Equipment for improving the water quality of pond runoff

Development status

Phase 3

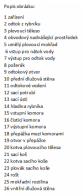
Technology validation and implementing it in real environment. Testing the technology outside of the laboratory and its adjustment to external conditions.

IP protection status

CZ Patent nr. 307618, Equipment for improving the water quality of pond runoff

Partnering strategy

licensing



Institution

jctt Jihočeské Univerzitní a Akademické centrum transferu technologií

University of South Bohemia in České Budějovice

Challenge

At present, social pressure is growing to improve water quality. The supervision and control of state administrations and NGOs with regard to the quality of water on the outflow from ponds is also tightened. For these reasons, pond farmers are facing increasing pressure to reduce their farming. This fact may ultimately existentially jeopardize the centuries-old tradition of pond farming in the Czech Republic. For the field, it is therefore desirable to use every option for improving the quality of water flowing from ponds, which will help to maintain the current level of fish farming.

Description

The invention is a floating trough-shaped body with a circumferential superseding agent and an artificial floating wetland in the inner part, where the floating body is provided with an input for the water inlet and outlet for its outflow. The essence of the invention lies in the fact that the device further includes a beggar (draining device of the pond) into whose drain hole in the anterior, i.e. the outer plank wall (The wall, which is formed by planks, through which water flows into the drainage device. Its hight corresponds to the hight of the pond level) is closed the drain line connected to the output of the floating body, and also includes a suction pipe, which is one of its ends connected to the input of the floating body and at the other end is provided with a suction mouth. According to this invention, the equipment operates gravitationally and no power source is needed to drive, i.e. water flow by equipment, which makes the device less faulty and economically advantageous compared to devices requiring any energy source after water propulsion. The drainage line and intake manifold are created as capacitive flexible pipes that allow the movement of the device to be corrected, e.g. by the control of the suction line. during ripples, as well as retains functionality when changing the height of the level in the pond due to a decrease due to haze or an increase after rains. The uniqueness of the solution lies further in the direction of the draining water from the pond in such a way that it will force it to flow through the device with an artificial floating wetland, thereby improving its quality. However, this does not lead to the mixing of purified and

common pond water.

Commercial opportunity

Equipment to improve the quality of water on the outflow from the pond according to this invention can be used mainly in the field of fish farming, but also in other aquatic organisms in ponds and small water reservoirs. It is suitable for breeders who farm on smaller flow ponds. Its application can be seen not only in the Czech Republic, but also in foreign. Especially in developed countries with established fish farming in ponds and increasing pressure on surface water quality.