

INSTRUCTIONS FOR SERUM TREATMENT OF HOG CHOLERA

Two Methods of Giving Serum to Head Off Ravaging Disease—Animals Should Be Kept Twenty-four Hours in Dry Place Both Before and After Injection.

(By J. H. Gain, Department of Animal Pathology, University of Nebraska.)

HOG cholera is more widespread over the corn belt than for a number of years and the demands for hog cholera serum have fairly swamped both the state and commercial plants engaged in its production.

In using the hog cholera serum there are several important features to consider, the most important being that unless the hogs receiving the serum are at once exposed to cholera

putting about 10 c. c. (cubic centimeters) in a place. The skin at the point of injection should be rolled between the thumb and finger to prevent leakage. Heavy hogs can be put into a crate and the injection made along the abdomen and between the hind legs, wherever the skin is loose. Should small abscesses form at the point of injection, they should be opened freely to allow drainage. It is important that the hogs be



NEBRASKA HOG CHOLERA SERUM PLANT.

the protection lasts for only three or four weeks, when they will again be susceptible to the disease. This means that it is important to know first whether genuine cholera exists before sending for the serum. If a qualified veterinarian is obtainable, have him kill a sick pig and make a post mortem. In acute cholera the kidneys show small dark colored spots, in some cases so numerous as to give rise to the term "turkey egg" kidney. The lungs and intestines may also show small bright red spots. In the

kept twenty-four hours in a dry place, both before and after injection. The serum is of doubtful benefit to a sick hog. Give only to the hogs apparently well in the herd and leave them in the infected yards so that they may be exposed to the disease. The dose of serum as ordinarily used is 20 c. c. (cubic centimeters) per 100 pounds of hog, but in a virulent outbreak or in a valuable pure bred herd this should be increased to 25 or 30 c. c. per 100 pounds. Where the spread of the disease



INJECTING AN IMMUNE HOG WITH CHOLERA BLOOD.

Inst stages of the acute form the skin of the abdomen turns to a purple color.

There are two methods of giving serum. In one, the inner surfaces of the thighs are well washed with an antiseptic solution (a 5 per cent coal tar dip solution will do) and the injection made deeply into the muscles, the dose being divided equally between the two sides. The other method is to inject just underneath the loose skin of the abdomen, near the flank,

through the herd is rapid, there will be many that are apparently well that have been infected for three or four days. Most of these will die. In herds that are very susceptible and where the outbreak is a virulent one, the spread is so rapid that unless serum is used at the outset the loss will be heavy. In ordinary outbreaks if the serum is used early and in sufficient dosage the loss should fall below 10 per cent.

WINTER DAIRYING.

By J. H. Frandson, Professor of Dairy Husbandry.

There are many advantages in having cows come fresh in the winter, when all dairy products sell at a high price. Here in Nebraska the price of butter is fully 50 per cent higher in the winter than in the summer.

When the cows calve in the spring they generally milk well until the pastures "dry up," when the flow of milk quickly falls off, so that by the time stable feeds begin the cows are at most "dried up." Now, if the cows come fresh in the fall they produce a good flow of milk during the winter months, and in the spring when they are turned on grass this acts as a second freshening, and thus lengthens the period of milk production. Another distinct advantage in winter dairying is that during this season the farmer is not so busy with other work, consequently he can give more time to the care of the cows, the milk and the cream than is possible during the busy season of the year. When winter dairying becomes more generally practiced the subject of winter feeds will be given more attention. Of these, silage is one of the most important, since one acre of good silage material will yield as much feed as three acres of pasture.

COMMUNITY BREEDING

By J. H. Frandson, Professor of Dairy Husbandry.

It is highly desirable not only that each dairyman stick by a certain

breed, but that a community, so far as possible, should favor a particular breed. If nearly all the breeds are represented in a sparsely settled community it means that there are not many of one breed, and, as a result, whenever new blood is desired for a herd it is necessary to send away, frequently long distances, to secure what is desired. Another distinct advantage of community breeding, especially where the herds are small, is that the farmers of a community can jointly purchase the sire and use him for their herds. The cost of purchasing and maintaining a good, pure bred sire will in this way be reduced to a minimum. The further advantage to a district or locality in sticking to one breed is that the demand for that particular breed may be supplied in carload lots, and in this way the district will gradually work up a reputation that will readily enable it to dispose of any surplus stock. In a general measure the success of our European friends is due to the fact that they have, as a country, been faithful to and developed that particular breed which seemed most suitable to their environment.

Too little care is given to the orchard on the average farm. It will pay its share of the profits if allowed, but not when it is overgrown with brush and weeds and the trees are never pruned. Corn is not expected to yield a paying crop if it is not cared for. Neither should it be expected of the orchard.

CARE OF MILK AND CREAM IN HOME

Vast Quantities Are Spoiled by Improper Treatment.

RULES FOR THE CONSUMER.

By J. H. Frandson, Professor of Dairy Husbandry.

Sanitary milk is milk from healthy cows, produced and handled under conditions in which contamination from filth, bad odors and bacteria is reduced to a minimum. The production of clean and healthful milk is the most important subject with which the dairyman has to deal. Even from an economic standpoint the dairyman cannot afford to ignore the importance of producing a pure and healthful article, for we find that milk produced under absolutely sanitary conditions selling for practically double the ordinary price. Needless to say, for the production of sanitary milk the dairyman must have healthy cows, sanitary barns, clean bedding and dust-free air, clean barnyard, clean cows, clean and healthy milkers, clean milk vessels, and pure water. He must feed clean, wholesome feeds, must have a sanitary milk room and abundant facilities for the cooling milk and cream.

But no matter how good the condition of the milk when delivered, if it is carelessly handled in the home, the milk or cream may quickly become unfit for food. The fact that vast quantities of good milk have been spoiled in the home by improper treatment prompts the writer to emphasize some of the points regarding care of milk and cream in the home.

Few consumers have a good knowledge of milk and consequently do not know how to properly care for it. Milk and cream readily absorb odors, and collect bacteria and other impurities whenever they are exposed to the air, or placed in utensils that are not scrupulously clean. If this fact is generally understood it can easily be seen why it is so objectionable to store milk uncovered in refrigerators or cellars, where it comes in contact with vegetable or other food products possessing strong odors. As milk is a perfect food for human beings, so it is also a perfect medium for the development of certain bacteria which may gain access to it from the dust laden air, flies and unclean utensils. Some of these bacteria may be the germs of contagious disorders; others may cause digestive disorders, especially in infants and young children whose diet is largely milk.

Experiments have shown that many germs which may gain access to the milk develop very rapidly while the milk remains warm. By this we mean a temperature above 50 deg. F. For instance, milk kept at 45 deg. F. may be kept perfectly sweet for twenty-four hours, while if kept at a temperature of 70 deg. F. it may sour in less than six hours. This should emphasize the importance of low temperatures in the preservation of milk and cream.

The following brief rules should enable the consumer to properly care for the milk so as to have an article at all times sweet and wholesome:

1. If possible insist on getting the milk in a bottle or other originally sealed package. Milk dipped out of a can in the street likely means that large numbers of bacteria from the air may have fallen into it.
2. Money or tickets should not be placed in the milk receptacles as the germs clinging to these might thus gain access to the milk.
3. Never allow the milk to stand in a warm place for any length of time, but place as soon as possible in refrigerator, ice box or other cool, clean place.
4. Keep the milk or cream in the original package until needed for use.
5. Carefully wipe the mouth of the bottle before pouring milk or cream from it.
6. Do not pour back into the bottle any milk which has been exposed to the air.
7. Keep the bottle covered with paper cap or inverted tumbler as long as any milk remains in it.
8. Do not expose uncovered milk in refrigerator containing strong smelling foods.
9. Wash milk bottles as soon as empty and do not use milk utensils for any other purpose.
10. Wash milk bottles in pure water and do not wipe with dish towel. It is better to scald them in clean water and set away unwiped to dry.
11. Special precautions should be taken with the baby's milk bottles. They should be rinsed in lukewarm water, washed in hot water containing a little soda and then scalded. In selecting a feeding bottle, choose one with wide mouth and no corners. Never use rubber tube between bottle and nipple.
12. In case of contagious diseases in the house, such as typhoid, scarlet fever or diphtheria, return no milk bottles to the milkman without the permission of the health officer.

implements should all be in the sheds. Any piece of farm machinery that is standing out in the weather now will be worth much less next season than it was last. With a monkey wrench and a hammer and a point brush the farmer with foresight can be preparing his machinery for the work of the next season.

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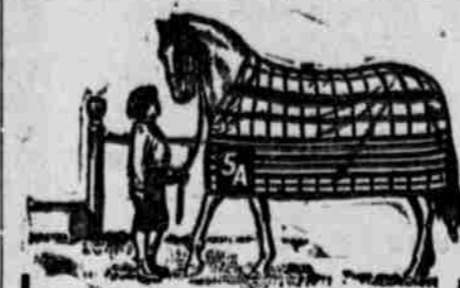
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