by the setting-up of 10 flocks from breeding stock from the central flock. The nucleus flock is now situated at the University Farm, Bangor. Body weight of ewes is 70 kg, littersize is 1.9 for 1 year old and 2.9 for mature ewes as an average for all recorded females.

Llyn *group*

While the *Llyn* breed is at present of little importance nationally, with only about 4 000 breeding ewes it possesses the attributes of high prolificacy, precociousness, good milk yield and acceptable meat type conformation. Mean weight of mature white-faced is 53 kg, recorded litter size ranges from 1.23 at 1 year old to 1.96 for mature ewes (M.L.C. 1978). Twelve breeders recording their flocks with M.L.C. formed a group breeding scheme in 1978 and the nucleus flock of 60 ewes is maintained at the University Farm. Breeding objectives are 200 per cent live lambs reared and mean weight of twin lambs at 8 weeks 20 kg. The structure and operation of the groups will be discussed.

CURRENT APPLICATION OF AND EFFORTS TOWARDS SELECTION STRATEGIES IN CZECHOSLOVAKIA BASED ON RAM AND EWE SELECTION

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The emphasis of breeding activities in Czechoslovakia is given on a within elite and multiplier flock selection. Lambs selection is based on the lamb's own performance according to the weaning weight, conformation and quantitative and qualitative wool production. The breeding values of rams and ewes are evaluated on a flock basis by the means of an index in which the same traits as in the lambs are included. In this time the existing progeny testing stations are successively transferred to ram performance testing stations.

METHODS OF INDEPENDENT CULLING LEVELS OF SELECTION INDEX IN THE ESTIMATION OF *POLISH MERINO* BREEDING VALUE

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A comparison of two methods for selection : the independent culling levels and the selection index, with regard to two characters of wool productivity, namely fleece weight and staple length. With data on 1763 ewes in hand, we have worked out premises for selection by the independent culling levels technique and by the selection index $I = 6.9504\ X_1 + 3.6630\ X_2$. The results obtained point out at a similar efficiency of both methods. Regarding fleece weight, the genetic gain expected on application of the former method is 0.12 kg, while of the latter method — 0.13 kg. Regarding the staple length, the respective values are 0.08 and 0.09 cm. Having a scare number of characters to deal with, the independent culling levels method seems more useful.

ESTIMATION OF BREEDING VALUE IN *ICELANDIC* SHEEP

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The aim of this paper is to give a short description of the different computations done on the material from sheep recording in Iceland to make the results more useful to the breeder.

For better understanding of the different steps in correcting the data and the calculations there is a brief description of the sheep management, which might be of interest. It is also pointed out. that over 80 per cent of the income from sheep is derived from meat.

One of the greatest difficulties in using data from the sheep recording in Iceland is the different treatment of lambs after weaning and before slaughtering. This has been solved by

doing calculations within these treatment groups. Correction for sex (singles) age of ewe and age of lamb are referred to. The aim and the method of adjusting for ewe's weight is shown.

At last the prodcution score for ewes, index for rams and index for sires is briefly described. Also mentioned is the index for ram lambs kept for breeding.

EXPERIENCE WITH INDEX SELECTION IN *ICELANDIC* SHEEP

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The paper describes the results obtained from estimation of genetic trend in the four ewe traits fecundity, score for lamb carcass weight, fleece weight and amount of tan colour in wool, as well as the trend in an index combining the above traits. The estimation was based on the effect of sires of daughters on daughters'performance.

In one out of four flocks examined, a positive change in all four traits and in aggregate genotype was observed during a 13 year period, while in the other three flocks a slight negative change was observed.

ZUCHTPROGRAMM UND ZIELGESETZTES SELEKTIONVERFAHREN BEI SCHAFZUCHT IN POLEN

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Die Schafzucht in Polen ist seit 1960 rangartig in drei Niveaus und zwar Stamm - (aktuell Zuchtzentren), Reproduktionzucht und Nutzzuchtung abgesondertweise geordnet. Entsprechende Kennzahlen fur Anteil von jedem Niveau im ganzem Schafbestande betragen ungefahr 11 per cent, 44.5 per cent und 44.5 per cent. In Stammzucht wird der Zuchtwert, vor allem der Bocke, auf Grund Eigenleistungund Nachkommenprufung gefuhrt. Die Regel ist, die Tiere in ihrer Mutterherde einer Prufung zu Unterliegen. Auf diese Weise erzielte Auswertangsdaten wurden zur Schatzung der unerlässlichen genetischen Parameter zwecks Aufnahmeindizes zu ersetzen, ausgenutzt :

$$I_w = \frac{x_1 - x_1}{\sigma 1} \cdot q_1 + \ldots\ldots\ldots \frac{x_n - x_n}{\sigma n} \cdot q_n$$

wobei : x_{1-n} — Ergebnis des einzehen Tieresoder Durchschnittswert einer Nachkommengruppe
x_{1-n} — Durchschnittswert der Ergebnisse von Halbgeschwistern in Herde
$q_1 - q_n$ — Relativer ökonomischer Wert kommissionsweise bestimut
$\sigma 1 - n$ — Standardabweichung der Ergebnisse mit traditionellen Indizien berechnet :

Merinobocke im Alter von ungefahr 10 Monaten

$$I = 0.1150\ P_1 + 1.6476\ P_3 + 3.4305 P_4 + 0.7730\ P_5 + 0.4059\ P_6$$

Merinobocke — Index der Nachkommenschaft

$$I = 0.99\ P_2 + 18.65\ P_4 + 5.29\ P_5$$

Merino — Mutterschage im Alter von ungefahr 10 Monaten

$$I = 0.69\ P_2 + 5.47\ P_4 + 4.999\ P_5$$

wobei : P_1 — Körpergewicht bei Entwöhnung
P_2 — Körpergewicht im Alter von 10 Monaten
P_3 — Note fur Körpergestaltung
P_4 — Schurwolle — oder Reinwollegewicht
P_5 — Stapellange
P_6 — Wolleistung und Qualität