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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Assessment of the endangerment degree of poultry genetic
resources**

家禽遗传资源濒危等级评定

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1 Scope

This document specifies the classification and the assessment of endangerment levels for live poultry genetic resources.

This document applies to the assessment of endangerment levels for live genetic resources of chickens, ducks, geese and pigeons.

2 Normative references

This document has no normative references.

3 Terms and definitions

This document contains no terms or definitions that need to be defined.

4 Classification of endangerment levels

Endangerment levels are assigned on the basis of the state of the poultry genetic resource population as follows: a) on the verge of extinction; b) critically endangered; c) endangered; d) lower risk; e) safe.

Note: the levels are set on the basis of the hundred-year inbreeding coefficient F100. The calculation of F100 is given in Annex A.

5 Assessment of endangerment levels

5.1 Chickens. Under random selection of breeders and under equal family contribution, the endangerment level of chicken genetic resources is to be assessed in accordance with Table 1 and Table 2.

5.2 Ducks. Under random selection of breeders and under equal family contribution, the endangerment level of duck genetic resources is to be assessed in accordance with Table 3 and Table 4.

5.3 Geese. Under random selection of breeders and under equal family contribution, the endangerment level of goose genetic resources is to be assessed in accordance with Table 5 and Table 6.

5.4 Pigeons. Under random selection of breeders and under equal family contribution, the endangerment level of pigeon genetic resources is to be assessed in accordance with Table 7.

Tables 1 to 6 are laid out in the same way for each species: the columns are male-to-female ratios running from one to one up to one to twenty for chickens and ducks, and up to one to ten for geese, and the rows are the five endangerment levels, each cell giving the population size in birds that places the flock in that level. Two tables are given for each of the chicken, duck and goose sections, the first for random selection of breeders and the second for equal contribution from each family. Table 7 covers pigeons at a male-to-female ratio of one to one only, and reads as follows: under random selection of breeders, not more than 55 birds is on the verge of extinction, 56 to 76 is critically endangered, 77 to 118 is endangered, 119 to 243 is lower risk and 244 or more is safe; under equal family contribution, not more than 27 birds is on the verge of extinction, 28 to 38 is critically endangered, 39 to 58 is endangered, 59 to 121 is lower risk and 122 or more is safe.

A Annex A (informative) Calculation of F100

F100 is calculated by formula (A.1), in which N_e is the effective population size and t is the number of generations within one hundred years, the generation intervals for the several kinds of poultry being 1.5 years for chickens, 2 years for ducks, 3 years for geese and 4 years for pigeons.

The effective population size N_e is itself calculated by formula (A.2) and formula (A.3). Formula (A.2) applies to random selection of breeders, random mating and non-overlapping generations, and formula (A.3) to equal family contribution, random mating and non-overlapping generations. In both, N_m is the number of purebred males taking part in reproduction and N_f is the number of purebred females taking part in reproduction.

Where F100 is greater than 0.20, the genetic resource is on the verge of extinction; where F100 is greater than 0.15 and not greater than 0.20, it is critically endangered; where F100 is greater than 0.10 and not greater than 0.15, it is endangered; where F100 is greater than 0.05 and not greater than 0.10, it is at lower risk; and where F100 is not greater than 0.05, it

is safe.

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