

POSTWEANING FEEDING OF THE "VAC" CALF

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GAINS DURING VAC-45

The first question is, When do we wean? This is important because if VAC-45 requires that the calves be weaned 45 days earlier than normal, gains the calves would have made on their dams must be considered. It is common for nursing calves to gain 1.5 to 2.0 lbs/day during the last month of nursing. If the weaned calves only gained this amount during the post weaning phase, then the net gain during VAC-45 would be zero. More likely, calves will be weaned at the normal age and time and retained for an additional 45 days before sale or transfer to another operation. Final pay weights need to be adjusted for any effects of VAC-45 on fill and shrink at sale. Gains during VAC-45 depend on:

- How quickly the calves begin to eat.
- The energy density of the diet.
- Amount of feed consumed.
- Length of the feeding period.
- Quality and degree of fleshing of the calves at weaning; good calves outgain poor calves but thin, healthy calves usually outgain fat, healthy calves. Target gains should be adjusted according to flesh at weaning. Calves are severely discounted if too fat or too full.

VAC-45 nutrition is the same as the nutrition of newly-arrived stocker or feeder calves. The reader is encouraged to read **OSU Circular E-900** entitled **Receiving and Growing Rations**. Whatever the gain, it is important that the cattleman be able to predict calf gains so the most profitable rate can be selected. In general, programs that produce the highest rates of gain will use more grain and will encounter greater risks of acidosis and bovine respiratory disease. Programs based more on hay and supplements will produce lower rates of gain but will be safer to manage. As will be discussed later, programs producing high rates of gain during preconditioning will probably result in reduced gain and efficiency during later growing or finishing programs.

Feed form. Calves do not like dry, dusty, finely processed feeds. For example, calves will refuse unpelleted wheat midds but will readily consume wheat midd pellets. They seem to prefer small pellets (under 1/2 inch in diameter), long hays, coarsely processed corn, whole corn, and especially cottonseed hulls.

Pen size. It is best to wean into small pens or traps that reduce the amount of fence walking which occurs during the first two or three days. After the calves have settled down, grass traps providing dry, dust- and mud-free environments with protection from sun or wind are the best for reducing stress. Producers will need to use their judgment if dust or mud becomes a problem in the small pens.

Predicting gain. It is impossible to exactly predict gains during VAC-45. Fill differences can make large apparent differences in gains over short time periods. However, reasonably accurate estimates are necessary for predicting feed costs, sale weights, and breakeven prices. With this in mind, sample diets are shown that should give gains in three ranges: 0.5-1.0 lbs./ day, 1.0-1.5 lbs./day, and 2.0-2.5 lbs./day. These gain estimates are projected for VAC-45 periods of 45 days post weaning. Weekly weighings with research cattle have shown that calves will lose weight the first week, regain their weaning weight by the second week and post gains after the second or third week.

- **0.5 to 1.0 lb./day.** Good quality grass hay (full-feed, 2.5 to 3% of body weight as fed) plus 1.0 lb./day of 38%

protein supplement or 2.0 lbs./day of 20%-25% protein supplement.

- **1.0 to 1.5 lb./day.** Good to excellent quality grass hay (full-feed, 2.5 to 3% of body weight as fed) plus 2.0 lb./day of 38% protein supplement or 4 lb./day of 20%-25% protein supplement.
- **2.0 to 2.5 lb./day.** These rates of gain probably are not possible on a high-forage diet and will require a mixed ration. One that has worked well is shown below:

Ingredients	% as fed
Cottonseed hulls	15
Alfalfa pellets	15
Rolled corn	49.7
Soybean meal	15
Cane molasses	4
Calcium carbonate	1
Salt	0.3

This ration is designed to be full-fed from the first day of weaning either in bunks or self-feeders. Intake should approach 3 to 3.3% of body weight (as fed) within two weeks. Hay is not needed.

Which Rate of Gain Do You Choose?

This decision will depend on feed costs, facilities, cattle age and weight, and plans for the cattle. The following can be used as starting guidelines.

Supplement-based programs. These will be the choice for many on-the-ranch VAC-45 programs. In this situation, mixed feeds must be purchased and can be expensive. It can be argued that hay is also expensive (especially in terms of energy) but many ranches have hay or grass available. Full feeding also requires feed bunks, scale trucks, and lots of storage for feed. Most ranches do not have these facilities and equipment. Therefore, two to four pounds of a purchased supplement pellet with additives, vitamins and minerals is the practical solution on most ranches.

Supplement and hay programs work best with calves over 300 lbs. and 5 months of age. Low rates of gain (less than 1 lb/day) on young calves can stunt the calves and damage performance for life while reasonably low gains for older calves or yearlings are tolerated and can usually be compensated for when calves are given good forage or feedlot rations. Grass hay used during preconditioning or receiving should be the best quality available. Alfalfa, especially good-quality alfalfa, is not the best choice for stressed calves because it is highly laxative.

Supplement-based roughage programs are a good choice when cattle will be moved to a low gain program such as dry wintering on dormant pasture or moderate gain programs like summer grass pastures. In these cases, the excellent gains achieved on a high-concentrate VAC-45 program will be lost during subsequent grazing. This can even be the case when calves will be grazed for long periods on high-quality forages like wheat pasture.

Full-fed programs. This type program is best suited when:

- Feed costs are relatively low and facilities are available to mix and deliver the feed. Backgrounding lots and feedlots are good examples. In these cases, roughage is not desirable from the standpoints of handling, cost per unit of energy, and waste problems (calves eating roughage defecate more than calves eating concentrate).
- Calves will be moved directly to high-energy feedlot rations. Research at New Mexico has shown that calves received or backgrounded on supplement-hay programs never catch up with calves backgrounded on 50 to 75% concentrate rations.
- Very young calves. Calves under 250-300 lbs. may not be able to consume sufficient energy from hay-based diets to make gains adequate to avoid stunting. Because light-weight calves do not consume much feed and are very efficient on higher-energy complete feeds, these rations may be the best choice for very young calves.

Other Considerations For VAC-45 Diets.

All diets for stressed calves should contain a coccidiostat. Rumensin, Bovatec, Deccox, and Amprolium are approved for this purpose. Research has also shown that Vitamin E fed at the rate of about 200 to 400 units per day helps reduce the incidence of sickness. Proper levels of copper, zinc, and selenium are also important in stressed calves. However, overdosing is easy to do. Many hays and feed ingredients will already contain adequate amounts of these trace minerals and trace mineral supplementation is very much an area-specific consideration.

HANDLING THE ARITHMETIC

Because the calculations involved in analysis of a VAC-45 program are complex, a spreadsheet program for computers has been developed to aid the producer (OSU CR-3277 PRECON2). For the person with the calves, the beginning point for calculations must be the weight and price that can be obtained directly off the cow. After that, returns for any additional practice can be calculated if the added expenses, changes in calf weights, changes in calf prices due to changed sale times and price slides caused by changes in calf weights, death losses, costs for feed, grass, vaccines, etc. are known.

WHAT IS VAC-45 WORTH TO THE BUYER?

Interpreting the research. It may be surprising that the value of VAC-45 to feedlots is somewhat inconclusive. Some of the confusion can be cleared up when we understand that the **value of VAC-45 to a rancher** can be an entirely different question from the **value of VAC-**

45 ranch calves to a cattle feeder. Why? Studies on VAC-45 look only at the effects of this practice on the health and performance of calves. A cattle feeder buying conditioned calves is looking at an entire package that includes not only health but also genetics. Ranchers selling VAC-45 calves often have breeding programs that produce calves much superior to the normal runs of put-together calves.

DOES VAC-45 PAY? -- Ranch and Feedlot Perspectives.

Commercial feedlot experience. The research should not be interpreted to mean that the observed problems with fresh-weaned calves in feedlots are imagined. They are real. The experience in feedlots and with programs like OSU's OK Steer Feedout has shown that calves shipped directly from the cow to a feedlot have a high probability of sickness. A major cattle feeding company has reported their results of feeding conditioned calves (weaned 45 days and vaccinated) versus calves purchased through normal market channels. They found that VAC-45 calves had \$29 less treatment and processing costs, about 2% less death loss, 0.3 lb./day increased gain, 0.8 lb. better feed conversions, and about \$11/cwt better overall costs of gain. Not all the pens of VAC-45 were trouble-free but on

average, VAC-45 calves were superior.

Rancher perspective. It is logical to assume the feeding industry will continue to favor calves that have been through some type of VAC-45, backgrounding, or stocker program. The major question is, and has been, whether sufficient incentives are paid to make it worthwhile for ranchers to incur the additional expenses and risks of a VAC-45 program. If the feedlots determine it is in their best interest to buy preweaned calves and are willing to pay more, then the rancher must decide whether the increased price for conditioned calves offsets any increased costs. The **Precon** spreadsheet can help here. All costs during VAC-45 must be accounted for and compared to the new value of calves at delivery time. Ranchers will have to be well versed about basis contracts, weighing conditions, price slides, feed costs, and other items.

Ranchers retaining ownership in the feedlot. The key questions here are the effects of VAC-45 on sickness and performance in the feedlot or stocker program. Research shows if only a few calves are going to get sick, the easiest and most economical program is to ship calves directly to the feedlot. However, it is difficult to predict sickness, and industry experience suggests a high probability of sickness with freshly-weaned calves. Medical costs, death losses, and lost performance add substantially to the costs of feeding when calves experience high rates of sickness. Ranchers are probably ahead to coordinate a VAC-45 program with the feedlot.

Research trials which showed reduced gains in the feedlot after calves were preconditioned usually involved full-feed VAC-45 programs that put significant weight and condition on the calves before going to the feedlot. VAC-45 programs based on roughage and supplement will probably not reduce subsequent feedlot performance like VAC-45 programs based on high-energy, full-feed rations that produce high rates of gain during the VAC-45 period. The primary goal of most VAC-45 programs for ranchers retaining ownership in the feedlot is going to be health management rather than high rates of gain during VAC-45. Supplement and forage programs can be very effective in minimizing health problems while "toughening" the calves for transit to the feedlot environment.

SUMMARY

VAC-45 means many things to many people. It can range from being a retained ownership program for ranchers desiring to only keep calves for a short period after weaning to being an integral part of a retained ownership program through the feedlot. Economic pressures on cow/calf operations are going to force more producers into retaining ownership through a stocker or feedlot phase. To these producers, VAC-45 will be a necessary method of "receiving" or backgrounding their own calves in preparation for the stocker or feedlot program. VAC-45 will be profitable when the added value of the calf exceeds the additional costs incurred during the extended ownership period.

Literature cited

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