

Thematic course: Supplements to amaranth feed for fish cultivation. Part 3.

Justification of the physical and chemical characteristics of the components of wheat and amaranth herb using a biochemical indicator of total antioxidant activity

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Abstract

Expanding research to find sources for new effective and environmentally friendly fish feed additives based on natural plant-based raw materials is a pressing agricultural concern Biotechnology. This is especially true because feed additives for fish farming, as opposed to the use of feed additives for farm animals, come into contact with the environment of reservoirs and, accordingly, can have a significant impact on the ecosystem water environment for all inhabitants of reservoirs for breeding fish as aquaculture. The article presents the results of a biochemical study of the total antioxidant activity of the developed feed additives based on the components of the grain of spring wheat (*Triticum*) of the Kazan Jubilee and amaranth herbs (*Amaranthus cruentus* L) Shuntuk varieties from the collection of the botanical garden of the All-Russian Research Institute of Medicinal and Aromatic Plants. We show that when applying the technological equipment for grinding the original components for the preparation of feed additives, the total antioxidant activity of the wheat and amaranth grain fractions after grinding depends on the degree of the grinding or from the variance of component particles after sowing on the Sith. It is shown that when preparing fish feed it is best to use wheat with the size of particles 0.25-0.4 mm, which corresponds to the maximum manifestation of the total antioxidant activity of the crushed grain. For the first time in the experiment revealed a synergistic effect on the manifestation of total antioxidant activity when adding protein-vitamin flour from dry amaranth herb to the crushed wheat grain with a maximum value of 4% of its content from the total mass Feed.

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