

far better system is to keep them in an open court, with plenty of shed-room, feeding clover, green fodder or roots, with their daily allowance of cake. Should you put them to grass during the summer, only leave them out during the day, always taking care not to leave them exposed to morning and evening chills, and they should be taken up early for the winter. When brought into their winter quarters they should be fed liberally twice a day with a mixture in equal proportions of bruised oats, bran, and corn meal, with a few roots added, if possible, and hay of the best quality, either cut or uncut. Under such treatment they will not only keep their calf-fat, but will largely develop their frames and muscles. So long as the calves continue to receive food in the fluid or semi-fluid state, the temperature should not vary more than 5 degrees; the best temperature is 90 to 95 degrees—the natural heat of the milk when fresh. Cold food is a fruitful cause of derangement of the digestive organs, leading on to obstinate diarrhoea, which frequently proves so fatal. Pay the utmost attention to fresh air, shelter, and cleanliness, without which all attempts at rearing calves will end in loss and disappointment. Never allow your calves to have access to cold water till they are two months old. It causes scouring more than anything else, although little suspected. Milk and gruel ought to satisfy them without water, if given in the quantities I have described. Overcrowding is equally injurious to health, whether it be in the dens of a higher order of organized beings or amongst those of our domesticated animals. The secret of weaning calves is entirely one of detail—reduce the milk gradually before weaning. Its success or failure depends entirely on the care bestowed on their food, shelter, and cleanliness.

Sufficient for the pail. Let us now pass on to the suckling of calves. Suckling is the natural way of rearing calves and all young animals, and as yet no other method that has been adopted can equal it. What more beautiful sight can there be than a mob of well suckled calves running with their dams? Plenty of milk from the udder, as the calf desires it, is the one way to insure success in rearing; if stinted when a calf, a year's growth is lost. Selling a great deal of butter and rearing good bullocks are incompatible. Many good calves are milked from the pail, and are said to thrive better after they are weaned. This I deny. It must be admitted that the sure way to make first-class calves is to allow them to suckle, taking care that they have always sufficient milk. There are many drawbacks at the expense of the calf when pail-fed; drafts will be indulged in by the housekeeper for milk—butter and cheese for the family—which cannot be made if the calf is suckled by the mother in the field. The plan of some farmers of giving their calves skimmed milk without adding any ingredient to make up for the cream cannot be too much condemned, and to give old milk to a new dropped calf is preposterous, for it is often done. It is thoroughly unnatural, and frequently results in death.

To make a first-class calf it should be allowed to suckle for eight months. By that time it has strength to be weaned, and if properly cared for, and not checked in its growth, it will retain the good calf-flesh it has put on. The damage by the loss of the calf-flesh can not, I repeat, be remedied; if the calf-flesh is lost, the animal will be reduced in value, and seldom, if ever, can be made to yield the same quantity or quality of first-rate meat. Great care therefore must be taken in the weaning of your calves. It is true that as a general rule calves that are allowed to run at large are much wilder than hand-fed ones; hence the supposition that they do not wean so well, but it is a mistake, as they can be weaned as well from the udder as from the pail. It is the general custom to wean suckling calves right from their mothers without learning them to eat meal or cake; they are

deprived of their milk at once, without receiving any substitute for it; they are allowed to stand in a field, bawling, for nearly a week with hardly ever tasting food or water. With such treatment, what can you expect but deterioration? The unfortunate calves are blamed for it instead of the ignorant breeder. Suckling calves intended for weaning should be driven into a court along with their dams every night for about three weeks previous to taking them from their dams. They should then be drafted as gently as possibly into a separate yard, and kept there over night. Troughs should be placed beside them, containing a small quantity of crushed oats, corn meal, and bran, and in the hay racks should be placed some good sweet hay. In a few days they will begin to eat as well as the hand-fed calves; indeed, there should be a few pail-fed calves put along with them, as such will assist in taming the others, as well as setting the example of eating artificial food. In the morning let the calves and dams be turned together, bringing them in at night, as usual, and separating them. After being a week under this treatment, keep them apart from their nurses, only allowing them to suckle once a day for the next fortnight. Now the time arrives when you must try your skill as to which is the best method to make up for the oleaginous matter you are daily depriving your calves of; in no way can you do this better than by allowing them one pound of flax seed meal, mixed with their other food, every day. Continue this system, and at the end of the second week increase the flax meal to two pounds per day, and if you think necessary, increase still another pound, when you deprive them entirely of their milk at the end of three weeks. Any one who will try this system once will continue it. By this means you will not only wean your calves gradually, but you will also reduce the cows' milk by degrees, keeping the udders in good form, and saving a great deal of trouble in milking. The sooner the cows are now dry the better, so as to be in good condition for producing the next calves. Allow the calves abundant fresh water, and under the above treatment they will not lose a pound of flesh, but, on the contrary, will make a daily gain, and by keeping them progressing you will have your steers prime fat at two years old.

Insect enemies (continued).

THE GRASSHOPPER OR LOCUST PLAGUE.

The locusts belong to the ORTHOPTERA or STRAIGHT-WINGED INSECTS. Insects of this order have long straight wing covers, under which the wings proper are plaited up fanwise. The Orthoptera are divided into four groups:— I. CURSORES (*Runners*). II. RAPTORES (*Graspers*). III. AMBULATOIRES (*Walkers*). IV. SALTATOIRES (*Jumpers*). The last include the crickets (*Achetada*), grasshoppers (*Gryllida*), and locusts (*Locustada*). It is these insects which produce those incessant sibilations which give us, in our still Autumn evenings, such a wondrous idea of the prevalence of insect life.

SONNET.

On either hand arise the wooded hills,
 And leafy branches mingle over head;
 O'er all, heaven's vast unclouded vault is spread,
 Which the round moon with silver radiance fills.
 The cricket chirrups, and the gryllus shrills—
 Ten-thousand notes are all around us blent;
 The shaken air itself seems sibilant—
 From every bush the constant burden trills.
 It is to us as is an unknown tongue:
 We hear it, and pass onward, gaining nought;
 We know not with what meanings it is fraught—
 What triumphs, loves, and fears in it are sung;
 CREATOR, GOVERNOR, to THEE alone,
 Comes the full import of each several tone! T. W. F.