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Inbreeding depression in the Lizard canary breed estimated by pedigree analysis

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The influence of inbreeding depression on phenotypic traits of the Lizard canary from an Italian breeder was evaluated. The following traits were studied: birds' life span, number of surviving offspring, and morphological traits (type of plumage, spangles, feather quality, breast, cap, ground colour, wings and tail, eyelashes, covert feathers, beak, legs and feet, habits, and size). The effects of inbreeding on genetic diseases and on the health of the breed were also considered. The inbreeding coefficient of each bird was computed by genealogical data. The distribution of inbreeding in the whole population was analyzed and eleven different inbreeding level classes were considered. Birds were also divided into healthy and unhealthy animals (animals with genetic abnormalities such as blindness, splay legs and cataracts, or genetic predispositions, such as feather cysts (lumps), or animals with slow growth and/or a slender structure). Despite the high levels of inbreeding in the population, the results showed that 80.47% of the birds were healthy and no significant differences were observed between healthy and unhealthy animals in terms of the degree of inbreeding. Evidence of inbreeding depression was observed in the number of surviving offspring and the life span, whereas phenotypic characters did not show any evidence of inbreeding depression.

Keywords:

genetic disease; life span; number of surviving offspring; phenotypical traits

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