

Wool Improvement

seek to combine fleece of the Australasian Merino and body of the Rambouillet

James F. Wilson

The Merino sheep is the backbone of the wool growing industry of the West.

No other breed of sheep can stand up to the vicissitudes of weather and poor environment half so well. All over the world's temperate zones, wherever the going is tough, through intense heat and great cold, where feed is sparse and animals must shift for themselves, the Merino or some breed heavily infused with its blood, predominates.

Ungainly in appearance, lacking in the blocky, square-cut conformation of many of the so-called "mutton" breeds, the Merino nevertheless has a will to live and thrive on adversity unmatched by any other.

In the United States, the most popular of the various strains is the French Merino or Rambouillet.

A direct descendant of Spanish origin, the Rambouillet got its name from an experiment station in France where a flock of these sheep had been bred for smoothness of body and large size. This selection has continued for about 150 years in America.

Using other strains, the Australians have likewise practiced selective breeding for about the same length of time, and have developed three new families: the Tasmanian, or fine wool type, the Wanganella or medium fine type, and the South Australian or strong wool type. South Africa and Argentina likewise have developed their own strains of Merinos.

In the United States, we have no export market for wool. We import as much and often more wool than we produce. Our wool marketing system has been rather archaic and our growers have not stressed the fleece in making selections of breeding stock. We have an excellent market for lamb, and the problem of the western producer has been to secure the greatest possible weight of lamb in the shortest possible time. Such an ideal is capable of achievement only if the mothers of the lambs are big and have a propensity for rapid growth.

The Australians, on the other hand, have practically no market for Merino lambs except as potential breeding stock. They have the world's best market for wool and a system of marketing it so

hypercritical that the producer who errs either in growing the clip or preparing it for sale is heavily punished by lower returns.

Thus our American Merinos are far superior to the Australasian strains in conformation and early maturity; the Australasian strains are infinitely better than ours for wool production.

Improvement Experiments

The University of California is now attempting to transfer to the body of the Rambouillet the fleece characteristics of the Australasian Merino, hoping to combine in one animal the best traits of each.

A long-standing embargo against the export of Merinos from Australia made it necessary to use the New Zealand strains that carry the South Australian blood.

The method being followed is the back cross. Two flocks of 50 purebred ewes are maintained. The Rambouillet ewes are bred to New Zealand sires, the New Zealand ewes to Rambouillet sires. From each cross, rams are annually selected to be bred back to the purebred ewes. Thus, while each year's lambs tend to get more and more like the purebred ewes from which they came, each line carries the genes for the other line.

The offspring of the New Zealand Merino ewes are selected for size and capacity for rapid growth; the reciprocal cross is selected for fleece characteristics.

At the end of seven generations of such back crossing, the two lines will be

merged and from then on will be bred inter se in the hope of synthesizing the genes responsible for both size and fleece production. The experiment is being aided by a coöperator in Mendocino County, who donates each year enough purebred New Zealand Merino ewes to maintain the flock at a numerical constant.

Hybrid ewe offspring resulting from the project are surplus to the principal experiment. They are grown out to yearlings, their production records taken, and are then loaned to selected growers who agree to breed them as directed and to furnish the University with the required records.

Purebred Rambouillet ewes average 125 pounds body weight ex fleece. Data on wool production indicate they average about 10 pounds of raw wool and about five pounds of the clean, scoured product. New Zealand Merino ewes weigh only 100 to 110 pounds, yet they produce 12- to 14-pound fleeces that yield seven to 8.5 pounds of clean wool.

A few individuals among the New Zealand strain greatly exceed these averages. An example is the imported ewe T59, now four years old. In addition to raising a lamb, she cut 15.2 pounds of wool, yielding 60% or 9.18 pounds of clean wool. Her clean wool production exceeds the average grease wool production for the State of California by about a pound and a half. She sheared enough to make two 3-piece suits and an additional pair of slacks for the average man. With our own American strains of Merinos so superior in body, it would seem sensible to try to infuse into our sheep as much as possible of the Australasian's potential for wool growth.

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Professor Wilson will judge the wool exhibits at the California State Fair, Sacramento, September 2-12 for quality of fleeces from Delaine or New Zealand Merino, Rambouillet, Corriedale, Romney, Columbia and Romeldale purebreds and crossbreds.



Foundation flock of selected Australasian Merinos on ranch of coöperator in Mendocino County.