

scrupulously clean; the manure removed at least twice a-day. In Holland the cow-houses, and indeed the whole farm offices, are generally white-washed twice or thrice a-year. The floor of the passages in their cow-houses are kept as clean as a kitchen, washed and strewed with sand every morning. The attention paid to cleanliness in all departments of the dairy in Holland, is seldom equalled in this country, and does, in part, account for the superiority of the Dutch butter.

Where it is intended to have more than one byre, the partition walls should be carried up to the roof to prevent the air of one byre getting into another. This is the more necessary from the prevalence of *murrain* and *pleura*; these diseases have affected dairy stock much more than any other kind of cattle. There is difference of opinion as to these diseases being infectious, but we have seen the pigs, poultry, and cattle all affected with murrain at the same time that a flock of sheep were brought to the steading when laboring under this disease. Within eight days all were affected. We are not so certain of pleura; but we hold that wherever there is much fever accompanying a disease, that disease is more or less infectious. We know that most of practical men have no doubt as to the infectious nature of pleura. Professor Dick, however, holds, we believe, the opposite opinion.

Cow-houses should have a court conveniently attached for the purpose of airing the cows during winter, with a trough of water exposed to the sun. If this court cannot be erected conveniently, the cows should have access to a field or road for exercise, with a pond of water running if possible. Those cows in full milk should not be turned out during the depth of winter, the cold air, and particularly the cold water, diminishing the secretion of milk. There are town dairies where the cows are never allowed exercise; but in these cases they are usually only kept for a season. The legs of the cows soon become affected from the want of exercise, the knee joints generally becoming first diseased.

The quantity of air required to maintain the purity of the atmosphere of a byre, is greatly dependent on the nature of the food of the stock, the attention paid to cleanliness, the number of cows kept together, and the time they are allowed access to the open air. According to the experiments of Boussingault, a cow will vitiate 66 cubic feet of air in 24 hours, in the process of respiration. But the air is rendered not alone unfit for respiration by the carbonic acid exhaled, viz, 13 cubic feet; the gases from the ejecta are always considerable, particularly when the cow is kept on a watery and somewhat rich diet. The insensible perspiration also contaminates the air, moisture being always in excess where cows are kept. The litter does in a certain measure absorb gases from the ejecta, but the air of a byre cannot be kept pure without the proper apparatus for ventilation, and, at the same time, strict attention to cleanliness. The offensive smell of a byre in a morning should warn the owner of coming danger, if disease has not already made its appearance. It cannot be too often repeated that it is impossible to maintain the health of any animal living in an impure atmosphere. The ravages of pleura within the last eight years have been the means of ruining many small farmers and dairymen. Still, ventilation is not understood, or is it at least little regarded, either by practical men, or even by veterinary surgeons. The loss from disease will eventually lead to enquiry, and more atten-

tion will in time be paid to ventilation. In dairy districts the cows during summer are usually in the open fields, and only return to the byre at milking time. When the fields are sheltered by trees and high fences, cows do very well in the fields during night. During the heat of the day, they should be kept in the house and fed with cut food.

We have given quite enough to indicate, that a byre should have considerable conveniences, so that the comfort of the stock may be easily attended to.—Much does depend upon the management, but without a proper cow-house it is sheer folly to attempt to keep a dairy for the purpose of profit.

The quality of the produce either as butter or cheese, is greatly dependent on the health of the cows yielding the milk. Besides, the milk so readily absorbs every noxious gas, that cleanliness in the cow-house is equally indispensable for producing good milk, as cleanliness in the after management is for producing good butter or cheese—*The North British Agriculturist*.

### REARING OF CALVES.

In regard to bringing up calves by suckling, there is no question it is the best way, provided the calf has free access to the cow which is supporting it; but I am doubtful of the superiority of suckling over feeding by hand, when the calf is only allowed to go to the cow at stated times. It saves the trouble of milking the cows and giving the milk to the calves; but a saving of trouble is of no importance compared to rearing young stock well. An objection to suckling exists, when one cow brings up two calves at a time, that the quantity of milk received by each calf is unknown, and the fastest sucker will have the larger share. True, they are both brought up; but they are brought up as well as when the quantity of milk consumed by them is known to be sufficient for their support? The milk becomes scarcer, too, as the calves get older, instead of becoming more plentiful. The objection to partial suckling is, that a cow suckling a calf does not allow milking afterwards with the hand in a kindly manner, as every cow prefers being sucked to being milked by the hand. Unless, therefore, cows are kept for the purpose of suckling entirely, they become troublesome to milk with the hand after the calves are weaned.

At a month old, the male calves that are not intended to be kept for bulls are *castrated*. Though the operation is simple and safe, it should not be performed at a time when any inflammation affects the naval string, or symptoms of costiveness or dysentery are present. Supposing the calf to be in good health, the castration is performed in this manner.—An assistant places the calf upon its rump on the litter, and, sitting down himself, takes it between its outstretched limbs on the ground with its back at the shoulder against his breast. Then seizing a hind hock of the calf in each hand, he draws up a hind leg to each side of its body, and holds both in that position as firmly as he can. The operator causes the testicles keep the scrotum smooth and full with his left hand, and cuts with a sharp knife through all the integuments till the testicle is laid bare, which he seizes with the right hand, and pulls out as much of the spermatic cord as he can, and divides it with the knife. The same operation he performs on the other testicle, and the entire castration is accomplished in a minute or two. The calf is laid down on the litter, and he will feel stiff in the hind quarters