Livestock Notes

New Implant Available

A new implant called Revelor-S®, made by Hoechst-Roussel Agri-Vet Co., is now available for use in beef cattle. This implant is a combination of trenbolone acetate and estradiol, and is targeted to increase average daily gain and feed efficiency in feedlot cattle. This company formerly marketed a trenbolone acetate implant under the name Finaplix®.

As you may recall, growth-promoting implants are used to increase daily gain and improve feed efficiency in beef cattle by increasing the amount of growth hormone naturally produced. This increases the percentage of muscle and decreases the proportion of fat. The objective, therefore, is for the animal to add more weight as protein and less weight as fat. This works well for growing cattle, but does not work as well for feedlot cattle nearing the completion of their fattening phase before slaughter. While there will be an improvement in yield grade, there may also be a reduction in quality grade which is partially fat dependent. To reach the same quality grade endpoint, implanted steers will often need to be 75-100 pounds heavier than non-implanted steers of similar type.

Trials with steers implanted twice with Revelor-S (65-70 days apart) have indeed shown there will be fewer steers grading Choice with lower average marbling scores than steers fed for the same period of time implanted twice with another implant. In a quality-conscious market such as the one in the Northeast, this can be detrimental.

However, Revelor-S has supported 6.9 percent higher weight gains and 5.2 percent higher feed efficiencies, compared to that of cattle implanted with a similar product. The differences with non-implanted cattle would be dramatic. Implants generally have a $7-$8 return per $1 of investment.

Revelor-S certainly has a potential advantage for beef producers in our region, but some care must be taken when it is used. Use it early in the feeding period to increase growth, but go to a different product in the latter stages of finishing to keep quality grades at an optimum level.

Feeder Cattle Teleauctions

A recent report by Georgia researchers (Turner et al., 1992) indicates there are some management practices that will affect the price of feeder cattle sold through teleauctions. Further, the price effects from these practices have changed in recent years.

Results on the sale of more than 95,000 calves through teleauctions were separated into two time periods: 1977 through 1982 and 1983 through 1988. Analysis of the sales indicated that the factors affecting price were different for the two periods.

For example, Angus cattle received a premium in the earlier period, while Hereford calves received a discount in the later period. However, dairy and dairy-cross calves received a discount in both periods.

As would be expected, steers received a premium compared to heifers, but the difference in that premium was reduced by 57 cents/100 pounds in the later period. Small-framed cattle had a discount in the earlier period, while large-framed cattle had a discount in the later period. Neither muscling score nor flesh condition affected price in either period.

Health practices resulted in sizeable differences in price. Practices such as prevaccination for specific diseases, weaning, and preconditioning brought a 25-30 cent price premium, but only in the later period. More cattle sold in the second period were prevaccinated or preconditioned. Neither deworming nor implanting had an effect on price.

The use of teleauctions for marketing feeder cattle is growing in Pennsylvania, but the results of this study indicate that management before the sale still affects price. Producers should be aware of the factors that will optimize the price for their calves in their market.

Too Much Fat To Chew (Waste Fat vs. Taste Fat)

To most beef producers, there seems to be a major contradiction in the pricing of market cattle when lean cattle are discounted relative to fat cattle. Packers continue to pay the highest prices for the fatter cattle (unless overly fat). This makes economic sense only if you understand the packer's role in marketing beef (and to a smaller extent, lamb and pork.)

The packer is a middleman who simply breaks the live, finished product into many components and sells them all as profitably as possible. Large efficient plants have grown because they can efficiently use labor and effectively market the by-products of meat production, such as hides, organs, bones, fat, and glands. During processing, packers (except pork) remove as little fat as possible. Since the fat stays with the primal cuts, packers are not economically penalized for leaving the external fat. This partly explains why pork packers have more aggressively pursued programs to penalize producers for producing an overly fat product.

Excess fat then becomes the problem of the retailer, the purveyor, or the food service operator. Consequently, the packer has more pounds of that cut to sell relative to the carcass weight he purchased. The dressing percent (ratio of carcass weight to live weight) of fatter cattle is higher; therefore, the packer will pay more for higher finished cattle.

Preliminary data presented by Jeff Savill of Texas A & M on the Beef Quality Audit Project funded by the Meat Board shows that the beef industry is producing in excess of 97 pounds of external fat per head. This amounts to a loss of $112 if the meat is trimmed to 1/4 inch external fat (actually most beef is now trimmed to 1/8 inch or less). Excessive seam fat (fat between the muscles) accounts for another $63 loss. Excess fat in trimmings used for manufacturing costs an extra $15. Therefore the total cost to the beef industry of producing too much fat amounts to $190 per head of cattle.

You might say the beef industry is losing the war on fat. Compared to 1976 industry figures, external fat thickness has decreased by a mere .01 inches. The average yield grade of cattle sampled was 3.14. While this is generally thought to be an acceptable level, it still represents 250 pounds of fat and 260 pounds of lean tissue in a 750-pound carcass. Twenty percent of all cattle measured had more fat tissue than lean tissue. Obviously, all this fat does not reach the consumer. In fact, retailers are trimming meat cuts closer than ever. Virtually all beef is trimmed to less than 1/4 inch and over half is trimmed to 1/8 inch or less of external fat. The external fat trimmed off at retail is a great loss at every level — the cost of production, transportation, labor, and disposal.

What does this loss mean in terms of consumer prices? In 1976, the cost of one pound of beef would buy 1.1 pounds of pork or 2.4 pounds of poultry. In 1991, the cost of a pound of beef was equal to 1.3 pounds of pork or 3.2 pounds of poultry. Because of price, consumers are buying more poultry. It is clear that beef producers cannot afford to continue to produce so much excess fat.

The lamb industry faces the same dilemma. Major revisions proposed for grading lambs should help emphasize the fat problem and promote a change in production methods. While the pork industry is making progress, it's still far from what packers would like in terms of fat production.

How does the industry solve this problem? There is no way they will ever change out of good conscience alone. The meat business climate is simply too competitive for that to happen. There is only one way for the change to occur in the short term--trim the fat off before paying producers. Then those producing animals with less external fat will be fairly compensated.

But one packer's close trim program has already failed because retailers distrusted the resulting higher prices. He has since retreated from that novel approach. Even though it is far more efficient to trim the fat at the packing plant, retailers are not yet willing to pay for the increase in value.

Another approach has been to prepare retail cuts at the packer level. These cuts would be closely trimmed, vacuum packaged, and sent to retailers as case ready products. But a long-term market test for this approach also failed. The industry must continue to work at reducing fat, but without sacrificing eating quality.

Creep Feeding

Creep feeding is a method of providing supplemental feed for lambs during the nursing period. Creep feeding is of little value in some operations and very valuable in others.

If a producer wants to achieve maximum growth rate from his lambs or wean early, he should be creep feeding. Twins and triplets will grow more rapidly when creep fed.

Lambs will start eating feed at 3 days to 2 weeks of age. The amount of feed consumed is small, but it helps to develop the lamb's digestive system. So we should start the lambs on creep as soon as possible after birth - younger lambs tend to be more inquisitive and use the creep quicker than older lambs. Research has shown that nursing lambs make very efficient use of good quality hay and grain provided in a creep. Creep rations do not have to be complex. Palatability of the ration is very important, but becomes less important as the lambs get older (6-8 weeks of age).

Lambs like corn and soybean meal. They like oats, but because oats are higher in fiber, lambs will not gain as rapidly when the creep ration contains a large amount of oats.

A few things to consider in planning creep and creep rations:

- Creep should be large enough to accommodate the lambs
- Creep area should be constructed so that only the lambs can get in
- Place creep in a favorable location where it is light and warm (a heat lamp or light will help attract lambs into creep)
- Creep ration should contain at least 13-14 percent protein. You may want to increase protein content to 16-18 percent protein as ewe's milk production decreases and/or when lambs are 6-8 weeks old.
- Pelleted feeds tend to increase intake and lamb performance
- Ground rations with 5-10 percent molasses to reduce dust appear to be more accepted by young lambs than rations of whole grains or rolled grains
- Feed in creep should be clean and fresh
- Clean fresh water should be available at all times
- Place good quality legume or legume-grass hay in the creep area and replace hay daily and give the unused hay to the ewes
- Adequate intake of roughage is an aid in preventing overeating disease.

Some examples of creep rations are:

- Ground shelled corn - 3 parts; oats or wheat - 2 parts; soybean oil meal - 1 part.
- Corn - 6 parts; oats - 2 parts; wheat bran - 1 part; soybean oil meal - 1 part; 1 pound or 1 percent bone meal or dicalcium phosphate; 1 lb. or 1 percent trace minerals salt.
- Shelled corn - 80 pounds; oats - 10 pounds; soybean oil meal - 10 pounds; alfalfa hay - free choice.*
- Shelled corn - 55 pounds oats - 5 pounds; alfalfa pellets - 40 pounds.
- Shelled corn - 55 pounds; oats - 25 pounds; soybean oil meal - 15 pounds; molasses - 5 pounds.*
- Cracked shelled corn - 20 pounds; crimped or rolled oats - 20 pounds; wheat bran - 10 pounds; soybean or linseed oil meal or commercial protein supplement - 10 pounds; 1 percent bone meal or dicalcium phosphate; 1 percent trace mineral salt.
- Commercial lamb feed.
- Cracked shelled corn - 160 pounds; crimped oats - 50 pounds; soybean oil meal - 50 pounds; distillers - 25 pounds; molasses - 20 pounds; limestone - 2½ pounds; AD&E; selenium.

* Wheat or barley could replace up to ½ of the corn in these rations.

You may want to add an antibiotic to the creep ration such as aureomycin or terramycin.

Foot Bath Recommendation

Zinc sulfate is valuable in the prevention/treatment of foot rot. The use of a 10 percent solution (8 pounds zinc sulfate in 10 gallons water) is a good preventative measure. If foot rot is a problem, the solution should be stronger (1 pounds of zinc sulfate per 1 gallon of water).

Pseudorabies — Vaccination Theory

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Vaccination is one of several tools used to stop transmission (or "circulation") of disease-causing organisms from infected animals to susceptible animals. Vaccination is used often because it is usually easier to implement than other tools. Other tools which are used to stop disease include: 1) preventing contact of susceptible animals with infected animals 2) increasing the disease resistance of susceptible animals, and 3) decreasing the ability of infected animals to transmit disease. The key to tools 2 (and 3) is reducing stress: other disease, overcrowding, poor ventilation, poor diet, fighting. It is difficult to provide an environment for pigs that is consistently free of stress.

There are many reasons for vaccination to "fail" and not prevent pseudorabies infection. There is always a balance between the level of protection against disease provided by vaccination and the level of challenge by disease-causing organisms. If the balance is tipped in favor of disease, a pig that would normally be protected against pseudorabies can become infected. This is the reason that vaccination should not be relied upon as the only tool used to prevent pseudorabies infection. The more tools that are used, the more the balance is tipped to favor protection against disease. Vaccination is not as effective at preventing infection with pseudorabies virus as it is at preventing clinical signs of pseudorabies (baby pig deaths, respiratory disease in fat hogs).

Vaccination for pseudorabies works in two ways. First, it increases the resistance to disease of pigs which have not been exposed to pseudorabies. Vaccinated pigs are about 10 times more resistant to pseudorabies infection than unvaccinated pigs. In addition, vaccination of infected pigs against pseudorabies decreases the chance that virus will be "shed" into the environment. Both of these effects of vaccination work together to decrease the chance that pigs will become newly infected with pseudorabies in an infected herd.

In infected herds, pseudorabies virus can circulate among one or both of two different groups of pigs: breeding animals and fat hogs older than 3 months of age. Infected pigs of these groups which shed virus can readily infect any susceptible pig that has nose-to-nose contact with them. If enough infected pigs shed virus in a group, enough virus can be produced to spread infection to susceptible pigs in an adjacent building or even an adjacent farm. Virus shedding is provoked by any kind of stress. When virus is shed and circulated between animals, pigs that will be positive on a blood test are produced.

The purpose of vaccinating for pseudorabies is to help prevent virus circulation. If virus circulation is prevented, pigs which test positive for pseudorabies are not produced. If virus circulation is prevented for a long enough period of time, all infected, positive pigs will have left the herd for other reasons and the herd will be free of pseudorabies. However, if vaccination is not used continuously or is not done often enough, large numbers of pigs in the herd can be left susceptible to infection if virus circulates. How often pigs should be vaccinated depends on the factors mentioned above. In many herds, the only way to determine an effective vaccination schedule is to regularly monitor the groups of susceptible pigs in the herd with blood testing.