SHOULD WE ATTACH MORE IMPORTANCE TO FEED EFFICIENCY IN CATTLE BREEDING

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The actual knowledge ascertain that feed efficiency is indirectly improved when selecting for growth and milk production. We know, however, very little about the relations between feed efficiency in growth and feed efficiency in milk production.

In this paper, the plan for an experiment concerning the feed efficiency both in growth and in milk production is presented. Progeny groups from 20 bulls will be recorded during a two years periode for food intake, growth and milk production. The experiment will least for eight years and will contain altogether about 600 animals.

MILK YIELD AS A SELECTION CRITERION IN THE PEDIGREE HERDS

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The relation ship between first lactation milk and fat production and survival of cows up to five lactations in the Polish Pedigree Herds has been studied. The preliminary analysis indicated that the survival rates were relatively low and average herd life short. Selection differentials were much lower than the relative survival coefficients within progeny groups of progeny tested sires. This was probably due, in part, to retaining cows in the herds not because of their performance but because they were daughters of more popular bulls.

HYBRID VIGOUR FOR MILK PRODUCTION IN COMMERCIAL DAIRY HERDS

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The lactation performance of 4227 *Dairy Shorthorn* (*DS*), 394 *Red Friesian* (*RF*), 1040 $RF \times DS$, 51 $DS \times (RF \times DS)$ and 209 $RF \times (RF \times DS)$ heifers in 106 herds was evaluated. A model including effects for herd-year-seasons and sires was analysed by least squares. Sire values were averaged within breed groups. Relative to contemporary *Dairy Shorthorns*, the fat yields (kg) of the groups and weightings (effective daughters) were $RF + 29$ (248), $RF \times DS + 25$ (568), $DS \times (RF \times DS) + 16$ (36), $RF \times (RF \times DS) + 32$ (155). The relative protein yields (kg) and weightings were $RF + 17$ (107), $RF \times DS + 16$ (265), $DS \times (RF \times DS) + 14$ (21), $RF \times (RF \times DS) + 23$ (134). Percentage heterosis for milk, fat and protein yield and fat and protein composition in the F_1 was 6.3, 7.5, 6.0, 0.7 and — 0.8 respectively. Heterosis estimated in the backcrosses on the basis of an additive-dominance model was twice that in the F_1. The value of heterosis in commercial milk production is emphasised and methods of exploiting it discussed.

THE BREEDING VALUE OF *HOLSTEIN-FRIESIAN* AND *JERSEY* SIRES TRANSMITTING HIGH MILK PRODUCING ABILITY IN OTHER ECONOMICALLY IMPORTANT CHARACTERS

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Studying the PD's for milk, kg fat, percent fat, conformation score and income ($) of *Holstein-Friesian* ($n = 331$) and *Jersey* ($n = 61$) bulls qualified as top sires on a PD dollar basis being used in the USA, a close correlation ($r = 0.8$ to 0.9) has been established between PD-