# Gains of Two Types of Lambs

## Suffolk-Corriedale crosses gained faster and weighed more at weaning than Corriedale crosses during comparative study

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**Suffolk-sired** lambs from grade Corriedale ewes gained faster than Corriedale-sired lambs during a three-year study at the Hopland Field Station. Also, male lambs were heavier than females within their own breed.

Suffolk-sired wether lambs weighed an average of 8.0 pounds more than Corriedale wethers at weaning time. Suffolk-sired ewe lambs weighed an average of 6.5 pounds more than Corriedale ewe lambs.

Suffolk wethers averaged 5.5 pounds more than Suffolk ewe lambs and Corriedale wethers averaged 3.0 pounds heavier than ewe lambs of the same breeding.

Under the flock improvement program at Hopland, the best ewes are bred to the Corriedale rams for production of breeding flock replacements. The remaining ewes are bred to Suffolk rams for the production of market lambs. The two types of lambs used for the three-year study were the result of that breeding program.

The purpose of the study was to determine which of the two breeds produce heavier lambs at weaning time. However, there are factors other than lamb weights which must be considered when deciding which of the two breeds would fit better into any given operation.

One such consideration is the comparative initial cost of the rams. Records of ram sales during the years 1952–1955 show that Corriedale rams were purchased at approximately half the price of Suffolks.

Another consideration is the comparative breeding life of the rams. The average period of high productivity for Suffolk rams under range conditions is believed to be approximately two to three years. Corriedale rams, under similar conditions, are believed to maintain their productivity for approximately six years.

Taking the initial cost and the productive life of the two breeds of rams into consideration, the cost to produce a Suffolk-cross lamb is much greater than the cost to produce a Corriedale-cross lamb. Converting the cost difference back into pounds of lambs produced, the difference between the two breeds is very slight.

**A Comparison of Weaning Weights of Suffolk-Sired and Corriedale-Sired Lambs During a Three-Year Study**

| Breed | Males | Females | Sex difference |
|---|---|---|---|
| *May 22, 1952* | | | |
| Suffolk | 70.1 | 65.4 | 4.7** |
| Corriedale | 60.1 | 58.5 | 1.6** |
| Breed difference | 10.0** | 6.9** | |
| *June 9, 1953* | | | |
| Suffolk | 79.7 | 74.9 | 4.8** |
| Corriedale | 73.0 | 68.2 | 4.8** |
| Breed difference | 6.7** | 6.7** | |
| *June 7, 1954* | | | |
| Suffolk | 73.6 | 69.5 | 4.1* |
| Corriedale | 67.6 | 63.8 | 3.8** |
| Breed difference | 6.0** | 5.7** | |

* Significant at the 5% level.
** Significant at the 1% level.

Another factor involved is whether or not the operation includes raising replacements or purchasing them from an outside source. If replacements are to be raised—by breeding the entire flock to Corriedale or other whiteface rams—a greater selection can be made for flock improvement. At least half of the flock should be bred to these rams to insure a sufficient number of replacement ewe lambs. This plan, however, allows only a limited degree of selection.

The plan of raising flock replacements has advantages, including flock improvement by selection for greater wool production, larger lambs, and a higher percentage of twins. Furthermore, the usual possibility of importing disease and parasites from outside sources is entirely eliminated.

Results obtained in this study indicate that the Suffolk-cross lambs are faster gainers and weigh more at weaning time than Corriedale-cross lambs.

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## NEMATODE

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and 66.6 cm for Dwarf Hybrid No. 7. The vigor of the $F_2$ hybrid populations varied but many of them made satisfactory growth.

No seedling was found free of galls in the *M. javanica* tank but the populations showed considerable variation in average severity of infection. Therefore, average grade of infection was used as a measure for resistance.

Open pollinated seedlings of commercial and experimental peach stocks graded: Shalil, *2.6;* Lovell, *3.3;* S-37, *2.8;* and Dwarf hybrid No. 7, *2.3.* The 17 $F_2$ hybrid populations averaged *2.2* and individual populations ranged from *1.5* to *2.8.*

The Lovell seedlings in the *M. javanica* tank attained a height of only 19.5 cm compared to 50.9 cm for Shalil, 38.9 cm for S-37, and 40.7 cm for Dwarf Hybrid No. 7. The vigor of the $F_2$ hybrid population varied, but many of them made satisfactory growth.

The results of the study indicate that a high degree of resistance, if not immunity, to *M. incognita* var. *acrita* is present in commercially available peach rootstocks such as Shalil and S-37. Resistance is also easily secured by hybridization or selection. Clones showing no segregation in their seedlings should be used for stock purposes.

No peach stock tested has shown a similar degree of resistance to *M. javanica.* However, seedlings from some clones showed a much lower average degree of infection than those of other such clones. Further selection among seedlings and their progeny may enable production of highly resistant individuals.

Lovell, a widely used source of rootstocks, gave seedlings that were very susceptible to both nematode species. These seedlings proved to be more susceptible to *M. javanica* than the resistant commercial stocks and were uniformly very seriously infected by *M. incognita* var. *acrita.*

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