

HYDROCHEMICAL STATE OF SOME FISH PONDS FROM THE REPUBLIC OF MOLDOVA AND ROMANIA

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Water quality is one of the major factors that determine the effectiveness of fish farming in ponds, status of fish health and the quality of fish products. As pond farming is still one of the main branches in fish farming in the Republic of Moldova and Romania, researches have been conducted on the chemical composition of water in various seasons and, respectively, the water quality has been evaluated at different stages of fish rearing. There were investigated six ponds from the Republic of Moldova (Moldovanca, Morozeni, Calugar, Garla, Fagadau from Falesti district and Dusmani from Glodeni district) and two ponds from Romania (Dracsani from Botosani county and Podu Iloaiei from Iasi county). Atmospheric precipitation and small springs are the sources of water supply of the investigated ponds from the Republic of Moldova. Dracsani and Podu Iloaiei ponds are fed by the small rivers Sitna and Bahluet, some springs and atmospheric precipitation, including snow melting.

The results of the investigations showed that according to the thermal regime, mineralization and nutrient content the waters in most of ponds are favourable for fish rearing, but in summer the gas regime, including biochemical and chemical oxygen demand, becomes a limiting factor, especially in ponds with high density of fish.

In some ponds, due to the imbalance in the gas regime, of the ratio between nitrogen and phosphorus compounds, the algal blooms are observed. Such periods are characterized by the change of pH values, decrease of the water saturation with oxygen, which can also cause the fish death.

The increase of the content of organic substances and the siltation of ponds, caused by the fact that the pond waters are not replaced by fresh ones for years, especially in ponds where phytophagous cyprinids predominate, can be considered as the most severe problem of pond maintenance. Polyculture is one of the ways for pond remediation, for example, the stocking of ponds with detritophagous species, resistant to

increased amounts of organic substances, such as the Far Eastern mullet (pilengas) *Mugil so-iuy Basilewsky*, whose rearing in polyculture has been tested in Moldova (Patent MD 3408).

In summer, due to the shortage of atmospheric precipitation and high temperatures, an increase of water mineralization of up to 4-6 g/l was recorded, for example, in Garla (4.13 g/l) and Fagadau (5.7 g/l) ponds, but no decrease in fish productivity was noticed. Nevertheless, such mineralization is unfavourable for cyprinid larvae and first-year juveniles. Water mineralization and hardness of Dracsani and Podu Iloaiei ponds are suitable for obtaining of fry of freshwater fish and rearing of table fish.

Acknowledgments. The researches were done in the frame of the national project 20.80009.7007.06 – AQUABIO: “Determining the changes of aquatic environment, assessing the migration and impact of pollutants, establishing the patterns of the functioning of hydrobiocenoses and preventing the negative effects on ecosystems” (2020-2023 State Program) and EU project 2 SOFT/1.2/47 – TeamUp HealthyFish.