

OUR FARMERS' IMPROVEMENT PAGE

Information Gathered Everywhere that Is of Interest to the Men and Women on the Farm. Good Roads, Dairying, Horticulture, Fine Stock, Hogs, Etc.

KILLING DISEASE GERMS IN MILK.

In order to determine the best way of pasteurizing milk so far as to kill the disease germs and yet not give the milk a cooked flavor or lessen its nutritive value, the department of agriculture through its dairy division has been conducting a series of experiments, treating milk at different temperatures and for different lengths of time. According to the report on these experiments in bulletin 166 of the bureau of animal industry, when milk is pasteurized at 145 degrees F. for thirty minutes the chemical changes are so slight that it is unlikely that the protein (muscle building element) or the



Princess Jane Mercedes, the pure bred Holstein cow illustrated, is a dairy animal of magnificent type and individuality. At the age of four years and a half she made a seven day record of 47.10 pounds of milk and 18.23 pounds of butter and at five years made a semi-official year's record of 2,813.07 pounds of milk and 89 pounds of butter. She is the dam of a bull calf recently purchased at a long price to head a Holstein herd in Japan.

phosphates of lime and magnesia are rendered less digestible than they are in raw milk.

Moreover, from a bacteriological standpoint, pasteurizing at low temperatures is found to be more satisfactory than pasteurizing at high temperatures. According to bulletins 126 and 161, where low temperatures are used the majority of bacteria that survive are lactic acid organisms, which play an important part in the normal souring of milk. When milk is efficiently pasteurized at high temperatures the bacteria which survive are largely of the putrefactive kinds, and milk so treated, if kept for any length of time, has a tendency to rot instead of sour. From the standpoint of economy, the technologist of the dairy division finds that pasteurizing at low temperatures calls for less heat. It is found that it takes about 23 1/2 per cent less heat to raise milk to the temperature of 145 degrees F. than to a temperature of 165 degrees F. A similar gain is a saving of ice needed, because it will require 23 1/2 per cent more refrigeration to cool milk to the shipping point when it is pasteurized at the higher temperature. The department, therefore, recommends that "when market milk is pasteurized it should be heated to about 145 degrees F. and held at that temperature for 30 minutes."

CO-OPERATIVE BREEDING.

Does For the Farmer Things He Can't Do For Himself.

In discussing the economic aspect of the work of co-operative breeding former Assistant Secretary Hays of the department of agriculture said:

"Co-operation in animal breeding, as in other forms of country life co-operation, is a direct aid to the retention of the family farm, making less need for large farms and the consequent landlordism and peasantry of the people. Co-operation in testing and weeding out the ordinary herd used for production, in owning male animals and in improving pure bred families and breeds will enable farmers to delegate to collective management those things which the individual farmer can not well do for himself. If

properly organized under suitable co-operative relations with the state and federal departments of agriculture and encouraged by suitable laws, the hereditary values of our breeds of live stock can be improved much more rapidly than if left to individual effort alone.

"There doubtless are at stake some hundreds of millions of possible added profit from the application of scientific knowledge of animal breeding in the United States alone. Private breeders could do even much more than now if the scientific breeding of animals were taken in hand by public agencies co-operating with a selected portion of breeders of each class of live stock. There will be developed a class of technical public workers as superintendents of co-operative breeding enterprises, as well as investigators and teachers, who will so develop the science and practice of breeding that all private breeders will better know how to improve their stock, and will be better able to make profits from supplying superior breeding stock to the farmers who grow live stock products."

Hint For Horsemen.

Never start to lead the horse from his stall till you hold or fasten back the door. Doors have been known to swing to where they were not fastened open, catching the horse's head, the animal pulling back and breaking his neck. - Farm Progress.

Hogs Like Greens.

A hog is a hog, with queer ways and obstinacy, but he will never refuse green food nor fail to pay for it. Have the green food near the yard, so that it will be no trouble to throw it over every day if you do not expect to turn his ship into the field.

LIVE STOCK NOTES.

The rest at noon goes a long way in keeping the team in prime condition for hard and constant work.

Of all animals on the farm sheep want pure water most. They will not drink impure water if they can help it. Why make them do it?

The large pasture is not always best. It does not pay to make a cow walk a long way to find her feed. Remember that a colt between ages of two and one-half and three years gets twelve new teeth. See that the old ones are properly shed. Have a veterinarian examine your horse's mouth once a year.

It is a good time to fatten old and faulty ewes before cold weather comes.

The most urgent need of stock this season is plenty of pure water, and in many parts of the country this is one of the most difficult things to obtain.

FLOCK IMPROVEMENT.

None but Vigorous Ewes Should Be Used For Breeding.

Breeding ewes that are in any way diseased should not be kept in the breeding flock, for their progeny are apt to inherit such disease and transmit it to their progeny, says W. M. Kelly in the Rural New Yorker. There is plenty of difficulty with disease in a flock of sheep without inviting and fostering the very elements that will destroy the results of systematic selection. None but the best and most vigorous individuals that are free from all hereditary diseases should be selected for breeding purposes if we aim to build up a good uniform and profitable flock.

Great regard should be paid to the size and general contour of the ram that is selected to head the flock. His structure should be firm and massive, with a broad and capacious breast, without a disproportionate length of

legs, well formed and fully developed quarters, especially the hind quarters. His loin should be stout and well knit, his features bold and masculine. A firm, muscular neck, with a bold, congested eye, is indicative of spirit and vigor. The head should be long, but rather small and finely molded. These appearances denote excellent qualities in rams of every breed. I do not believe in selecting an extremely large ram nor those that are weak in one point and strong in another.

Study the breeding ewes and select a ram that will have a tendency to correct any weaknesses or defects that they possess. In the purchase of the ram great care should be exercised as to what his appearance would be when in a normal condition, for it is unsafe to rely upon the form or appearance of sheep when these have been created by high and unnatural feeding or external applications. It is more than likely that their progeny will be injured rather than made better by such methods.

While the selection of the ram is of great importance, yet I do not believe he represents as large a factor in the improvement of a flock of sheep as many writers would have us believe, especially when the flock is well bred and the ewes nearly as good in quality as the pure bred rams that are used to continue the work of further improvement.

HORSESHOEING SCHOOL.

Cornell University to Give Instruction in Practical Farriery.

It has been announced that beginning next winter instruction in horse shoeing will be given in connection with the veterinary department at Cornell university, Ithaca, N. Y.

This will be the first school of its kind to be established in America. In most all countries of Europe the horse-shoer, before being permitted to engage in business, must give some time to the study of anatomy of the foot and limb so that in his practice the horse may be better safeguarded against inferior practice and knowledge of foot structure and assurance being the owner that his animal is being shod by a fully qualified man.

The school to be opened at Cornell will be under the direction of the head of the veterinary department, the assistant being a graduate shoer of the German schools. At first only residents of New York state will be asked to make application for admission to the course of studies, which will include anatomy, locomotion, conformation, the treatment by shoeing of diseased hoof condition, etc.

The importance of this movement will appeal to every horse owner. This school at Cornell should stimulate efforts along the line of placing the shoeing of horses upon a higher plane than it now occupies.

FARM, ORCHARD AND GARDEN BY F. E. TRIGG REGISTER, ROCKFORD, IA. CORRESPONDENCE SOLICITED

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The most discontented noise the writer has heard in a long time is the first crowing of a bunch of little roosters at 4:30 a. m.

When you see two small boys riding one of those tongue steered wagons it is usually the smaller of the two that

furnishes the motor power.

An unsightly pile of ashes and rubbish that the writer often passes has been very effectively screened by a row of sweet peas, which in both leaf and blossom are a big improvement over the rubbish.

The wood from which pencils are made is becoming relatively so scarce that pencil manufacturers are buying up old red cedar fence rails in Tennessee and other southern states to get needed pencil wood.

Stacking improves the quality of both grain and straw and makes it possible to put the job of thrashing over until cooler weather, which not only makes it more comfortable for the men and teams, but for the good wife who has to feed the crew.

In planning for the poultry house it will be well to allow at least ten square feet of space per fowl. Many poultry keepers break this rule and in the end lose thereby, either in the appearance of poultry diseases or lessened egg production.

Some one has suggested the wisdom of teaching thrift to school children an hour each week during the school year. This idea is good, but it would seem to be an even better plan for this same trait to be taught in the home every day in the week.

The Austrian government disposes of 1,500,000 railway ties annually that are cut on the national forest reserves.

In the United States the practice is well established of selling standing timber and down timber on the forest reserves, but there seems to be no precedent for disposing of manufactured lumber.

Investigations made by the United States department of agriculture show that \$5,000,000 is lost annually by the farmers of the country through preventable grain diseases. The simple treatment of seed grain with formalin—one pint to thirty or forty gallons of water—would put a stop to the greater part of the loss noted.

Failure to make repairs as soon as a thing gets out of whack often costs many times what the fixing of the trouble would amount to in both time and money. This is just as true of a hole in the fence as of a piece of machinery which gets out of commission when a fellow has a number of hired men on his hands. It is simply the old, old story of the stitch in time that saves nine.

Where sawdust can be had cheaply and in quantities it makes an admirable material for bedding horses. The stable floor should be cleaned of all dirt and a layer of sawdust three or four inches deep scattered in the stall. This should be covered with straw or other bedding material and will make an excellent absorbent of all moisture. Occasionally the sawdust should be renewed.

Professor Forbush, ornithologist of the state of Massachusetts, puts the loss which the country suffers annually from the ravages of insect life at \$500,000,000. He estimates that but for the natural enemies of the gypsy moth the increase of a single pair would defoliate the United States in eight years. To the insectivorous birds chiefly is due the credit that such a calamity does not overtake us.

Those in close touch with the egg market of New York city estimate that yearly there are received on this one market 14,000,000 broken eggs. This includes the breakage in packing, the breakage in transit and the breakage in unpacking. This loss is so heavy that the federal department of agriculture has started an investigation into the subject with a view to arousing interest in a better shipping package.

In many sections of the country west of the Mississippi and Missouri rivers the annual period of hot and dry weather just past has entirely exhausted or greatly reduced the usual sources of water supply. Under such circumstances there is particular need that all water from new or depleted sources should be boiled before it is used for drinking purposes. Unless such precaution is taken the misfortune of a drought, which is bad enough, is likely to be aggravated by epidemics of disease.

Experts in charge of the fruit breeding work of the Minnesota Agricultural college have lately gone to the northern part of the state to gather specimens of native wild fruits which will be grown on the experiment station grounds and crossed with other cultivated varieties. Wild raspberries, gooseberries and plums of a hardy type will be sought out, and it is hoped by using these in cross breeding the productiveness and hardness of cultivated varieties may be increased.

Willows, cottonwoods and some other trees of these types, which show much tenacity of life and are hard to kill when felled at other times in the year, may be effectually killed by removing a strip of bark about a foot wide encircling the trunk and a short distance from the ground. The root systems are putting forth their final effort at this season in the maturing of the large crop of leaves and are thus so depleted that if the girdling is done now they die with the tops.

A reader of these notes who some time ago set out an evergreen wind-break about his farmstead asks whether it would be all right to trim or prune it during midsummer. The sap of the trees of the conifer family being resinous, it quickly coats over any cut surfaces, so that there is not the danger that there would be in trimming deciduous trees out of season. In the case of fruit bearing trees the summer pruning does no damage by causing the tree to lose sap, but is favorable to a production of fruit buds for the following season.

The strike and running off to the city

by many a farm lad might be prevented if his father had the good judgment to adopt a system of co-operation or partnership with this same boy—a partnership in profits as well as hard work. Every boy that is worth a copper has a personality and an individuality of his own, and this should be encouraged to express itself in some such manner as that suggested. The father who follows a narrow, crabbed policy with his boy almost invariably reaps a harvest in kind, with ingratitude and lack of affection thrown in.

A BIG BOOST FOR GOOD ROADS.

On Aug. 20 and 21 an unusual good roads campaign was carried out in the state of Missouri. As the result of an appeal by Governor Major a vast army of men, estimated at a quarter of a million, and mile teams put in two days' work improving the highways of the state. The work of these men and teams was volunteered, and in many cases where physical disability prevented working money was donated to hire a substitute. For the purpose of emphasizing the governor's appeal, the county courts (supervisors) of practically every county issued appeals to citizens to give two days' work. In nearly every section the work was systematized, the road overseers of the various districts having charge of the volunteers, so that the greatest amount of good could be accomplished. Boys that were too small to do road work were kept busy carrying water and running errands in many of the larger cities boy scouts volunteered to serve in any capacity in which they were needed. The use of implements needed in doing the road work was contributed by many dealers, who felt that they had a common interest with other citizens in the making of better roads. There is little question that this rather spectacular campaign will be worth more as a means of calling public attention to the need of better roads in a rather striking way than in the actual work accomplished during the two days it lasted, as a week's wet spell will undo a great part of the good work accomplished, the work being done on dirt roads and not on permanent highways. But in any event the campaign is commendable, and it is to be hoped that the spirit on the part of Missourians which prompted it will prove catching.

DRIED SWEET CORN.

Dried sweet corn may be sort of old fashioned, but when it is secured at the proper time and properly dried it is preferred by many to the best grade of canned corn. For drying purposes, corn should be selected that is considered prime for the table, meaty, but not tough. It should be carefully husked and all silks removed. The ears should then be put in boiling water and allowed to cook for four or five minutes. It should then be cut from the cobs and put on plates or in pans to dry. If weather conditions are not favorable for drying in the sun, the drying may be done by low heat in the oven with the door left slightly open to prevent burning. The crop of sweet corn that will be canned this season is not more than 50 per cent of the normal; hence the housewife who wishes to manage economically should salt or dry what corn she can, for the prices of the canned goods will range considerably higher than last year.

IN BLACK AND WHITE.

For the benefit of the farmer who is in doubt whether it will pay him to put up a silo some definite figures may be given. It has been found that under ordinary conditions 100 pounds of milk can be produced for 60 cents when ensilage is used, while the same quantity without the silo costs \$1.03. The cost of producing a pound of butter fat is but 13 cents if silage is used, but 22 cents per pound by the old dry feed method. Again, the cheapest beef as well as that which fetches the highest price on the market is that produced by a silage legume ration. Another advantage of the silo which should have weight with the farmer having a limited number of acres is that it makes possible the storing of a maximum amount of feed in a minimum space, and in this connection it is well to remember, too, that an acre of corn will furnish more tons of feed than that put to any other crop.

A SWEET CLOVER PICNIC.

A "sweet clover" picnic was held the other day at a farm in southern Iowa. Two hundred acres of this farm are devoted to the growing of this legume which until recently has been considered in the light of a worthless roadside weed. The picnic was timed for the day when the crop was to be cut, and there were present, besides many farmers of the country adjacent, editors of agricultural papers and representatives of more than one state experiment station. The crop was a very thrifty one and was cut for seed. Experiments in the feeding of sweet clover as pasture and hay seem to show that when stock get used to it they eat it readily and do well on it. As a soil renovator it is the equal of alfalfa and other clovers and has this advantage, that it grows thriftily on the thinnest and most unpromising kinds of soil.

FARMING IN GERMANY.

The average farmer in Germany is not only a more careful, but a more thorough farmer than is the American. With no new lands to utilize in the increasing of production German farmers have nevertheless increased their production of sugar beets five fold in the past thirty years, have more than doubled their production of rye and potatoes, have nearly doubled their production of oats and have increased their output of wheat and meadow hay by about 50 per cent. They raise 50 per cent more horses and cattle and have nearly trebled their production of hogs. In America the country wide average for cereals is pitifully low, and if present methods of handling farms are not changed the average will go still lower.

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