

## A "DROUGHT PROOF" EWE

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The first time Keith Mackay, A.F.F.C.O's local lamb buyer came to our farm, he put on his leggings and boots, strolled over to the diamond where my first crop of lambs were gathered, took a look over the rails and said — "Well, there's nothing there worth taking, drench them and I'll come back again in three weeks".

This was a considerable blow to a "townee" farmer who thought he had just completed his first year's production run. Trying to grow those lambs to marketable weights through a dry, hot February and March was a disaster. We sold some as stores, and others finally grew big enough by May. They were given the pick of the available grass, with the ewes being correspondingly penalised at the time when the latter should have been fed to appetite, to maximise the next season's lamb crop.

I decided to look for a sheep that did better under our farm conditions.

### THE SEARCH FOR A BETTER SHEEP BREED

First I wrote to Ruakura to see if we could buy some surplus stock from their High Fertility Romney Flock. At the same time some Border Leicester rams were purchased to proceed with the development of a Coopworth flock by crossing them with our original Romney ewes, and some pure bred Border Leicester ewes were also obtained. In due course this gave us three distinct breeds running together (except at tupping) on the farm. They were all recorded on National Flock Recording Scheme and subsequently Sheeplan.

The comparative result of these three breeds run together on a hilly farm at about 15 S.U. per hectare are remarkably consistent:

1. Fleece weights were similar.
2. Weaning weights of Coopworth lambs were 1kg heavier than the Romneys.
3. Weaning percentages were highest for the Coopworths, followed by the Romneys with the Border Leicesters last (Fig. 1).

Romney and Coopworth rams from several recorded sources were used and the results from progeny of these "outcrosses" are included in Fig. 1.

Interim conclusions were that:

Breed differences exist and are consistent.

Coopworths are more productive than Romneys.

Crossbreeding gives immediate progress which far outstrips selection within a breed.

### A BORDER LEICESTER, POLLED DORSET CROSS?

As the Border Leicesters were the lowest producers I wanted to dispose of them. However a friend, Lloyd Christie, suggested crossing them with a Polled Dorset ram and interbreeding the progeny, as he has a small trial running on his farm with this cross and they were performing outstandingly. I was highly sceptical. Who ever did anything like that? However our discussion group went to Lloyd's farm and weighed his lambs of this breed. The heavily stocked ewes had lambed in October. We went there on 20th December and the lambs averaged 22kg. This would be the average weaning weight of our Romney lambs which are one month older. This result showed me that this cross did have something special to offer as far as weaning weights were concerned.

We did produce Border Dorset cross sheep and the first year that they themselves lambed (mated with the same crossbred ram), I could see by November that the new lambs were standing noticeably higher and looked bigger than the Coopworth and Romney lambs. When weaning weights were taken at the end of November these lambs averaged 5kg heavier than their Romney counterparts.

I could hardly believe it! The majority could have gone to the works there and then. Encouraged by these results we continued producing this new crossbred sheep, and started using the Border Dorset rams over our Coopworths and Romneys. This lifted the weaning weights of their lambs by 2.5kg and suddenly about 90% of our lambs were marketable before February. We had beaten our droughty summers, the lambs had gone, they couldn't get eczema, blood poisoning or pneumonia and the money was in the bank.

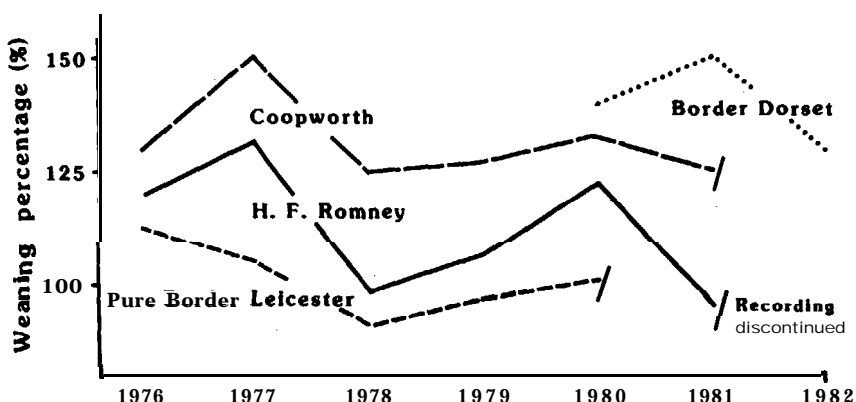


FIGURE 1: A comparison of lamb weaning percentage between four different sheep breeds.

#### HYBRID VIGOUR — WHAT PART DOES IT PLAY?

Some of the weaning weight increase is due to this. Chris Morris of Ruakura suggested the drop in performance between first cross  $F_1$  and second cross  $F_2$  would not continue in subsequent crosses. Selection of the best rams can then gradually lift production back above the first cross level as has been shown by the Lincoln College Coopworth flock.

Our  $F_2$  ewes produced lambs about 4kg heavier than the other lambs, still a sufficient amount to enable pre-summer marketing to occur.

#### PROFITABILITY

The financial profitability of these sheep is dependant on the extra money obtained from the much bigger and more numerous lambs, because the dams clip about 3.2kg, or \$5 worth of wool less than a longwool fleece. Compared with NZ's average Romney producing 4.5kg wool and 1 lamb, the Border Dorsets have produced 3.2kg wool and 1.33 lambs and each carcase weight is 2kg heavier.

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The difference in income between one Border Dorset and one Romney ewe is;

Each carcass 2kg heavier at \$1.50	"	\$3
1/3 extra lamb at \$21 a lamb	"	\$7
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		\$10
Less \$5 reduced wool income		\$5
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Extra annual income per Border Dorset ewe=		\$5
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The Main Profit Area lies in the faster growing lambs which don't have to be sold as stores. They have a shorter "on farm" time, require less maintenance, and thus leave more grass for flushing ewes for an improved next season's lamb crop. They have outgrown the "store lamb" category.