FIFTY YEARS OF PROGRESS IN SHEEP PRODUCTION

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Research has provided a basis for improving production of quality and quantity of lamb and wool. Knowledge obtained concerning improved breeding, feeding, management, and disease control practices has been used to increase profits through more efficient production of quality lamb and wool.

Following are a few areas where major change and improvement have been accomplished.

Types of Sheep Produced. The sheep industry has benefited from a crossbreed-type industry with wool as the major source of income to market lambs as the major product. Consumer preference for meaty, high-quality lamb has increased market age, weight, and finish. This trend has resulted in using more meat-type rams in crossbreeding, in addition to considerable improvement in uniform characteristics of fine-wool breeds, and has even caused formation of new breeds of sheep such as the Columbia. The Kansas fall lambing program, with 90 to 120-pound, 3-month-old ewes, and prime crossbred lambs being sold in the spring, is one result of this trend.

Sheep nutrition. Considerable basic research on mineral, protein, and vitamin requirements for sheep has been conducted in the past 50 years. This has been important; however, much applied research concerning the value of feeds, combination of feeds, and methods of feed preparation and feeding has contributed considerably to the sheep industry. Probably one of the most valuable has been the development of pelleted rations. Pelleted complete mixed roughage-concentrate rations has increased feed intake, increased growth rates (particularly low-quality roughages), increased gains, improved feed efficiency, and reduced labor involved in feeding. Cost of pelleting should become more reasonable as better pelleting equipment is developed and as pelleting becomes more common.

Fattening feeder lambs. Much research has been conducted with feeder lambs, since this practice has developed largely during the past 25 years. Self-feeding, controlled or pelleted rations have increased gains and modernized feeding. Many lambs have been fattened on wheat pasture in western Kansas. Research has indicated that no supplement other than salt is needed for fattening lambs on wheat pasture. Implanting or feeding diethylstilbestrol has improved feed conversion and gains of feeder lambs. Antibiotics, vaccination for enteritis, and management practices have been used to control disease from overeating disease.

Breeding. Sheep breeders have largely practiced mating the best to the best, "best" being determined by visual selection. Recent interest in using performance records in connection with type scores in selection should increase rate of economic improvement.

Attempts to control out-of-season breeding of sheep have not been successful. The newly developed oral, effective prostaglandin-like compounds, reported effective in synchronizing the estrus cycle, may have real practical value. This points to a need for research on storing ram semen for artificial insemination.

Environmental factors such as level of nutrition and temperature have been shown to affect number of lambs produced. Consequently, practices such as flushing ewes and shearing rams in hot weather are recommended for increasing lambing percentages.

Parasite control. New anthelmintics have helped control internal parasites, which are a serious problem.

Sheep production is a minor industry compared with beef cattle and hogs. However, there is no surplus of lamb or wool in this country. All the lamb produced in the United States is eaten (actually about 10% of the lamb and mutton consumed is imported). About 50% of the apparel wool plus all the carpet wool used in the United States is imported. So sheep producers have a demand for increased production of quality lamb and wool in the future. Continued research and increased promotion of these products should result in continued progress.

FIFTY YEARS OF SWINE PRODUCTION

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Changes in methods of feeding, breeding, and managing swine have been almost revolutionary during the last 50 years. Consumer preference, disease control, new knowledge concerning nutrition, and more adaptable equipment, new structural methods, improved breeding techniques and specialized management have all contributed to the changes in swine production.

Housing and Management:

1914-15 - Open sheds, dirt floors, dirty pigs.
1924-25 - Portable housing, pastures, and lean hog system of sanitation.
1935-36 - Single pen, central forage storage, vitamins feeding.
1940-41 - Limited pasture, concrete, blood testing.
1950-51 - Pigs in houses, air cooling, confinement.
1960-61 - Slotted floors, raised hogs, automation.

Feeds and Feeding:

1914-15 - Skin milk, feed corn, 450 pounds of feed per 100 pounds gain.
1925-26 - Water, grain, corn, limestone, and bone meal, 400 pounds of feed per 100 pounds gain.
1935-36 - Dry feed, self-fed, full fed, vitamins and minerals added, 350 pounds of feed per 100 pounds gain.
1945-46 - Commercial rations, trace minerals, trace elements, vitamins, 250 pounds of feed per 100 pounds gain.
1955-56 - Commercial rations, trace minerals, vitamins, antibiotics, 250 pounds of feed per 100 pounds gain.
1960-61 - Limited feed, finishing, automation, linear programming, 200 pounds of feed per 100 pounds gain.

Feeding Standards:

1925-26 - Morrison.
1935-36 - Morrison, Schneider.

Experimental Methods:

1914-15 - Feeding trials.
1925-26 - Feeding trials, paired feeding.
1935-36 - Metabolism studies, carcass analysis, breeding studies.
1945-46 - Herd selection, herd certification.
1955-56 - Herd selection, herd certification, testing stations.

Market Animal Production:

1914-15 - 300 lbs., very fat, 12 months old.
1925-26 - 300 lbs., very fat, 12 months old.
1935-36 - 400 lbs., very fat, 9 months old.
1945-46 - 250 lbs., very fat, 5 months old.
1955-56 - 300 lbs., very fat, 5 months old.
1965-66 - 300 lbs., very fat, 5 months old.