

Meat Science Extension Programs for Livestock Producers

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Meat science extension programs designed for the livestock producer must meet the needs of the industry today and set the course for the future. To appreciate the direction of current programs it is appropriate to look briefly at the livestock industry of the 1980's and project its needs into the next decade.

Productivity and efficiency are more critical to the livestock and meat industry now than at any other time in history. To achieve maximum productivity, livestock producers must have a thorough knowledge of the quantitative and qualitative characteristics of their final product and of the mechanisms for changing that product. Meat scientists must work hand in hand with geneticists, nutritionists and physiologists to help the industry progress and remain competitive with other food producing systems. The meat animal of the future must be the product of careful selection and management. The industry must first define and then deliberately design meat animals whether the full potential of such current advances as genetic engineering is realized soon, or the present technology for genetic selection is utilized to accomplish this task. Our role as scientists and educators is to provide the technology and information needed through strong extension programs.

Evolution of Extension Programs for Livestock Producers

Meat extension programs with livestock producers began with on-farm slaughter and meat cutting demonstrations. The farmer of that era was expected to supply food for his own family and only a few others. The sanitary dressing and storage of his meat supply was the critical need then. As the packing industry developed, the livestock producer became more and more isolated from those for whom he produced meat. The only information concerning the quality of the end product most often came from the livestock buyer. Unfortunately information transmitted from buyer to seller concerning value is not always accurate, especially when the animal is purchased on foot. Soon the carcasses being produced were far from meeting the desires of the industry and consumer. In the 1950's carcass shows and cut out demonstrations be-

came popular extension programs for the livestock producer. At that time meat animals in general were over-fat, especially for a population that was turning more and more of their physical labors over to machines. Data from Ohio in 1956 shows that a superior hog carcass of that era had approximately 1.6 inches of backfat and 4.0 square inches of loin eye area. During the next 25 years carcass shows served a very important function. Because of the example and pattern set by carcass shows, excess fat was removed from animals through genetics and management, with the help of the backfat probe and sonar techniques. The carcass cross-section slides prepared by Kline & Taylor in the late 60's were widely used in educating producers. Later swine producers went to the extreme in selection for muscular animals, and stress-susceptible animals became a problem. Meat science research, followed by aggressive extension education programs, pointed the way to the solution. This time carcass shows helped identify stress-susceptible blood lines by using color scores to identify PSE-PSS animals. Changes in selection criteria reduced the problem of swine stress susceptibility to a manageable level. Unfortunately livestock producers have recently shifted from extremely muscular animals to the opposite pole, creating yet a new challenge for meat science extension.

Extension Programs of the 1980's

The carcass show is still a tool for meat science extension programs but greater emphasis is now being placed upon the evaluation of total productivity. Today the industry must fine tune the quantitative and qualitative characteristics of the carcass to meet consumer demands and balance this carefully with performance and efficiency. Balance is critical to the industry, we cannot afford major shifts in type every 5-10 years and expect the industry to prosper. The primary emphasis of new programs is to help producers understand the principles of growth and development and utilization of this information in selecting animals based upon biological type. Producers must do a better job of matching nutritional and management resources to the genetic capabilities of the animal. Information on growth, productive efficiency and carcass merit must be obtained on a planned regular basis in a "Quality Control" type program, not on a hit or miss basis, when a carcass show comes around.

The principles of quality control must be applied to the livestock industry. Our challenge is to sell the concept of quality control to the livestock producer and provide him with a mechanism for implementation. Livestock quality control sys-

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Reciprocal Meat Conference Proceedings, Volume 35, 1982.

tems should monitor selected qualitative and quantitative carcass characteristics to assure that minimum product standards are maintained and to assure that the product meets the needs and desires of the end user.

In anticipation of the need for carcass data on a more routine basis, workshops are being offered to former meat judging team members and others to train them in the techniques of carcass data collection and to encourage them to channel their talents into this important area. The modern extension specialist cannot and should not be expected to do all of the carcass evaluation work required. Parallel programs are also being developed for 4-H and FFA youth to train them in the techniques of carcass evaluation and data analysis. Retail meat identification and selection is also being emphasized in programs for future livestock producers to better acquaint them with consumer concerns.

Extension computer networks and home computers are now readily accessible to many livestock producers. Computer programs are available through our extension service and are being used by individual livestock producers to analyze carcass and performance data on an in-herd basis. Before quality control programs using this technology can become widespread there is a critical need for meat science research

to seek out more rapid, practical methods for carcass data collection. Much of the basic research has been done, it is now time to move vigorously toward testing and application of automated carcass evaluation procedures.

Producers of livestock face many critical issues today in the area of marketing. Meat scientists must continue to provide leadership when market systems and grading become issues. The need for education and keeping livestock producers current on technological advances was never more apparent than during the past two years, when grading was the subject of hot debate by every self-appointed expert who had even the slightest knowledge of meat quality.

My plea to those of you who are primarily involved in meat science research is to continue diligently in those very basic areas of muscle chemistry and physiology and especially in the areas of growth and development.

To future boards of directors of AMSA I say, please continue to give those researchers who are at the forefront of basic research an opportunity to review their findings regularly on RMC programs. We as extension specialists need this informational background because the gap between research finding and practical application must be much shorter in the future.