

of the second year. Possibly equally good calves might be fed at less expense, on the average farm, where only a few are being raised, and exceptionally good care given, but the figures quoted for the various expenses and feed appear reasonable; in fact, some of the feed was valued at a lower figure than the present market conditions would warrant. It is believed that, when everything is considered, the average cow costs more to raise than most dairymen figure on.

It is as expensive to raise an ordinary calf from low-producing ancestors, as it is the calf from high-producing stock, which, in all probability will be a profitable producer. If a cow returns \$10 profit each year, it will take about eight years for her to repay the cost of raising to two years of age. At this age the cow would be past her period of usefulness. However, cows that furnish their owner with \$10 profit give him a living warge, and a high rate of interest on his investment. It is believed that the average cow does not return a profit of \$10 per year, if feed, labor, housing and interest on investment are considered. Therefore, in order to receive good wages, the aim should be to raise and keep high-produc-

ing cows on the farm.

Suppose it does cost \$80.00 or \$90.00 to raise a calf to the productive stage, during that two years or over the feeder is receiving a fair wage, all feed and bedding is paid for at market price, cost of stabling, taxes and interest on investment are also considered, so, if the calf is only worth what it actually costs to raise it to the time when it returns a revenue, the feeder is losing no money. On first thought \$10.00 may seem a small annual profit from a cow, but, it is equal to 121/2 per cent interest on the cost of raising a heifer. It is doubtful if any other branch of farming pays as high a rate of interest. If a cow produces a revenue of \$5.00 above the expenses incurred in feed and care, she is a profitable investment. The average cow may not do it, but it is possible by careful breeding and feeding to have cows that will produce even a greater profit than that mentioned.

The Head of the Herd

The progressive dairyman depends on the use of a pure-bred sire for improving the productive capacity of the herd, and the sire that usually brings the highest price is one whose immediate ancestors are high producers, both of milk and butter fat. As like tends to produce like, the natural conclusion is that a bull from high-producing stock will transmit heavy-producing qualities to his progeny, and in the majority of herds the use of a bull from such stock has been the means of increasing the average yield of milk from one to two thousand pounds per cow in the second generation. When the possibilities resulting from the use of good sires are so great, dairymen can well afford to pay a big price for an ænimal that represents not only a life-time, but possibly generations, of careful breeding and selection for high production. But, in purchasing a herd header, pedigree is not the only consideration. No matter what records the bull's ancestors have made, if the animal himself does not appear to possess prepotency, individuality, trueness to breed type, and a strong constitution, pedigree should not be considered too highly. However, it is possible to secure bulls showing these characteristics along with the very best of breeding.

In raising the young bull he should receive careful attention and good feed in order to keep him in a healty condition, so he will make normal growth. While it is possible that an animal that is thrifty, vet undersized on account of insufficient feed, may produce offspring equal in size to the calves from a larger size, such an animal is not in demand on the market. The bull calf can be raised on skim-milk equally as well as the heifer. Until six months of age, heifer and bull calves may run together. The following daily ration will keep a calf in thrifty condition; When fifteen days old, about ten pounds of whole milk and two pounds of skim-milk, three ounces of concentrates made up of equal parts of corn meal and ground oats, and oneof age the whole milk will have been manently.

entirely substituted by about twelve pounds of skim-milk, and the average calf will eat about one-half pound of concentrates and one pound of hay; at two months of age the skin-milk need not be increased but one pound of concentrates, two pounds of clover hay and two pounds of silage or roots will probably be consumed. As the calf grows, concentrates and roughage are gradually increased. Only hay of good quality should be used for feeding to calves and bright, leafy clover which has been cut early makes the best roughage. Alfalfa is excellent feed, especially after milk is discontinued.

At six months of age bull calves should be separated from the heifers and fed more heavily on grain. If a number of bulls are run loose in a pen, they sometimes fight; consequently they do not do so well as if placed in separate pens. The bull should be sufficiently mature for light service at ten or twelve months of age. The calf should be halter broken and so handled from calf-hood that he will recognize man as his master. If this were done, there would be fewer cross bulls in the country. The bull in full service will require about the same quantity of feed as a dairy cow giving a good flow of milk to keep him in good condition. Clover or alfalfa hay, turnips and silage along with from six to eight pounds of concentrates make a suitable

To maintain health and vitality the bull must have plenty of exercise. Possibly the most suitable quarters is a box stall with a paddock adjoining in which he may exercise. Every precaution should be taken to have stall partitions and paddock fences strongly built so that there will be no possibility of the bull learning how to break loose. The man handling the bull should do so without displaying fear, and yet always be cæreful. Many accidents occur with bulls that have been too much trusted.

Too many dairymen use a bull for two or three years, and then, just when his value as a producer of stock becomes known, he is sold to be slaughtered. For the best interest of the dairy industry it is time that this practice ceased in case of good bulls. A proven bull, three or four years old, can often be bought for less money than would have to be paid for an untried, young animal. As a bull's usefulness usually lasts for a number of years, if he is properly cared for, it would oftentimes be advisable to head the herd with an animal that is known to leave good stock rather than depend entirely on the services of a young sire.

## Keeping the Boys on the Farm

There is a farmer in Southern Georgia whose neighbors all consider him an unusually successful man. He has farmed all his life, but until five years ago he had merely made a fair living in return for long hours and ceaseless work. His career was not such as to tempt the younger members of the family to stay on the farm. The one who told this story, in fact, left the country and went to New York.

Five years ago the older man's health gave out. He was laid up all winter, and when spring came on he could get around a little but he could no longer work with his own hands. His neighbors all said. "It's too bad he's all wore out," and some of them even added, "laid by to

He gave up half the farm and hired help to work the remainder, under his supervision. Watching the Negro work was not interesting employment for all his time and so he attended crop improvement meetings, began to get in touch with the state and national agricultural experts. While his hired Negro was working with his hands the "worn out" farmer got to work with his head, and what he thought out the Negro carried out under his direction. Now there are two or three Negroes, though the farm is not as large as it used to be when he worked it himself. The profits, on the other hand, are three or four times what they used to be-and the younger member of the family who told this story is now in Georgia swapping some town lots for a farm, though he has a two-year contract which he has half pound of clover hav; at one month to fulfil before he can go to it per-

