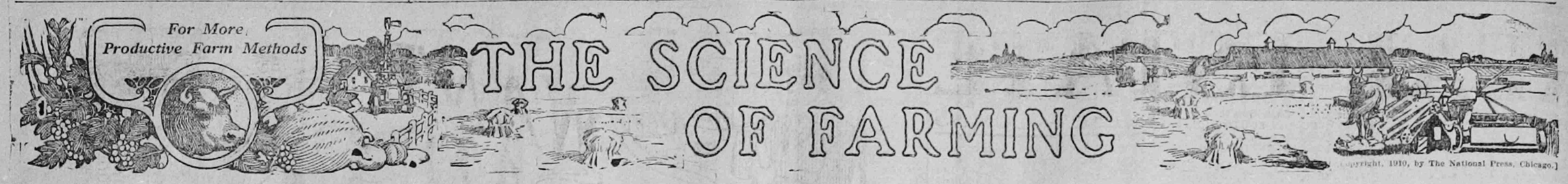


Answers by the Veterinarian

Dr. A. S. Alexander
Wisconsin College of Agriculture

Salivary Fistula

A COACH horse has a hole on the side of its jaw from which water runs and sometimes spurts when he is eating oats or hay. It is wet all of the time, but worst at meal time. When we bought the horse we did not notice the discharge and suspect that the hole was purposely stopped up. We have injected all sorts of medicines into the hole, but it does no good, and I think it connects with his mouth and the saliva runs out. Is there any way of curing this discharge?—K. T. McK., Tennessee.

Reply—There is a fistula of the salivary duct of the parotid gland (Steno's duct) and treatment, apart from a delicate and somewhat difficult operation, will fail. Such fistulae are sometimes stopped up by plugging with cotton at time of sale. The operation varies in method. A successful operation performed not long ago on a horse we know of consisted in making an artificial exit for the discharging end of the duct so that its content of saliva ran into the mouth instead of over the jaw. Only an expert surgeon can perform such an operation.

Eversion of Womb

We lost a ewe this spring from her womb turning out and when put in coming out again. We tried putting it back the second time, but it broke and bled badly and was sort of rotten. What can be done to keep the womb in place when it has been put back? If we have another case we would like to know how to save the ewe.—C. G., Michigan.

Reply—After cleansing the womb with a warm 1 per cent solution of carbolic acid or coal tar disinfectant and returning it to place twist a tag of wool from each side of the vulva and tie them together across the passage. Put several ties in this way across the opening and the womb cannot come out. If the ewe has been shorn it will be necessary to put some stitches through the skin on each side of the womb and tie across the passage. The stitches should not be put in the lips of the vulva.

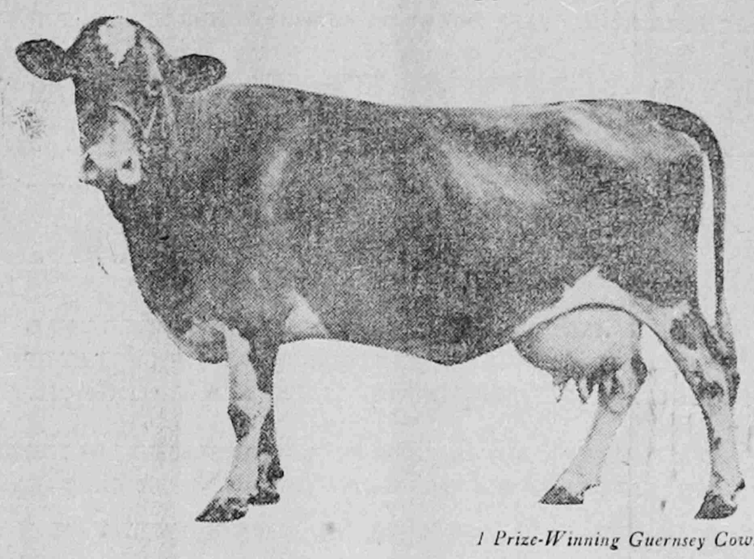
Petroleum Oil for Heaves

I have heard that petroleum is good for heaves of horses. Can you tell me how it should be used? We can get oil cheap in this country, and as we have two heavy horses we would like to use it on them if you think it is any good. What is the dose and how should it be given?—R. H., Kansas.

Reply—Beaumont oil, such as is obtained in Texas, was at one time quite widely recommended for the treatment of horses affected with heaves. A local veterinarian in that country stated that affected horses were being bought and brought to Texas for treatment with the oil and that it promptly checked the distressing cough of the disease and after a time proved a permanent cure. We were unable to corroborate this glowing account of the curative effects of Beaumont oil; but there is no doubt that it relieves the distressing cough. It is used in this way: A bucketful of Beaumont oil is placed in the manger at such a height that the fumes must be inhaled by the horse. It is left there right along and the horse is said to inhale the fumes with "relish" until he is relieved of his cough. People who can obtain the oil easily and at cheap rates might give it a trial and report results through these columns.

Dairy Cow the World's Greatest Manufacturer

By N. A. Clapp



1 Prize-Winning Guernsey Cow.

OF THE various sources of income from the farms of the country, the dairy products lead them all in money value, corn alone excepted. In 1907 the aggregate income from dairy products exceeded $800,000,000, and it is now believed that the income for all the dairy products during 1909 will pass the billion-dollar mark. It is more than the value of the wheat crop. In other words, people are paying more for their milk, butter and cheese than they are for their bread.

In the face of the fact that the cow is the great factor in the dairy business, there has been but little attention paid to the selection and breeding of cows with the idea of profitable production in view. A cow has been looked upon as a cow, and little attention paid to the great differences in cows. The question is frequently asked as to how much the income from each cow is likely to be during a year.

According to the best sources of information we have, there are about 22,000,000 cows in the country. At the estimated income from the cows of a billion dollars, the average income per cow in the whole country is $45.45, a little less than the value of the feed necessary to keep a cow a year at present prices of grain, grass and forage. By that plan of reckoning the dairy business as a whole is not very profitable. It would represent a plan of disposing of the feed raised on the farm at a little less than its cash value in the market. In addition to the feed consumed there is the labor attending the milking and caring for the cows, with the risks and rent of the plant, the farm thrown in, with only the manure from the cows to keep up the fertility of the farm to offset all that is done to keep up the business and run it.

But there is another side to the dairy question. We know very well from experience and the results obtained by others that when good dairy cows are kept and well handled there is a liberal profit over and above all the costs of feed, labor, use of plant, risks and interest on the money invested. We have many records showing that the income from whole large herds of dairy cows for milk alone has been considerably above $100 per cow during the year. These very profitable cows are not in the majority. While there is a comparatively small percentage of the dairymen getting large profits from their cows, there are a great many dairymen that are doing business at a loss. There is a great difference in men and their methods of management. There is a wide difference in cows, and it is my intention at the present time to make plain some of the essentials of a good dairy cow and give my reasons why those essentials are necessary in order to have a good, profitable dairy animal.

During my career of over forty years as a farmer and stock breeder it has been my aim to learn to detect the characteristics that are required to make the best and most profitable females. The first and prime essential is that the female be well sexed. In other words, that as a female she be pronouncedly feminine, and not carrying the traces of masculinity that are too often found in cows kept in the dairy herds. She should be feminine from the head on throughout the whole animal.

In observing the animals that have become distinguished as great producers, excellent breeders and good mothers, as it has been my privilege to see them in different parts of the country, I have noticed that the characteristic femininity has been invariably in the lead with cows that have been animals of marked excellence for a long period each year, and a long period of years. As a proof of this assertion I will ask those who read this to study closely the distinguished animals that are illustrated in the agricultural papers and see if it is not correct. I have a large collection of pictures of the distinguished cows in all of the dairy breeds, and thus far I have failed to find an exception to the rule.

Every animal is made up of a combination of systems, and the balancing of those systems in each animal decides the character of the animal. Each animal is as its make-up constituted it, and can only be changed as the habits of life modify it. No radical changes occur in one or two generations.

In the dairy cow there are seven systems that should be considered—the bony, muscular, respiratory, nutritive, circulatory, nervous and lymphatic. They all have a part in deciding the character of the cow.

As far as the bony system is concerned, it is at the foundation of the motive power of the animal, and while it has to do with the carrying of the cow in search of food and holding the vital machinery in place, it should not be in the lead. The bones must not be large, for if they were there would be a tendency to great size and masculinity that must be avoided in order to secure the best results. The great producing cows are not the large, bony animals of the breed.

The muscular system has its part to perform in the work of the animal in moving and manipulating the bones and performing the work of locomotion. The cow is not an animal that is used for physical service, and the muscles should not be considered with that idea in view; but the tendency toward carrying lean meat is desirable, as against the tendency to lay up adipose membrane (fat) in different parts of the body. The external sign of this temperament is shown by the length of the head from the eyes to the end of the nose—a long one for a milker and a short one for a beef animal.

The respiratory system, the breathing part (the lungs), should be well developed, as it has to do with taking in and expelling the air that purifies and enriches the blood with oxygen, the life-giving element of the air, and carries it to the different parts of the system, where it is utilized in repairing and building up the system in all its parts. The size of the lungs can be judged by the size of the materials, and the width of the body back of the fore legs.

The nutritive system has to do with the consuming of the food and manufacturing it into chyme and chyle, that which constitutes the nourishment that sustains the body and furnishes the material from which the milk is made. A large stomach is desirable because it is the repository in which the food is stored in the process of converting it into the elements that make meat and milk. The external signs are the large abdomen and good width of the head at the point midway between the eyes and ears, the gustatory or appetite center of the brain. A keen relish for food is desirable, for it not only enables the animal to eat, but the juices that are concerned in the digestive process flow readily while eating.

The circulatory system has to do with the carrying of the nutritive elements in the food to different parts of the body. The heart is at the head of the circulatory system and should be large. The external signs are width of the jaw and between the fore legs. A large amount of blood is essential and the amount can be determined by the size of the veins. What is often called the milk vein on the under side of the abdomen is but a blood vein, and shows whether a cow has a large or small amount of blood. All cows that give large quantities of milk make a large amount of blood. The size of the foramen, or opening, where the vein enters the chest, will indicate the amount of blood that courses through it.

The nervous system, the prominence or lack of which is indicated by the width of the head, the distance from the poll to the eyes, that shows the size of the brain, and the size of the ears, nose, neck, legs and tail. When the nervous system is in the lead—a thing very desirable—there is a large brain, fine head and ears, slim neck, fine bone in the legs below the knees and hocks, and a slim tail.

As the nervous system controls the whole machinery of the body, both involuntary and under the will of the animal, it should be in the lead. It has to do with the digestion, circulation, respiration, assimilation and also secretion of the milk. By the influence of fright or excitement the processes of life are interrupted, the secretion of milk is either greatly diminished or entirely cut off. The even tenor of the life of the animal is conducive to good results. The importance of kind treatment of the cows certainly ought to be apparent.

The lymphatic system has to do with the process of absorption, or taking the materials of nutrition from the alimentary canal, conveying them into the circulatory system, and in the course of the circulatory processes hold in the glands the fatty substances that are laid up in the body for further use, in case of emergency, or returning the same to the venous circulation, where they are taken out in the process of milk secretion, and are carried away with the milk. When the lymphatic system is active there is a mellowness at the surface of the body, the skin and underneath, the skin, which should not be overlooked in the process of improving the dairy cow. A thin, papery skin or a hard hide and surface never goes with a good milker that puts a good deal of fat in the milk.

The part performed by the lymphatic system with the dairy cow is controlled to a great extent by the treatment of the cow and the habits of her entire system, a subject of sufficient magnitude for a separate article, and on this account I am compelled to drop it at the present time.

In selecting cows for the dairy keep in mind the fact that they should be light in front and heavy in the rear, their chins narrow, but their loins and hips broad, and sides deep, in order to give room for a good udder. The vital organs—stomach, heart and lungs—should be large and strong in order to insure good constitutional vigor, a prime necessity to enable the cow to hold to her work of milk production for a long period of years. By judicious selection and breeding for improvement the income from the individual cows kept in the dairy herds can be greatly increased. The reward is worth the effort.

Questions of the Feed Lot

Professor Herbert W. Mumford
Illinois College of Agriculture

Natural Feeds Good as Prepared Ones

"A GROUND feed is being offered for sale in our local market which is highly recommended as a feed for young pigs. How am I to know whether or not it is what it is claimed to be? Any information which you can furnish concerning the feeding of young pigs will be gratefully received."

With reference to this question Professor William Dietrich says: "If you could get the exact composition of the feed offered for sale, you could compare it with other feeds. It is well to remember, however, that natural feeds, such as the grains and other simple feeds that can be obtained and compounded at the feeder's will, are usually fully as satisfactory as artificially prepared feeds.

"Several things must be borne in mind in making up a ration for pigs. A young pig immediately after weaning cannot use a very large quantity of roughage in the ration. The roughage can be increased up to the time the pig is about five months old, then it sould be decreased again during the fattening period.

"The amount of protein, also, in the ration, for best results, needs to be varied, as outlined in circular No. 133 of the Illinois experiment station.

"The kinds of feed used are of secondary importance, provided you supply the pig with the required amount of the various nutrients in a digestible form, including water.

"Various grains, such as corn, rye, barley, oats, etc., are listed as carbonaceous feeds To furnish protein for your pigs you can use clover and alfalfa pasture, in as far as the pig is able to use these roughage feeds. For the young growing pig it will be necessary for you to get a little more protein than the pig can get out of these roughages; consequently some nitrogenous concentrate ought to be added, such as skimmed milk soy bean meal, oil meal or tankage."

Handling February Calves

"Please advise if you think it would pay to buy cows that calved last February and let them all run on pasture through the summer, taking the calves from the cows in December, graining them and selling them about June, 1911, or selling calves at 18 months old. Would it pay on $150 land?"

I do not think it would pay under ordinary conditions to buy cows and calves and handle them as you suggest, unless they are very well bred cattle and can be bought below present market prices. In growing baby beef the quality of the cattle is much more important than in fattening steers. It would also be necessary to have good shelter for the calves next winter and give them the best of care. February calves should generally be weaned not later than October and fed strong all winter in order to make them thick enough to sell well in June. It is impossible to advise you definitely in a matter of this kind without knowing the quality and price of the cattle and your facilities for handling them.

APPARENTLY pigs make larger gains if they are given a little more fat in their ration than is ordinarily present in the common feeds of the farm. It is somewhat difficult to control this factor, but it may in a measure be controlled by using in the ration feeds like soy beans, which are rich in fat.

TOPICS OF INTEREST TO FARMERS

SECURE GOOD RAMS

A PROFITABLE flock of mutton sheep is not to be had by careless and indifferent management on the part of the flock master. Careful thought, study and judgment must enter into every detail and only the most painstaking and most experienced shepherd can hope to be most successful. Professor Craig offers the following suggestions on establishing a flock of mutton sheep:

Endeavor to secure good rams. Place as high a value on the ram as possible, and see to it that the value placed on him is not a fictitious one. Do not mistake the value placed upon a prize-winning animal for the true value it should possess to stand at the head of the flock. The true value of a ram may not be determined until after he has been used for a season in a flock. He must be a sure getter of stock and impressive enough to impart to his get the rare qualities possessed by himself.

In selecting ewes for the flock look well

SHEEP EAT WEEDS.

A small flock of sheep pays on any farm if for no other reason than to keep down the weeds and make wool and mutton from the waste grass in the fence corners.

to the milking qualities they possess. Those which suckle their lambs best and have dense fleeces for their own protection are in every case the most profitable for lamb raising. A record should be kept of the milking quality of every ewe, to be judged by the kind of a lamb she raises from year to year. There will be a variation in the quality of the lambs the ewe produces from year to year, but where a ewe has made a good record during a number of years it is well not to be too hasty in discarding her from the flock when she fails for a single year.

Always feed the ewe lambs liberally that are to be used later in the flock. Get as much growth the first nine months as possible. The growth and development of a lamb the first year of its life determine very largely the size, the weight of the fleece and the vigor and power it will attain. In every case the better lambs are cared for the first year the more satisfactory they will prove as breeders in the flock.

In selecting the ram to mate with the ewes select with the idea of correcting any deficiencies that may be general in the flock of ewes. When a ram mates well with a flock of ewes and produces a uniform lot of lambs that satisfy the market demand he should be retained in the flock for as many years as he proves himself vigorous and useful.

Judicious feeding has much to do in determining the type of sheep or lambs we find in our general markets, yet the breeding has been found to be an important factor, and is one of the first things to be considered in establishing a flock of mutton sheep.

To Settle Doubting Farmer

THERE are about sixty-five agricultural colleges in this country. Suppose that each of these colleges should put three good, bright graduates into each county as teachers. Suppose that the teachers sent out by each college should be put under the supervision of a high-class scientific agriculturist—not a mere time-server, but a man who would be interested in his work. Then let these teachers go right out into the country to teach the farmers, instead of requiring the farmers to go to the colleges to be taught.

Let a teacher ride up to a farm and say to a farmer: "I have the best seed wheat that is known. If you will prepare and cultivate the ground as I tell you to do I will supply you with enough of this wheat to sow not less than two acres nor more than four. Will you do it?"

Suppose the farmer says he doesn't want to. "All right," let the teacher say, "I will see if your neighbor does not want to." He will not have to look far before he will find some one who is willing to try the experiment. Then he can teach the farmer who is willing to try, how to prepare his ground. It must be fertilized. If there isn't any fertilizer on the farm it must be bought. Fertilization cannot be neglected. It is because it is neglected, and because crops are not rotated as they should be, that the production of our farm lands has fallen so low.

Well, after threshing time next year, the farmer who wouldn't try will run across the farmer who did try and say, "John, how did you come out with the wheat that that college fellow showed you how to sow?" And John will perhaps say to him, "Oh, it went thirty bushels to the acre!"

That will settle the doubting farmer.

Pintsch Oil for Gophers

IN COLORADO prairie dogs have been destroyed with bisulphide of carbon gas in a manner similar to the experiment tried in Minnesota at university farm on pocket gophers. Recently the Colorado station has tried, with wonderful success, Pintsch oil—a by-product of the Pintsch gas used for lighting trains. It has been used in the same manner as bisulphide of carbon is used, with equally fatal results on the prairie dog. It is assumed in Minnesota that if Pintsch oil fumigation is destructive of prairie-dog life in Colorado it ought to be equally so in Minnesota with pocket gophers, and the Minnesota experiment station probably will experiment with it. This oil is only half as expensive as bisulphide of carbon, according to the Colorado report, and can be procured at railroad centers where there is a Pintsch gas factory. Only half as much of it is required to kill a prairie dog in his burrow as of bisulp' '

Discussion on Soils

Q. I WOULD like to ask Professor Miller what he calls an average soil.

A. The average soil of Missouri, all over the state, would contain around 2,000 pounds of nitrogen, 1,000 of phosphorus and 5,000 of potassium. In Barton county there are 445 pounds of phosphorus to the acre near Lamar; and near Adrian, Bates county, there are 698 pounds. But the above is an average for the state.

Q. How much phosphorus did you say to use on an acre of average Missouri soil?

A. Sixty to seventy pounds of phosphate rock per ton of manure.

Q. Would that be enough to supply the needs of a five-acre rotation?

A. Yes, if you feed everything back except wheat.

Q. Do you apply manure once in five years?

A. Yes, once in a five-year rotation, and that before corn.

Q. Do you have to buy rock phosphate in car loads?

A. Yes, to get the price of $10. If you buy in small lots it will cost you in the neighborhood of $15 per ton, freight included.

Q. Is one form of phosphate rock better than another?

A. Yes, there is some variation. We have been buying from Tennessee.

Q. After you have succeeded in getting a crop of cowpeas how do you treat the land to get the best results?

A. Either "hog" them off or take off with sheep.

Q. Would you advise burning stubble off of lands?

A. No; it is never wise to burn off anything. It depends somewhat on the system you are figuring on. If you want a crop the next year it will sometimes pay; but if you are figuring on crops in the future it never pays.—Missouri Farmers' Institute.

Goats and Hazel Brush

A. B. WILSON of Putman county, Illinois, has a large woodland farm a few miles from his home place. One fifty-acre field of it containing hazel brush and blackberries was fenced hogtight and a carload of goats put upon it three years ago. The first year they killed every blackberry bush. The second year they destroyed the hazel brush and the third year everything in the field is dead except the largest timber, and the ground is now clean, with a good stand of grass. He says there is no great profit in these goats, but they do clean up the land very effectively. They kill practically every green thing to which they have access. They are bought in the spring and sold in the fall and have to be fed only in winter. They are fenced in with woven wire 26 inches high and three wires above it. He will buy 500 or 600 goats for similar work next year.

Mr. Wilson has had a live stock partnership with his tenant on this timber farm for three years, sheep and hogs being raised. Three hundred ewes were bought and they and their lambs, about 600 in all, were fed. Disease took a number of these sheep in spite of what was done for them, but for this the project would have been successful. The hogs did better and made some money in feeding 120.

To Kill Bull Thistles

BULL thistles, common in pastures, cannot always be killed by mowing. Cutting tends to prevent maturity of seed. Cutting off the thistles just below the surface of the ground two or three times a year will effectually eradicate them. Working the ground in rotation of grass, grain and corn is a very sure way of eradicating weeds.

FREE LIBRARY FOR FARMERS

THE United States Department of Agriculture makes a special effort to look after the interests of its rural communities, and one way in which it shows this interest is by publishing and giving away public documents. The farmers' bulletins are pamphlets which treat in a practical way subjects of interest to those engaged in agriculture or kindred pursuits. At this writing 382 of these booklets have been issued.

The division of publications prints as a circular a pamphlet called "Farmers' Bulletin Subject Index." This is a printed catalogue of the farmers' bulletins and is brought down to date once or twice each year. Suppose one wanted to look up potato scab. In this index, under the word "scab," I find that farmers' bulletins Nos. 56 and 316 have something on this subject. Under the phrase "Potato Diseases and Treatment" these same bulletins are mentioned again. A good collection of farmers' bulletins shelved with a numerical arrangement and this catalogue makes a useful and usable agricultural library.

The most important popular publication of the Department of Agriculture is the "Year Book." It gives (1) a general review of the department and of the progress of agriculture for the year; (2) a series of papers on carefully selected subjects which are written in a popular way and by competent men. The "Year Book" for 1908 has twenty-three such articles covering 394 pages; (3) an appendix giving information about the state experiment stations, the names and addresses of persons in agricultural work, statistical tables about our staple crops, etc.

The "Monthly List of Publications," dated the last day of the month, gives full information about all the publications issued that month and how each may be obtained. This will be mailed free regularly to all persons who apply. Such application should be addressed to the secretary of agriculture, Washington, D. C. Often publications which are listed here at a price may be obtained through a congressman free of charge. The price charged by Uncle Sam covers only the cost of paper and printing.

For the farmers' bulletins, the farmers' bulletin subject index (circular No. 4, division of publications) and the "Year Book" apply to your senator or representative. He has a large number of these for distribution to his constituents.

JUDGE HUMPHREY'S ALFALFA

ALFALFA is the lucerne of England and France. It was grown in Egypt and Persia. Roman soldiers fed their horses alfalfa. This plant was brought to South America by Cortez. In my judgment alfalfa is the most marvelous food and forage plant, containing the most of the elements that sustain life of any in existence.

Corn, wheat and oats have no power to get nitrogen from the air, but alfalfa is the greatest nitrogen fixing plant on earth. It secures from the air four times as much nitrogen as red clover. But it will also make you money while it is storing nitrogen for you. I believe that alfalfa, one year with another, is a better money maker even than corn.

All animals on the farm, from chickens up, will eat alfalfa. The pigs thrive on it; sows will go through winter on it. It is good for the mares; weanling colts fed alfalfa and shelled oats come out fat in the spring and shed off in March. It supplies more green feed for the hogs than anything else, and this is a great preventive of hog disease. I have tried it and I think I know about it. I would not give a ton of alfalfa for two of timothy. You cannot feed a horse anything in the world he likes so well as alfalfa. Put corn, shelled oats, a bran mash and alfalfa in his manger and you will see that he eats the alfalfa first. I don't know any animal that will not leave every other food to get alfalfa.

I tried for three years to grow alfalfa and it died out every time, but I don't say that a crop can't be grown simply because I failed in producing it. The scientist is among us, and he is the only man who actually knows, and he has finally taught us how to make alfalfa grow.

Then I agreed to follow the exact advice of Dr. Cyril G. Hopkins of the Illinois agricultural experiment station, got soil from an old alfalfa field (soil from a sweet clover patch will do the same) to inoculate the ground with bacteria. The land was rich as cream and thoroughly tiled. I put on bone meal, lime and manure and plowed it under.

After working the ground into the best order I ever saw a field I had it worked just as much more. It was harrowed until there was not a clod in it. And I have not had a particle of trouble since in growing alfalfa.

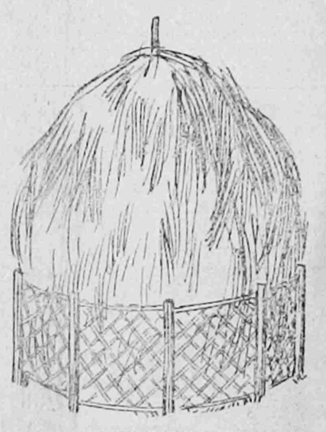
You may sow alfalfa any time from May to August, and if you will do it right and follow the rule you can grow alfalfa anywhere in the corn belt, and the corn belt is worth $50 an acre. I sow one bushel to five acres. That is twelve pounds to the acre.

I have never had a complete stand at first. If I had 10 per cent of alfalfa on the ground I would go on and make a stand of it. I disk all the bare places in the field, and wherever the stand does not satisfy me, setting disks almost straight. I never killed any alfalfa by disking it. I disk, resow and harrow these bare places. I have done this the first week in June, the middle of July, the last week in August and the first of October, and always with good results.

I now have five fields of alfalfa, and for the last six years I have cut about four tons per acre of this marvelous crop.—Judge J. Otis Humphrey, Sangamon County, Illinois.

Clover and Skim Milk

IN RAISING pigs in northeastern Minnesota, as practiced at the experiment station at Grand Rapids, Minn., it is important to remember that some of the most profitable food is clover pasture and skim milk. Expensive grains are fed only to finish the product grown on inexpensive pasture and dairy by-products. Good clover pasture always should be ready for the 6-week-old pig.



SAVING HAY STACK.

This little wire fence will save its cost fifty times every season and allow stock to run in Inclosures where hay or other grain is stacked. Use strong wire fence netting and fasten to posts of 2 by 4 and put these securely in the ground. When not in use the fence can be rolled up and put away.

Buy the Best Anvil

IT PAYS to buy the best anvil, as the cheap ones are not properly tempered on the face and will nick if too soft or chip off if too hard. Some anvils are made of cast-iron and cannot be used for heavy work, as the horn is likely to be broken off. Do not buy a cheap anvil. Select one with wrought-iron body and welded steel face.

The anvil should be placed upon a solid block and fastened down with straps or staples. The horn should be on the left of the workman when his back is toward the forge. The anvil should be high enough so that when a person is standing beside it the knuckles will just reach the face of the anvil.

A good weight of anvil to use on the farm is 150 to 175 pounds. At the Colorado Agricultural college they have 125 to 150 pound anvils for the use of the students.