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Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land—*Lord Chatham.*

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The Care of Dairy Cattle

A Complete, Detailed Account of the Feeding and Management of Dairy Cattle, Both Young Stock and Old

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THE proper care of dairy cattle demands of the dairyman a thorough knowledge of feeding, milking, management, handling, housing or stabling and grooming. The care of the dairy animal should begin at birth. After the calf is dropped the navel should be disinfected as soon as possible, and the calf should be allowed to remain with its mother for about two days in order that it may get the colostrum or first milk at frequent intervals. After the calf is about two days old, it should be removed to a well-ventilated, clean and warm shelter or barn where it will not see its dam, and there fed by hand two or three times daily. The calf should receive whole milk just as it comes from the mother for from two to six weeks, the exact time depending on the condition and health of the calf; the stronger the calf the earlier it can get along without whole milk. When the calf is from one month to ten weeks old, it may be fed on skimmilk entirely, with a grain ration as a substitute for the butter fat in the whole milk. The substitution should be made gradually, two weeks at least being taken to change from whole milk to skimmilk.

A young calf is usually fed from four to six quarts of whole milk daily, divided if possible into three feedings, morning, noon and night. When the calf is two or three weeks old it may be fed twice each day. The exact quantity of milk to be fed depends somewhat on the strength of the calf. Milk that is fed to young calves should be sweet, clean and warm, as nothing will develop scours in calves as quickly as sour and dirty milk. Feed young calves regularly weighed quantities of sweet, warm milk in clean buckets, and most calf troubles will disappear.

Calves soon learn to eat grain and hay, and these foods should be given when the animals are only a few weeks old. The grain should consist of ground oats, wheat bran, whole corn and corn chops. Ground oats and wheat bran mixed in equal parts make a very good ration for dairy calves, and they should be given all they will eat up clean. The grain feeds serve as a substitute for the butter fat in milk, and calves can be raised at a much smaller cost on such feeds than on whole milk until they are old enough to live on grain and hay alone.

Roughage for Calves,

Probably the best hays for young calves are alfalfa, clover and peavine. Hay may be fed daily and should be kept in a rack where the calf may have access to it at will. All hay fed to calves should be clean and bright, and free of dirt and mold.

For feeding, calves should be fastened in stanchions and the milk fed first, followed by the grain. This method will in a large measure prevent calves from sucking one another's ears. A pasture lot should be provided for the young calves where they can exercise and eat grass after they are old enough to do so. Plenty of clean water should be provided the calf at all times. In winter it should be warmed to about 50 degrees Fahrenheit. It is very necessary to keep the calves in clean quarters at all times, and to use clean, sterilized pails for feeding milk. Plenty of clean bedding is also essential to successful calf raising. Too many calves should not be kept in the same pen, for if a contagious disease, such as calf scours, develops, it is likely to infect a large number of the calves.

A well developed calf usually means a well developed dairy cow, and the man who knows how to raise a dairy calf successfully usually understands feeding and developing the dairy cow.

Feeding the Pregnant Cow.

When the dairy cow is pregnant she should be well fed and cared for, especially while she is dry. She should be given sufficient feed to keep her body in good flesh and provide for the calf she is carrying. If the dairy cow takes on fat before the calf is born, it will usually be returned to the owner in the form of milk and butter fat, if she is a profitable dairy cow. The pregnant dairy cow should have the quantity of hay and silage or root crops that she will clean up well. In addition, during the winter a light ration of grain should be fed. During the summer she should have access to good pasture, which should be supplemented with a light grain ration several weeks before calving. The pregnant dairy cow should be fed grains that are light, easily digested and laxative, such as wheat bran, oats and some of the oil meals. Cottonseed meal should not be included in the ration either just before or just after the cow freshens. Shortly before calving, the cow should be placed in a clean, well-bedded box-stall and left undisturbed, unless assistance is necessary. In summer, if a well-shaded pasture is available where she will not be annoyed, that is preferable to a box-stall for calving.

After the cow has dropped her calf she should be kept for several days in a stall, or in summer in a pasture, where she will not be disturbed by other animals. If she fails to clean well within 24 to 36 hours and has not dropped the after-birth, it should be removed by a competent veterinarian, or some one who has had experience in this work. After the removal of the after-birth, the cow should be washed with a mild, warm solution of lysol or other antiseptic or disinfectant. It is a good practice for the dairyman to have a thermometer and take the temperature of the cow daily until the calf is several days old, and all chances of trouble due to calving have passed away. The temperature of a cow is a good index to her physical condition at any time.

Feeding the Fresh Cow.

After freshening, a cow should be fed a light ration of grain, consisting of wheat bran, ground oats and some of the oil meals, supplemented with clean hay and silage. The quantity of grain to be fed depends upon the size of the cow. Usually from three to six lbs. daily will be sufficient for the first three or four days, after which the ration may be increased gradually. The quantity given should be based on the amount of milk produced by the cow.

The udder of the dairy cow should be washed and well cared for at all times, especially for the first few days after calving. If the udder is hard and swollen, it should be bathed at frequent intervals with hot water, rubbed with the hands, then dried thoroughly and greased with olive oil, vaseline or a solution that will help to keep it soft.

All dairy cows, especially the heavy producers, should be watched for milk fever for the first few days after calving, and a milk fever outfit kept on hand ready for use in case it is needed.

After the cow has been fresh for a week she may be started on her year's work of milk production. She should be fed all the roughage she will consume in the form of hay and silage. In addition a well-balanced grain ration should be fed in proportion to the quantity of milk and butter fat produced. Usually, one pound of grain is fed for each three or three and a half pounds of milk produced, or better still, one pound of grain daily for each pound of butter fat produced weekly.

The cow is fed for two purposes, namely, to support and keep up the body and to produce milk and butter fat. If the dairy cow is fed only enough to keep the body in good condition, she can not produce much milk; therefore, she must be given in addition sufficient feed to enable her to produce milk to the limit of her capacity. The efficient dairy cow will convert rough feed into a valuable human food.

Feeding the Grain Ration.

Each cow in the herd should be fed individually, and the grain feeds weighed at all times. It may not pay to weigh all the silage and hay for each cow separately. The best plan for grain feeding is to make up a grain mixture for the average of the herd and then feed each cow in proportion to production. Best results can be obtained only by carefully observing each cow and feeding her according to her requirements. Rations should not be changed suddenly. Several days should be allowed for any material change in the ration, whether it is a change in kind or amount. The successful feeder will watch each cow in the herd. From his own observations and with the aid of milk scales he can determine very accurately what the dairy cow should be fed.

Dairy cattle should have plenty of good pasture throughout the spring, summer and fall months. In winter they should be supplied with plenty of good silage and hay. Where the herd numbers less than ten cows, which is too small to warrant building a silo, root crops should be grown to take the place of silage in supplying succulence during the time the cattle are off pasture in the winter. The best results can not be obtained from the dairy cow unless she receives all the succulent feed she needs at all times, together with a sufficient quantity of roughage. It is also well to have sufficient silage to supplement the pasture in case the grass becomes short. The herd should have access at all times to a plentiful supply of pure water. The dairy herd should be provided with clean stalls and shelter. The dairy barn should be so built as to provide plenty of fresh air and light. It must also be comfortable. The stalls should be constructed according to modern plans, with the idea of caring for the herd with the least