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## FEEDING CALVES FOR VEAL

by

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Veal is produced in the United States mainly from dairy calves. Purebred dairy cattle breeders sell many bulls and surplus heifers as breeding stock. The dairyman with grade cows often has surplus animals which can be vealed. To be sold as veal in Oregon the law specifies that a calf must be 4 weeks of age or older.

If one is going to feed calves for veal, the object should be to make the highest grade of veal. This means growing and fattening the calf as quickly as possible. The easiest and most successful way of doing this is to feed the calf as much whole milk as it will take or allow it to nurse the dam or a nurse cow. Hand feeding is the best practice. It enables one by weighing the milk to use judgment in the rate of increase and to observe precautions to prevent digestive disturbances. Only sweet milk at blood temperature (100° F.), fed out of clean pails, should be used. The use of a nipple pail is recommended. When the calf drinks slowly with its head in an elevated position the milk will go directly to the true stomach rather than falling into the rumen (paunch). The calf does not ruminate and, consequently, milk in the rumen will putrify and cause digestive disturbances.

Whether it is profitable to feed calves for veal depends on four main considerations, namely:

1. The size of the calf at birth.
2. The selling price of milk and butterfat.
3. The market price of veal.
4. Feeding and management practices.

### Size at birth important

The relationship between the size of the calf at birth and the profit from vealing is easily understood when it is realized that on the average 10 pounds of whole milk, testing 4 per cent butterfat, are required for 1 pound of gain. Usually the best market weight for veal calves is from 140 to 150 pounds. If the calf at birth weighs 90 pounds, and it requires 10 pounds of milk for each pound of gain, then it would take 500 pounds of milk to grow the calf to 140 pounds. On the other hand, if the calf weighed 60 pounds at birth, it would require 800 pounds of milk to grow it to 140 pounds. The difference in profit, due to the varying sizes of calves at birth and the resulting amount of milk necessary, may easily be the determining factor whether one should attempt to produce veal or not. The differences in income over milk cost due to variations in birth weight of calves are illustrated in Table 1.

Table 1. Estimated Income over Milk Cost from Good Veal with Calves Varying in Birth Weight and Marketed at 140 Pounds

Birth weight of calves Pounds	Milk required Pounds	Value of 4% milk at \$2.80 per 100 pounds *	Value of veal at 25¢ per pound	Income over milk cost
90	500	\$14.00	\$35.00	\$21.00
80	600	16.80	35.00	18.20
70	700	19.60	35.00	15.40
60	800	22.40	35.00	12.60
50	900	25.20	35.00	9.80

#### Milk and butterfat price considerations

When the price of milk is high compared to the price of veal one may not receive the value of the milk when the calf is sold without any allowance for labor and other costs. On the other hand, when milk prices are relatively low compared to veal one can often realize a larger return for milk available by feeding calves for veal. This is illustrated in Table 2.

Table 2. Estimated Income over Milk Cost with Varying Milk Price

Value of 4% milk per 100 pounds	Amount of milk for vealing 70- pound calf Pounds	Milk cost	Value of veal at 25¢ per pound	Income over milk cost
\$5.00	700	\$35.00	\$35.00	\$ 0
4.00	700	28.00	35.00	7.00
3.00	700	21.00	35.00	14.00
2.00	700	14.00	35.00	21.00

#### Veal price considerations

Third main consideration as to whether veal production is profitable or not, namely the price of veal, is, of course, very important. Veal as sold on the market is graded according to fatness, finish, age, and weight. Choice veal, the highest grade, sells at approximately 2¢ more per pound than good veal, the next highest classification. Likewise, good veal usually sells for about 2¢ more per pound than medium veal, and medium veal 3¢ or more per pound than cull or common veal. If one attempts to feed calves for veal, it is certainly desirable to produce the highest possible grade. This is illustrated in Table 3.

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\* Approximate value of 4% factory and surplus milk July 1, 1950.

Table 3. Estimated Income over Milk Cost with Varying Veal Price

Selling price of veal per 100 pounds	Milk required for 70-pound calf to gain 70 pounds	Milk cost at \$2.80 per 100 pounds	Income over milk cost
\$28.00	700	\$19.60	\$8.40
25.00	700	19.60	5.40
22.00	700	19.60	2.40
18.00	700	19.60	-1.60

Feeding and management of the veal calf

A calf fed for veal should be kept alone in a dark, clean, well-bedded pen and should be controlled so that it does not exercise. It requires energy for the calf to run and play, with the result that fattening is slower. Also, exercising tends to make the muscle tissue darker, which is undesirable to the average housewife. It is the usual practice in Denmark, Holland, and other European countries to place calves in very small, darkened stalls when being fed for veal.

Experiments conducted at the Pennsylvania Agricultural Experiment Station have shown that calves fed whole milk and maintained in dark stalls gained on the average 2.2 pounds daily. Calves allowed whole milk from nurse cows gained 1.7 pounds daily and calves fed skim milk and grain gained a little more than 1 pound daily. The keeping of calves in darkened pens is desirable for good gains. The Pennsylvania experiments as well as many others have shown that it is impossible to grow the calf quickly enough to make a good grade of veal on skim milk and grain. If the calf does grow slowly, it is usually more than 6 or 7 weeks old at marketable age and does not show finish; thus it goes into the grade of cull or common veal, which sells at a much lower price than the top grades. Also, the milk-fed calf shows the nearly white-colored flesh desired in the highest quality veal. If hay and grain are fed, this color of flesh will not be attained.

If dairymen are to feed calves for veal, the first consideration should be to select a calf which is large at birth; second, to feed the calf all the whole milk it will take in order to grow it rapidly; and third, to maintain it in quarters sanitary in every way, but not too roomy so that the calf does not expend a great deal of energy in taking exercise.