

# Coopworth: The latest weapon in Agriculture

Canada arsenal

By M. H. Fahmy  
Lennoxville Research Station  
Quebec

On August 11, 1985 at 9 p.m., a C.P. airplane landed at Mirabel carrying the first Coopworth ewes and dams ever to land in Canada. The Coopworth ewes were carrying a gift from the Government of New Zealand, 38 Booroola embryos implanted a month earlier. These two breeds are the newest addition to the Canadian sheep scene. The animals were released from the Mirabel quarantine on September 11 and found their way to the La Pocatiere experimental farm, which will become their home for the next few years.

Most of the Canadian breeders may have never heard about the Coopworth, a breed developed in New Zealand by Professor Ian Coop of Lincoln College. And nobody will believe that this breed which was developed only 30 years ago is fast becoming the most important breed in New Zealand with a population of nearly 11 million, second only to the Romney but catching up.

For a breed to succeed like that in such a short period, it must possess certain characters which make it appealing to the sophisticated New Zealand sheep breeders, and in fact it does. But, before going into that, let's go back in time and follow the development of this breed as described by its founder, Professor Coop of Lincoln College in New Zealand.

Work began on developing the Coopworth breed in March 1958 by the first mating of Stud Border Leicester rams to Romney ewes over a period of 3 years (1958-59-60). These rams were acquired on loan from Border Leicester breeders and were returned after they had been used for the mating. The success of the Coopworth might have been the result of the careful selection of the rams used in crossing.

Care was extended also to the choice of the Romney ewes, only the best that could be found were used. The number of ewes mated was 149 in 1958, 263 in 1959 and 134 in 1960, producing 546 litters in all. Breeding of F1 Border-Romney from Border rams and Romney ewes ceased after 1960 and by the autumn of 1960, there were already 105 F1 ewe lambs mated to F1 rams to produce F2 sheep and the Coopworth breed was already on its way.

One of the main reasons for the Coopworth success was its recording system and selection methods.

On the female side, ewe lambs with obvious faults or very small were culled at weaning (about 10 to 15 per cent). A further 10 to 15 per cent were culled after first shearing (as hoggets) and before mating largely on wool weight and grade. That meant up to 30 per cent of the lambs born were culled before first mating and 10 to 20 per cent were culled after their first lambing (open, producing dead lambs or needed assistance at birth) and a further 20 per cent after their second lambing. Ewes were culled as soon as their fertility fell below average, that meant they had to rear three lambs in two lambings, five in three lambings, six in four lambings and so on, to stay in the flock.

The rams were subjected to much more scrutiny in all aspects of their performance. On the fertility side, rams were chosen on

their dam's lambing performance. A rating was used based on the mean of percentage born and percentage reared which gave the ewe credit for half of a lamb lost. For example, a ewe lambing and weaning 2.1, 2.2 lambs, scored 175 per cent, another lambing 2.2, 3.2, but weaning 2.1, 2.2, scored 200 per cent ( $\frac{1}{2}/225$  plus 175).

Most of the rams used were out of dams with minimum of 3 records, and ram fertility score was invariably updated by the dam's latest performance. In the early years of the development, the average fertility record of the sires' dams was 181 per cent, by the early 70's the average increased to 210 per cent, and by the late 70's and early 80's to 220 per cent.

A measurement of growth rate was considered in selecting the rams, that measurement was weaning weight (adjusted for age, rearing rank and sex) to be selected; the rams should weigh heavier than the average of the breed.

Wool quantity and quality received equal emphasis as fertility during the first stages of the breed development. During the early 60's this was measured by "estimated fleece value", an index derived from multiplying fleece weight by wool count by grade.

By 1966, greater emphasis was placed on fertility, however wool quality was never ignored, weight continued to be recorded but

count or quality number were replaced by classifications (fine, medium or strong) and grade (good, average, poor and cull) done just before shearing.

The Coopworth Society was founded in 1969 and presently has 200 members. The rules of the Society were made to be flexible enough to encourage breeders to raise Coopworth sheep. The herdbook register animals from generations three to seven of the original Border-Romney cross, however since 1970 the base of the Coopworth breed has been widened to include sheep bred from white-faced breeds other than the Romney.

The present definition of the Coopworth is a sheep bred from:

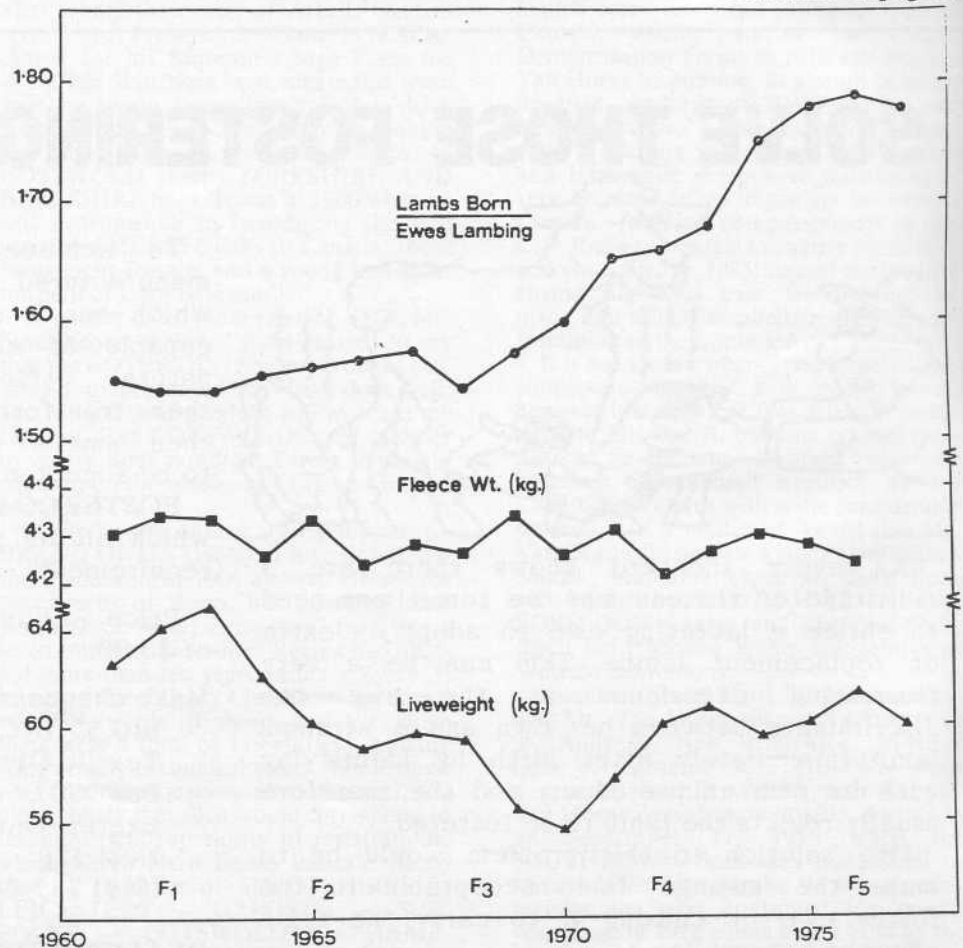
1. One topcrossing of a Coopworth ram on a Border-Romney ewe;
2. Two topcrossing of a Coopworth ram on any other Border Leicester by White faced wool breed or;
3. Three topcrossing of a Coopworth ram on any white-faced wool breed.

The flexibility enabled the Coopworth to develop and reach its present popularity. However, what helped its wide acceptance by the sophisticated New Zealand breeders was the exceptional characteristics of the breed.

## Characteristics of the Coopworth Sheep

Coopworth sheep has a distinctive appearance different from that of the two parent breeds. The animals are relatively heavy with well fed ewes weighing 60-70 kg and rams between 80-100 kg.

Coopworth can be considered a dual pur-  
*continued on page 11*



Liveweight, generation, fleece weight and litter size (lambs born/ewes lambing) corrected for liveweight, during development of Lincoln College Coopworth flock

pose breed. Fertility is high and because strong emphasis was put on prolificacy, the average increased from 1.5 (when first established) to about 1.9 lambs per ewe (New Zealand Coopworth Society's records in 1985).

Mothering ability is one of Coopworth's strongest assets. That was the reason it was chosen to carry the Booroola embryos. The ewes lamb easily and provide enough milk to feed their lambs.

At weaning, Coopworth lambs were the heaviest among New Zealand breeds according to recent study. Coopworth animals weighing between 55-60 kg give fleeces weighing between 4-4½ kg of rather fine fibres (average diameter of 33-37 microns). One imported ram produced a fleece weighing 10 kg at La Pocatiere last spring.

### **Future of the Coopworth Breed in Canada**

The small nucleus of 18 ewes and five rams presently kept at La Pocatiere will be increased to about 40 ewes and maintained for studies and comparisons with other local breeds. Surplus animals will be available for interested sheep breeders.

The animals can also be imported easily from New Zealand at a very reasonable cost considering that the animals have to remain in quarantine for only 21 days and the rate of currency exchange (\$ N.Z. equals \$.64 Canadian). For further information concerning the Coopworth the readers are referred to Mr. V. R. Clark, Secretary, New Zealand, Coopworth Association, Linville Grange, 75 East Belt, Lincoln, New Zealand.