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# dairy guidelines

EXTENSION DIVISION VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY BLACKSBURG, VIRGINIA



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## VEAL PRODUCTION\*

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Raising veal calves can be profitable when meat prices are relatively high. However, veal production is a specialized industry. Before going into it, a 4-H'er should study the situation and learn all he can about the total business--from feeding and care of the calf through marketing the finished animal.

### Feed Conversion Rate

Efficiency of conversion of milk to veal is well established at 10 pounds of whole milk per pound of gain; it ranges from about 9 to 11 pounds. Good milk replacers are made almost entirely of dried milk products (dried skim milk and dried whey) and contain 15 to 25 percent of fat. These replacers are converted to veal at the rate of about 1.5 pounds of dry powder per pound of gain. The rate varies from about 1.25 to 1.75 pounds. Those replacers made with vegetable meals (oats, soybeans, etc.) require more pounds of dry powder per pound of gain and are not recommended.

### Growth

Veal calves should be finished out to 180 to 210 pounds liveweight for most markets. Initial body weight of the calf determines to a large extent the length of time required to reach the desired final weight and the margin of profit or loss. Calves fed whole milk gain 2.0 to 2.5 pounds per day and those fed a high quality milk replacer usually equal this rate. Only Holstein and Brown Swiss calves heavier than 80 pounds at birth, dairy-beef crossbreds of either sex, and the occasional large calf of the colored breeds can be expected to gain economically.

### Quality

U. S. grades for veal are "Prime", "Choice", "Standard", "Utility", and "Cull", either as live animals or dressed meat. The veal market requires a light-colored flesh and white fat in the dressed carcass for top grades and prices.

Calves that have gained over 2.0 pounds a day and are fleshy and fat will usually grade "Choice" or possibly "Prime."

\*4-H'ers growing veal should use Record Book 59 with this Guideline to receive project credit.

This paper was accepted by the National 4-H Dairy Science Program Development Committee and is made available to all states.

### Markets

Know your local market situation--markets will vary from area to area.

Know the local market grades for veal; also best weight and degree of finish required for each grade.

Know the prices paid for each market grade.

Know which market grade is in most demand.

With this knowledge you can adapt your veal production program to fit the market.

Prices paid for finished veal on any given day depend on grade, supply, demand, season, and the market. Higher prices will be paid for better grade veal, with inferior grades priced lower. Stronger prices are usually offered when supply is low and buyer demand is high. However, a poor supply every day at a market will tend to discourage buyer from attending that particular market.

Veal prices tend to be higher in winter and early spring months; they generally drop lowest in summer and fall. The general level of veal prices cannot be predicted from year to year. However, in general, prices will follow the level and strengths of the beef market.

### Factors to Consider in Producing Veal

1. Look into the available supply of calves. You may purchase calves from local auctions, or local dairymen, or you may want to raise only your own. The safest source in terms of health and disease is your own.

People have used all three sources, but to get the kind of calves you need requires real buying skill and care. The beginner definitely should not depend on auction markets for his supply, as the risks of disease are too great. With experience, he can try them later.

2. Available housing. For the first two to three weeks, keep calves in separate pens or tie stalls to weed out the unthrifty ones and reduce the spread of disease. Later on, group feeding of six to eight per pen is all right. Some producers like bedded stalls and pens, while others prefer slatted floors.

One thing is clear--if a 4-H'er raises a series of calves in close confinement with only a half-hearted attempt to keep the pens clean, the time will come when a disease outbreak will clean him out and make the barn uninhabitable by calves for a long, long time.

It will be well to plan to let the barn stay idle for six weeks or longer each year to let the disease level subside.

If you are considering veal on a reasonably large scale, be prepared to construct or remodel housing that can be cleaned with steam and disinfected regularly.

Barn temperatures colder than 50°F. put added stresses on the calves. Proper ventilation is advisable to keep down the ammonia concentration in the air.

3. Talk over calf diseases with your veterinarian. Most veterinarians will agree that they do not have a fool-proof answer for all calthood diseases. But

veterinarians can be a great help. Since you are dealing with a highly susceptible animal, your calf, you may have problems with scours and pneumonia and will need a veterinarian's help.

4. Feeding plan. Whole milk is ideal for producing veal; however, 10 pounds of whole milk per pound of gain is likely to make this feed too costly to use. If you want to duplicate the performance of whole milk, a good milk replacer of high energy is most likely to succeed. But most milk replacers cost and perform differently. You will have to determine on your farm the correct value for the brand of milk replacer you use.

a. Milk replacer. You'll probably purchase a recommended milk replacer rather than mix it yourself.

b. Milk replacer feeding schedule. (feed twice daily)

You usually mix 1 pound of dry powder with 5-7 pounds of water, with more water being fed at the younger ages. The schedule below should be a useful guide, but the response of each calf will dictate the exact amount to feed each calf at a given time.

1 to 3 days	With the cow or hand-feed colostrum
4 to 7 days	0.4 lbs. dry powder per feeding
2nd week	0.7 lbs. " " " "
3rd week	1.2 lbs. " " " "
4th week	1.5 lbs. " " " "
5th week	2.1 lbs. " " " "
6th week	2.6 lbs. " " " "
7th week and later	All that the calf will eat.

c. Grain and hay feeding. In producing veal you do not want calves to eat a dry feed at the expense of a liquid diet. Also, grain and hay tend to give a less desirable finish and a darker color to veal than a full-fed liquid diet. Avoid feeding any iron, since it will also cause dark veal.

5. Sanitation. Contaminated pens can be a major source of infection. Stalls or pens used for veal calves should be designed and built so they may be easily cleaned and sanitized between groups of calves. They should also meet standards mentioned under housing.

Utensils. Contaminated feeding utensils and overfeeding can be major causes of digestive troubles and infections; these weaken the calf, reduce the rate of gain, and increase mortality. Utensils used for feeding veal calves must be kept clean and sanitized with hot water, a good detergent, and chemical for sterilization after each feeding.

6. Diseases of veal calves. It is far better to prevent disease by good management practices than to treat a sick animal.

Overfeeding milk or milk replacer is the most common cause of scouring in young calves. If diarrhea is observed, reduce the feeding rate by one-half until feces return to normal. Then gradually increase feeding rate until recommended amounts are being fed.

Always keep a rectal thermometer in the calf barn. When a calf shows signs of being sick (scours, dull appetite, warm and dry nose, or is listless), check its temperature. If the temperature is above normal (101°F.), do not attempt a

home remedy, but call your veterinarian immediately for a diagnosis and proper treatment. Early treatment is essential to reduce death loss and spread of disease to other animals.

Isolate sick animals, preferably in a separate barn.

Is Your Veal Production Situation Profitable (Fill out this chart.)

1. Weight of baby calf (3-5 days old)	_____	lbs.
2. Estimated selling weight (190-250)	_____	lbs.
3. Weight gain	Line 2 minus Line 1	_____ lbs.
4. Lbs. gain (Line 3) _____ X _____ (10 if feeding whole milk or 1.5 if feeding replacer) =		_____ Total lbs. feed fed
5. Total feed fed (Line 4) _____ X _____ (Value of 1 pound of feed =		\$ _____ Total feed cost
6. Value of baby calf (3-5 days old)		\$ _____
7. Total feed cost (Line 5)		\$ _____
8. Estimated labor cost per calf		\$ _____
9. Estimated housing cost per calf		\$ _____
10. Misc. expenses per calf (taxes, interest, insurance, vet, etc.)		\$ _____
11. Total production cost (Add lines 6-10)		\$ _____
12. Total production cost (Line 11) divided by selling weight (Line 2) = selling price needed per pound to pay expenses		\$ _____

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If current market price is higher than the break-even point (Line 12), it will be profitable to raise veal.

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Management Pointers

1. Select only calves weighing more than 80 lbs. of birth.
2. Show preference for male Holstein, Brown Swiss, or either sex of dairy-beef crosses.
3. Make sure your calf has received colostrum. Leave the calf with the cow or hand-beed colostrum for several days. Provide vitamin A for purchased calves.
4. Clean feeding equipment will save you much trouble.
5. Keep your animals in a clean, dry, well-ventilated pen or box-stall, free from draft and with temperature at least 50°F.
6. Start milk replacer or whole milk feeding at a low level and gradually increase amount to full feeding. See schedule, page 3.
7. Stick to a uniform feeding schedule. Abrupt changes in kind and amount of feed will give poor results.
8. It is better to sell a "poor gainer" early than to continue feeding. Sick calves are not saleable.
9. Lack of labor will probably force you to feed only twice daily. However, frequent small feedings are more satisfactory than fewer large feedings, especially early in the feeding period.
10. Nursing a cow will give the fastest rate of gain. With pails, you'll find little difference between open-pail or nipple-pail feeding.
11. Select a high energy milk replacer, one containing at least 15 to 25 percent of fat, and recommend for veal production.
12. Full feeding is essential for rapid gains on either whole milk or replacer. Calves will not gain profitably on just a maintenance allowance of feed.
13. Healthy calves are essential. The loss of one calf will cut out your profits from two or more other calves.