

Computer simulation of nuclear eugenic nucleus eugenic breeds in commercial varieties of Japanese silkworm

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Abstract The aim of this study was to investigate various breeding races in open breed breeding strategies for inbreeding changes, genetic progress of traits and total genotypic value by computer simulation. In each strategy, three important economic attributes of silkworm included cocoon weight, cocoon weights and cocoon sheath ratio for breeding purposes and ion index. The computer simulation of the base population of the silkworm population was based on demographic parameters and the genetic components and real environment of the population. And the simulation program was written using R programming language. This program calculates annual inbreeding rate, annual genetic progress of traits, total genotypic value and standard error in each of the scenarios of the studied strategies in ten generations. The results showed that total genotypic value (H) after 10 generations for open nucleation breeding strategies was 3.535 for first scenario and 3.538 for second scenario. In both seniors, genetic progress is positive for the studied traits. . Cumulative genetic development after 10 years for the weight of the cocoon (2.832) for the first scenario and 3.251 for the second scenario and the genetic enhancement of the cocoon shell weight 0.622 for the first scenario and 0.664 for the second scenario and the genetic improvement of the cocoon stratum in the first scenario 5.7862 and For the second scenario, 4.2034 was calculated. Also, the inbreeding coefficients derived the implementation of open source nuclear strategy scenarios in ten generations were estimated to increase over successive generations in all studied scenarios. The mean of the inbreeding coefficient in the studied scenarios varied 0.144291 to 0.187776 percent. Considering the results of the total genetic value and the genetic progress of the traits, it seems that the use of open source strategy in the Japanese silk worm has the best result compared to other strategies. **Keywords:** eugenic, Strategy,

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