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

GB/T 22919.10-2024

Aquatic feeds - Part 10: Formula feed for tilapia

水产配合饲料 第10部分：罗非鱼配合饲料

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document is part 10 of GB/T 22919 "Compound feed for aquatic products". GB/T 22919 has been published in the following parts.

- 1. Formulated feeds for *Penaeus monodon*;
- 2. Formulated feeds for cobia;
- 3. Formulated feeds for sea bass;
- 4. Formulated feed for red fish;
- 5. Formulated feed for *Penaeus vannamei*;
- 6. Formulated feeds for grouper;
- 7. Formulated feed for sea cucumbers;
- 8. Formulated feed for pangasius;
- 9. Formulated feeds for largemouth bass;
- 10. Formulated feeds for tilapia;
- 11. Formulated feeds for loach;
- 12. Formulated feeds for crucian carp. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed and coordinated by the National Feed Industry Standardization Technical Committee (SAC/TC76). This document was drafted by: Yangtze River Fisheries Research Institute, Chinese Academy of Fishery Sciences and Guangdong Hengxing Feed Industry Co., Ltd. The main drafters of this document are: Jiang Ming, Jiang Yongjie, Dong Lixue, Wenhua, Lu Xing, Zhu

Shuanghong, Tang Yanping, Luo Sha, Wang Yan, Yu Lijuan, Tian Juan.

1 Scope

China's national standard for compound feed for tilapia. It is Part 10 of GB/T 22919 and defines the terms and definitions, gives the product classification and specifies the technical requirements, the inspection rules, the labelling, packaging, transport and storage. Tilapia is the most widely farmed food fish in the world after carp, and China produces more of it than anyone; it is farmed because it grows fast, tolerates crowding and poor water, and above all because it eats low on the food chain. That last property is what this standard is really about. A carnivorous fish such as salmon needs a feed built on fishmeal and fish oil, which are limited and expensive; tilapia is omnivorous and can be grown on a feed in which most of the protein comes from plants - soybean meal, rapeseed, cottonseed and cereal by-products - which is why its feed conversion is economic and why its price is what it is. But substituting plant protein has limits that the feed formula must respect: plant proteins are deficient in lysine and methionine, they carry antinutritional factors, and cottonseed brings gossypol while rapeseed brings glucosinolates, each toxic above a threshold. So the standard sets the crude protein and lipid by growth stage, since a fry needs far more protein than a grow-out fish; the amino acid requirements that the plant-based formula must be supplemented to meet; the fibre and ash ceilings; the moisture; the pellet water stability, which decides how much of the feed reaches the fish rather than dissolving; and the safety limits on mycotoxins, heavy metals and the antinutritional compounds. Issued on 15 March 2024 and in force since 1 October 2024.

This document defines the terms and definitions of tilapia feed, gives product classification, and specifies technical requirements, inspection rules, labeling, Packaging, transportation, storage and shelf life, and the corresponding sampling and testing methods are described. This document applies to the production and use of tilapia feed.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 5918 Determination of mixing uniformity of feed products

GB/T 6432 Determination of crude protein in feeds - Kjeldahl method

GB/T 6433 Determination of crude fat in feed

GB/T 6434 Determination of crude fiber content in feed

GB/T 6435 Determination of moisture in feed

GB/T 6437 Determination of total phosphorus in feeds - Spectrophotometric method

GB/T 6438 Determination of crude ash in feed

GB/T 8170 Rules for rounding off values and expression and determination of limit values

GB/T 10647 Terminology of feed industry GB 10648 Feed Label

GB 13078 Feed Hygiene Standard

GB/T 14699.1 Feed sampling

GB/T 18246 Determination of amino acids in feed

GB/T 18823 Permissible error in determining feed test results

3 Terms and definitions

The terms and definitions defined in GB/T 10647 and the following apply to this document.

3.1 *Tilapia Actinopterygi*, *Perciformes*, *Cichlidae*, *Oreochromis* spp. A general term for fish.