

## **PRACTICAL STRATEGY FOR SELECTION AND BREEDING OF LAYERS FOR SUB-OPTIMAL CONDITIONS**

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Layers poultry sector include many varieties and types of consumer eggs production systems worldwide (Besbes, 2004). It is very important that in many countries remain small-scale and family based poultry production in sub-optimal conditions (Mack at al.,2004). Big diversification (44 programmes by 4 breeding companies is described) is caused as result of diverse of requirements of the biggest clients to obtain specific programme for specific market ( Albers and Van Sambeek, 2002). In the study there are described basic principles of practical selection, breeding and marketing strategy of layers programme “DOMINANT CZ“ oriented for sub-optimal conditions (Tyller,2005). This strategy is realised on the actual gene pool based on the old local attractive coloured populations of RIR, BPR, BLUE PR, SU and WL, crossed with modern worldwide used commercial populations. After this synthetisations and increasing of gene pool variability this new modern populations are closed and selected using BLUP methodology in various conditions including individual single cages, cages for 3 hens and boxes with slats floor for 15 sesters or subesters in one box. Other our strategy for keeping of optimal common adaptability to various sub-optimal conditions is based on principle of genotype-environment interactions. We are trying to promote this idea by strictly planed changes of construction of feeding mixtures for every new generation of pure lines and reciprocal selection. Important is similar body weight and one common characteristic for the growth focused for high homogeneity of all coloured DOMINANT CZ programmes together. Breeding strategy is based on maximal yield from parent stocks given by early and high production of fertile hatching eggs using autosexing by incubation via defined genetic formula in locuses used for autosexing (S/s,B/b,K,k) in all coloured subpopulations described in Fig.1. The result of applications of above describes strategies is existence of 20 genetically defined pure populations and subpopulations and 9 commercial programmes of layers with different colour of plumage oriented to sub-optimal condition.

**Keywords:** layers; selection, breeding & marketing strategy; genotype-environment interaction

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