

condition. The disease is believed by some to be caused by a minute organism found in milk kept in dirty vessels, or that has been milked from cows whose udders are dirty from the cows having lain in dirty places, or through their standing in dirty ponds. Calves are rendered more susceptible to the disease either by being crowded together in dirty houses where they can suck one another or by being fed in an irregular manner. Giving skim milk or separated milk at too early an age; allowing the calves to remain too long fasting; giving large quantities of skim and separated milk, unmixed with linseed or other similar ingredients, at one time, are all dangerous as making the young calf more liable to diseases of digestion.

The best way to keep calves healthy is to keep their houses clean and well drained. The bedding should be dry and the soiled litter should be removed every day from the houses. In some cases calves are kept singly in pens, and fresh straw is supplied for bedding each day. The cleansing and disinfecting of calves' houses at the commencement of the season is most desirable. After the house is thoroughly cleansed a disinfectant should be sprinkled over the floors. Carbolic acid diluted with water will suit for this. Should the disease break out the calves must be at once removed to another clean house, and the apartment where they had been should be thoroughly cleansed and disinfected.

Disinfection of the premises in which the calves are kept is most easily and effectively done by sulphur fumes or by chlorine fumes. Having securely closed all openings, place in the centre of the apartment to be disinfected, a vessel containing burning coals or turf. Upon the fire put a quantity of "cane brimstone," 2 to 10 lbs., according to the size of the apartment. When the sulphur has lighted leave the place quickly, as sulphur fumes are unpleasant and dangerous. Close the door, and paste paper around the edges in order to keep the fumes inside. The effectiveness of disinfecting with sulphur or chlorine fumes depends upon keeping as large a quantity as possible in the apartment. Chlorine gas is a thorough disinfectant when it is properly applied, but it is more troublesome than sulphur. It is prepared by pouring muriatic acid into an earthenware vessel containing chlorate of potash. The vessel must be kept at a height in the apartment, as the gas that will be given off is heavier than

the air and will fall towards the floor. The apartment must be kept as nearly air-tight as possible to secure thorough disinfection.

Calves should have the first milk (biestings). This is absolutely necessary for the future health of the animal. (1) If the cow is not allowed to lick the calf, a smart rubbing with a straw wisp should be given to the young animal. The rubbing sets up a healthy action in the skin and muscles. After a couple of hours the calf may be allowed to suck the cow, whose udder should be clean; or it should be fed with a small quantity of the biestings taken direct from the cow. The calf may get about one pint of biestings five times a day during two days. Afterwards, for a fortnight, the calf should be fed four times a day with new milk, commencing with one pint at each meal, increasing the quantity gradually. After a fortnight a mixture of one-third skim milk or separated milk, with new milk, may be given, and the quantity of skim or separated milk may be increased until the calf is a month old, when the giving of new milk may be discontinued. "Flaxseed jelly," made by boiling crushed flaxseed in water, is a good addition to separated milk, when the new milk is withdrawn. This may be given for a fortnight or three weeks after the calf is put on separated milk. About half a pound a day is a ration.

As to the important question whether cakes or meals of various kinds should be given to calves raw or cooked, the results of experiments show that, on the whole, calves will thrive best on a diet of dry meals or cakes, when their principal food is skimmed or separated milk. From an early age a little sweet hay should be available for calves when they are housed. This is necessary, as the rumination ("chewing the cud") commences with calves at an age earlier than is generally supposed. Stomach derangement may take place if coarse straw or other food difficult of digestion is eaten when calves are very young.

As soon as the weather becomes fine calves should be allowed to be as much in the open air as possible. They will soon commence to eat grass. Precaution against their sucking each other should be taken. The American nose-gag appears to be the best method for securing this object. Its use does not prevent the young animal from grazing. The use of separated or skim milk may

(1) No; for it agglutinates the hair of the calf. Simply cover the calf with lots of soft straw. Ed.