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Impact of Animal Growth Promotants on the Meat Industry

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What are the differences in the effects which growth promotants might have in the dairy and the meat industries? Little product quality change will be evident in the dairy industry. In the pork industry, the repartitioning effect in growth promotants is quite dramatic. A 35 percent reduction in fat in the carcass is likely. While part of that reduction is in trimmable fat, the impact on human health is still going to be significant.

THE DAIRY INDUSTRY VERSUS THE MEAT INDUSTRY

The protective government policy in the dairy industry versus the relatively unfettered policy in the beef and pork industries and the broiler industry, make a difference in how these industries are perceived. The chronic surpluses in the dairy industry provoke a standard question. "Why do we need more milk? We already have surpluses!" In contrast, the meat industry is basically a market clearing process where prices are cyclical, as they are in farming. Prices in the dairy industry are kept artificially high, but if the price supports were to be changed by Congress as the cost of production goes down, then the benefits of lower costs and higher production could be passed on to consumers.

To clearly determine the impacts on these industries, the competition must be analyzed. Studies that research only one small section of a larger industry with significant competition among consumer products may not be fully reliable. Any advances in biotechnology are likely to be beneficial, but it depends on the relative advances in biotech-

nology among competitors like beef, pork, and poultry, not just the absolute advances in any one particular biotechnology.

Consumer attitudes and perceptions are critical and must be taken into account, especially in the dairy industry. People are fearful of drinking any milk that contains hormones, but the average consumer does not distinguish the difference between steroid-based hormones and polypeptide hormones. This is the kind of confusion and perception that could make a great difference in the potential acceptance of food products from these growth promotants and their viability as a commercial technology.

PST PERFORMANCE IMPACTS

Even though porcine somatotropin (PST) is called a growth hormone, the growth impact is relatively small, and may encompass only an eight day difference in reaching market weight. Feed efficiency shows a 25 percent improvement when PST is used during the primary feed- using period (which is from about 110 pounds up to about 240 pounds). This translates into about 100 pounds less feed per hundred weight of each animal.

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Carcass fat composition also improves with PST use. This improvement can mean 35 percent less fat and 15 percent more lean meat. It must be noted that the market hog's carcass weight as a percent of live-weight also decreases slightly.

PROCESSING EFFICIENCY

If one third of a hog's low-value fat is pared off, packers may be more willing to slaughter market hogs at heavier weights. It doesn't take any more time to process a 240 pound hog then it does to process a 280 pound hog. The only reason this is not done now is that the pared off fat has to be either sold as lard or tossed into the tank. If a 280-pounder would have the same amount of fat as today's 240-pounder, the result is another 40 pounds of live hog, and an even higher proportion of lean meat. Fewer sows will be needed to meet the same level of ultimate consumption. Structural implications in terms of the numbers of breeding stock and perhaps the number of farmers could be more significant.

PST PROFIT AND STRUCTURE IMPACTS

As PST is adopted by the pork industry, the improved feed efficiency reduces cost and increases profits. In addition, a carcass merit premium results because there is less fat on the carcass.

Farmers usually react to profitability by expanding. Production will increase, prices will drop and then stabilize, and profits will return to longer-term competitive equilibriums. Consumers will benefit in terms of lower prices as a result of the increased production, as well as in the leaner product.

Feed producers will also be affected by PST use, because 25 percent less feed is required. Feed grain producers would be somewhat hurt, and there would probably be a drop in the corn price along with the longer term effect of less acreage required. On the other hand, there would be an increased need for protein or lysine supplements, so oil seed producers would likely benefit. In addition, with less feed required, the manure output would be reduced.

If a farmer ends up with fewer breeding stock, that might cut down on veterinary services and the supplies required. If PST would enhance immunity, this might also reduce the need for veterinary services.

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If a heavier slaughter of animals results, more labor and space would be required for the finishing part of the operation and comparatively less for the farrowing process.

The resulting number and size structure of producers is often raised as an issue. It is not necessarily size, but management sophistication that really makes a difference in the successful use of PST. Larger, more specialized operations are more likely to make effective use of this relatively sophisticated technology. In the long run, there might be an increased tendency to shift away from the small and intermediate size to the larger pork production operation. The areas most likely to increase their share of production would be North Carolina, Missouri, Arkansas and Nebraska, where the largest size producers are concentrated.