

Symposion 6 e "Poultry Breeding and Genetics"

The papers accepted for publication and to be read at the Symposion "Poultry Breeding and Genetics" cover by the nature a great variety of subjects, which may be categorized broadly in the following main aspects of poultry genetics:

1. Genetic and population genetic parameters in the fowl.
2. Selection responses in the fowl.
3. Heterosis in the fowl.
4. Possible utilization and magnitude of not exploited genetic variance in the fowl.

1. Genetic and population genetic parameters in the fowl.

Bong et al. presents methods to improve the accuracy of heritability estimets, Engström presents data regarding the relationships between shell quality, egg number and egg weight in white Leghorns. Vezyk et al. presents more evidence to confirm the fact that selected layer strains may differ significantly from each other in genetic parameters for the same traits/ h^2 , correlations between traits/. Shukla et al. deal with levels of alkaline phosphatase isozymes and their possible association with production traits.

Verma et al. confirm earlier results giving new data to demontstrate that the performance of dw pullets is very much influenced by the "background genotype" of the Dw strain to which the dw stock is crossed.

Testik presents data regarding the genetic correlations of pure vs. crossbred performance /bodyweight at different aged broilers/ and concludes that within strain selection

is as efficient to improve liveweight gain as if it would be done on the basis of the performance of the crossbred population.

2. Selection responses in layer type fowl.

Yamada et al. reached positive gains in egg production and egg weight in the 16 strains selected negative correlated gains in body weight and age at first egg. Expected and realized gains per generation showed great discrepancies. In egg weight, body weight and age at first egg the differences between predicted and realized gains were considerable but inconsistent.

Campo et al. report fast gains in selected populations of layers in the first generations, inconsistent responses thereafter.

The inconclusive results reported in both papers may be due to the fact that no replicate selected lines were used in the experiments, and the effect of the production environment cannot be excluded in contributing to changes in production from generation to generation.

3. Heterosis in the fowl.

Willeke reports rather low magnitude of heterosis in egg number, egg mass, feed consumption and feed conversion compared to most other data published, reflecting to the possible differences between combinability between strains.

Omeje et al. reports large heterotic effects in liveweight of Gold Link x local breed hybrids in Nigeria. Heterosis in liveweight in the presented paper exceeds most published data.

4. Possible utilization and magnitude of not exploited genetic variance in the fowl.

Damme et al. measured the heat production of brown layer lines and their reciprocal crosses. Highly significant differences existed between lines. Significant line x activity interactions in energy metabolism seem to be present.

Horst points to the fact that genetical improvements in the tropics are still widely achieved by complete replacement of strains and crosses selected in temperate countries, additional responses seem possible by breeding for productive adaptability. A significant contribution may be the exploitation of the "Body size x Adaptability" phenomenon. Further possibilities do present major genes with special useful effects in tropical conditions. First experimental results are presented on the significance of body size and on the effects of major genes.

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