**Development of Dam and Sire (Grand Parent) Lines from Pure Lines with Some Superior Traits**

This project was planned at Poultry Research Institute of Ankara in 3 years and at 3 stages, in order to develop the performances of the brown egg shell layer grant parents and parents from pure line for superior hybrid. Chicks were obtained by artificial insemination at 3 stages. In the first stage, total four grandparent lines were derived from two pure line populations. Grand parent lines included 2 sire line one of them with low body weight and the other was high egg weight, 2 dam line one of them with low body weight and the other was high egg production. In the second stage, grand parent sire and dam lines reciprocally crossed each other and four parent lines (2 sires and 2 dams) were obtained. In the third stage, parental father hens were crossed with parental mother lines; as a result of this procedure 4 hybrid materials were obtained. Selection procedures in grand parent lines were carried out throughout three generations in the project. Being a multiple selection procedure, Index Method was applied for examined traits, age and wieght at sexual maturity, egg production, egg wieght and livability, of four grand parent lines. Heritabilities, genotypic correlations between these traits and genetic trends were calculated in all lines during each generation. Selection procedures in parent lines were carried out throughout two generations in the project. Data collection process lasted 64 weeks. Four hybrid materials were tested 72 weeks period in one generation and H-1 (low body weigh Rhode Island Red. high egg weight Rhode Island Red x high egg production Barred Rock. Low body weigh Barred Rock) determined as superior hybrid during the project. For this purpose, egg production, egg weight egg quality and feed consumption were taken into consideration. Average trait values of grand parents, parents and hybrids for age at first egg as 147.68,154.46 and 157.53, body weight at first egg as1662.95, 1699.19 and 1684.24, number of eggs as 128.10 (43 wk), 241.84 (64 wk) and 303.89 (72 wk), egg weight as 57.46 (43 wk), 58.28 (64 wk) and 68.89 (72 wk) were determined respectively. The heritabilities of BDCA, BYYV, RDCA and RYYA of age at sexual maturity (0.21, 0.19, 0.34 and 0.18), body weight at sexual maturity (0.62, 0.48, 0.65 and 0.35,), egg number (0.17, 0.20, 0.60 and 0.35) and average egg weight (0.67, 0.35, 0.48 ve 0.41) were estimated respectively.

It can be said that the trend of breeding experiment for the traits in the project was generally positive direction.