into the stove. Sometimes when the days are mild this will slowly burn for days, but if the weather turns cold and the draught is opened it is gone quickly. A lined basket to keep the dust from sifting through is kept filled with wood, and it is no hardship to keep it replenished. So strong is the draught that only twice each year are the ashes removed. In ten or fifteen minutes the room is made comfortable and the stove is perfectly safe when closed.

In sickness, in health, on damp days, on dreary days and when extra sewing is going on the fire upstairs will be found the greatest convenience and comfort of the farm house, and instead of dividing the family, as many mothers fear, it only draws all members closer together and makes them more companionable and delightful. All persons enjoy periods of solitude and quiet, and the comfortable room upstairs furnishes the much needed retreat and keeps the whole family circle sweet and sane and helpful.

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