

In an investigation carried out 1968-1972 at the Leeds University Farm, Yorkshire, England of an intensive system of sheep production based on temporary grass, three types of ewe have been compared at equivalent stocking rates and rams of three different breeds have been used as the crossing sires. The ewes, in flocks of 100, were *Scottish Halfbred (SHB)* — a large ewe with high prolificacy, *Welsh Speckleface (WSF)* — a small ewe with low prolificacy, and *Finnish Landrace* × *Scottish Blackface (FLX)* — a medium sized ewe with very high prolificacy. The crossing sires were of the *Suffolk (S)*, *Thornber-Colborn Down (TCD)* and *Ile de France (IDF)* breeds. In the system, ewes were housed indoors in winter, being fed grasses *ilage*. At lambing, lambs in excess of two (*SHB*) and one (*WSF* and *FLX*) were removed from the ewe, reared artificially and subsequently fattened indoors. Ewes, with the remaining lambs, were kept at high rates of stocking on grass, under rotational management, the lambs being allowed to forward creep graze. Lambs were sold for slaughter, from the ewes, as they attained a live weight of 40 kg (approx) and suitable condition. A proportion of the half carcasses were fully dissected into the component tissues.

The mean litter sizes per ewe which lambed were, for *SHB* ewes 2.15; *WSF* 1.36; *FLX* 2.56. There were no differences due to ram breeds: *S* 2.09; *TCD* 2.03; *IDF* 2.09.

Relative daily lamb growth rates according to ewe parentage were for naturally reared single lambs, *SHB* : 100, *WSF* : 75, *FLX* : 84; according to ram parentage, *S* : 100, *TCD* : 96, *IDF* : 89. For artificially reared lambs, *i.e.* unaffected by dam milk yield, the relationships were *SHB* : 100, *WSF* : 81, *FLX* : 89 and *S* : 100, *TCD* : 97, *IDF* : 91.

The muscle : bone ratios for naturally reared lambs were *SHB* : 3.89, *WSF* : 5.24, *FLX* : 5.11 and *S* : 4.58, *TCD* : 4.69, *IDF* : 4.97. Fat percentages were *SHB* : 26.50, *WSF* : 33.01, *FLX* : 23.09, and *S* : 26.45, *TCD* : 23.32, *IDF* : 27.82.

The muscle : bone ratios for artificially reared lambs were *SHB* : 3.65, *WSF* : 5.06, *FLX* : 5.26 and *S* : 4.71, *TCD* : 4.42, *IDF* : 4.84. Fat percentages were *SHB* : 23.19, *WSF* : 30.51, *FLX* : 24.68 and *S* : 26.51, *TCD* : 25.82, *IDF* : 26.06.

It is concluded that under these intensive conditions of production the main differences between cross-bred progeny are influenced to a greater extent by the breed of ewe than the breed of sire in respect of inherent capacity for growth and the development of essential carcass characteristics. Improvement of the ewe breed in these characteristics would have the greater impact on the overall efficiency of meat production from sheep.

### Comparaison entre les différentes lignées bovines

#### THE FAO PROJECT THE COMPARISON OF CATTLE STRAINS

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FAO is coordinating an international project for the comparison of various national strains of *Friesian* (Black Pied) cattle. Ten countries have donated semen for this project, namely Canada, Denmark, Germany (Federal Republic), Israel, Netherlands, New Zealand, Poland, Sweden, United Kingdom and U. S. A. It is being used on *Black-and-White Lowland* cows in Polish State Farms; crossbreds from the various strains will be compared in milk yield, growth rate and overall profitability. The semen comes from a random sample of young unproven bulls entering the AI studs during 1973/74. For the first 18 months of the project, which started in March 1974, semen from 20 bulls per country (225 doses per bull) will be used on 13 000 cows in 70 herds on 20 farms. It is planned to milk a minimum of 30 daughters per bull and 600 per country strain. Corresponding numbers of sons will be fattened for beef. During the second 18 months, semen from a second batch of 20 different bulls per country will be used.

The experiment is supervised by a technical committee representing all cooperating countries. It is run by Polish scientists with Polish money but receives the semen free and also has obtained a grant from U. S. A. PL 480 funds.

Similar projects are planned for other breeds (*e.g.* *Simmental* strains, red and red-and-white breeds of northern Europe) to be carried out in other countries in eastern Europe.