Aeration and oxygenation liner in fishing beads

Development status

Phase 4

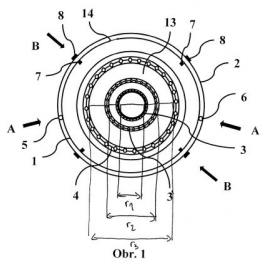
The transition from the prototype to the final and fully functional form. At this stage, the prototype is already fully tested, or the technology is certified and ready for mass deployment.

IP protection status

CZ Patent 308381 Aeration and oxygenation equipment, in particular for fishing vats, PCT application in process

Partnering strategy

licensing



Obr. 1

Challenge

Fishing beads are used for short-term storage of fish most often when fishing ponds, or sorting fish on fats. They are also widely used in the sale of fish (typically at Christmas). In general, the conditions in the fish beads are quite demanding. They are characterized by relatively high biomass of fish, which usually means stress and lack of oxygen. Fishermen try to maintain suitable conditions for fish by replacing water in beads, pouring water in beads, or aeration (oxygenation). Ensuring access to oxygen is problematic especially in smaller ponds, where a suitable source of "clean" water is not available during the catch. In some cases, air supply hoses are used for aeration (oxygenation). However, this method is accompanied by the need to load the hoses to prevent them from washing to the surface. However, heavy weights make it impossible to catch fish in a keser's tank and can also mechanically damage fish.

Description

The oxygenation liner provides the possibility of oxygenation of water in the beads without the need for heavy weights and any limitation of fishing. A special thin-walled liner is placed in the fishing bead, which is not self-bearing, but copies the walls and bottom of the fishing boner. Under its bottom, aeration hoses are placed in a circle of 2-3 in the central part. An oxygenation hose is placed around the perimeter of the aeration liner. The bottom of the insert is perforated above the aeration and oxygenation hoses and allows air and oxygen bubbles to pass into the space of the casing. The air and oxygen supply to the hoses below the bottom is guided through the wall of the insert. After connection, the water in the tank moves, when air rises in the central part of the tank and water rises to the surface, and around the perimeter of the boner near the walls it is re-nested. It is the water around the perimeter of the bath that goes upstream of the stream of fine oxygen bubbles. This will slow their ascent to the surface and thus better use of oxygen. Aeration in the beads serves primarily to move the water in the tank, secondarily supplying oxygen from the air. In contrast, released liquid oxygen saturates water much more efficiently with oxygen. Thanks to the combination of aeration and oxygenation in

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the casing, the oxygen content is higher and evenly distributed throughout the beads.

Commercial opportunity

The use of an aeration liner with oxygenation is meant mainly during fish catches, sorting or selling. Wherever it is necessary to store a larger amount of fish or other aquaculture animals in the short term and to ensure adequate living conditions (especially sufficient oxygen).