



The Bader Group
concept for ecologically oriented pond renovation
"LiveGreen natural algae prevention"

1.

On-site assessment of the pond to be rehabilitated, evaluation of the water analyses and recording of the following data or pond parameters:

- Type of pond
- Function of the pond (landscape pond, fish farm, etc.)
- Use of the pond system (abstraction of flowing water, groundwater abstraction, etc.)
- Dimensions
- Weed thickness/density
- Survey of the current fish stocking
- Legal requirements / regulations (environmental protection, water law, ordinances, etc.)

2.

Written report on the survey and results of point 1

3.

Joint discussion of the report and then an agreement on the objectives with corresponding time frames is to be reached.

4.

Based on the facts discussed and agreed in point 3, an individual concept is created by the Bader Group.

I.

Determine the number and size of information carriers for natural algae prevention. The information carrier consists of an oak wood cube and is filled with natural components that greatly reduce algae growth. The information carriers consist of a unit of 3 oak wooden cubes that always belong together. Depending on the size and condition of a pond or lake, for example 3, 6 or 9 oak wooden cubes are needed.

II.

Mechanical removal of the existing algae. (Charged according to actual expenditure)

The recovered algae are then removed. (Disposal at the respective property or removal to landfill).

III.

Possible removal of any reed growth on the pond banks and appropriate disposal.

IV. Optional:

Based on the determined fish stocking, the targeted use of fish (biomanipulation) is planned. A polyculture stocking level is to be targeted, which fulfils different tasks through the introduction of different fish species.

Carrying out a nursery fishery programme to possibly reduce the current fish population in the pond is also an option.

Explanation:

The method used deliberately interferes with the ecological balance of the watercourse and is intended to shift this balance in the direction of "oligotrophic*".

Optional:

The targeted introduction of selected fish species offers the possibility to bind phosphorus in animal biomass.

Depending on the size and condition of the pond systems, the polyculture stocking is individually adjusted.



The effect of LiveGreen natural algae prevention is based on the composition of natural components, each of which has its own vibration and information.

The components used are sealed watertight in a container, which in turn is installed in the information carrier, which consists of an oak wood cube, in the existing milled-out space, thus making it impossible for the natural components to get into the water and cause possible contamination.

By mixing different components we achieve a strengthening of the information carriers to achieve a natural algae prevention. According to the laws of nature, everything in life is made up of vibration and we have simply brought together ancient knowledge and basic knowledge to develop the information carrier for LiveGreen natural algae prevention.

* Oligotrophic ("low in nutrients") are waters of trophic level I with few nutrients and therefore low organic production.

By using natural components packed in an information carrier made of oak, algae growth can be greatly reduced. Depending on the size of the pond and the amount of water, we have 3 different sizes of our information carriers. Which are adapted to the respective pond and area of application.



Symbol photo

Project Hauser Kaibling snowmaking ponds

Project start: May 2019

Project end: May 2021

In the two years of the ongoing series of trials with LiveGreen natural algae prevention, it has been shown that its use can greatly reduce algae growth. We had the opportunity to test further experiments and natural components in parallel to obtain an even higher effect to further reduce algae growth in the ponds or pools.

Algae growth is promoted by nutrients that are introduced into the water. Sources of nutrients are e.g. pollen, leaves, animals, surface water, soil and gravel. The phosphorus content is decisive here, as this element is normally at a minimum in surface waters.

According to Ms Baumgartner and Dr Hörner, a good approach to solving the algae problem would be to keep the phosphate content as low as possible.

The dissolved orthophosphate phosphorus (PO₄-P) should preferably not exceed 0.03 mg/l water.

In addition, the use of a polyculture stock can help to bind the available phosphorus into animal biomass.

However, since phosphorus is a vital nutrient for the primary producers, i.e. for algae and aquatic plants, the phosphates dissolved in the water are much more likely to become a minimal factor in the pond than nitrogen, for example. In order to avoid a mass reproduction of algae and, as a consequence, a tipping of the biological balance in the pond, it is important to keep the phosphate input in the water as low as possible.

Trials with LiveGreen natural algae prevention have shown that it is capable of "disrupting" plant growth in the ponds and apparently greatly reducing the extent of fouling.

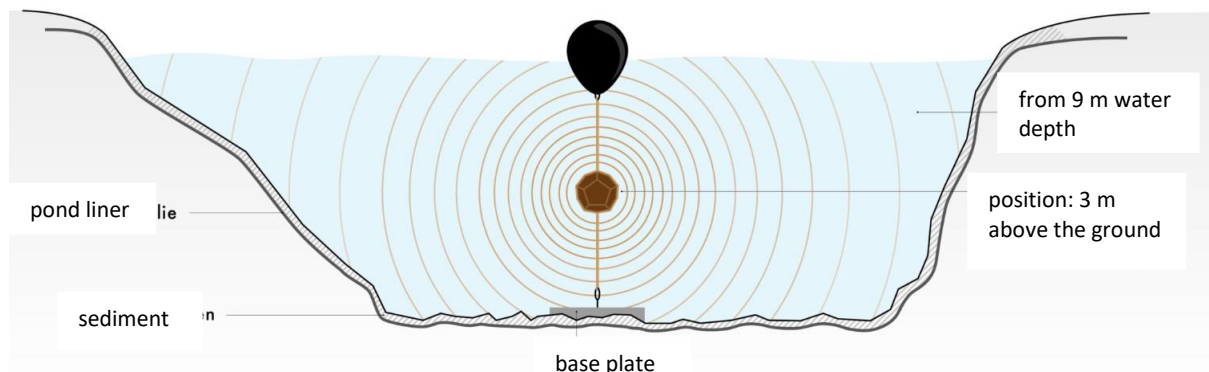
Information carriers

Each LiveGreen information carrier is given a number to track where each LiveGreen information carrier is anchored.

The information carriers (per unit = 3 pieces) are placed in the pond or lake depending on the actual situation.

It is important that these three information carriers always remain together, as they form a unit and thus achieve the effect to enable algae prevention.

Graphical representation of the positioning of the information carrier for pond, lake and snowmaking ponds:



Snowmaking ponds Before ice formation

In the case of snowmaking ponds, the information carriers should be removed before the ice forms in order to prevent destruction after water has been extracted due to the collapse of the ice cover. The information carriers must be stored in a special barrel filled with water during the winter months.

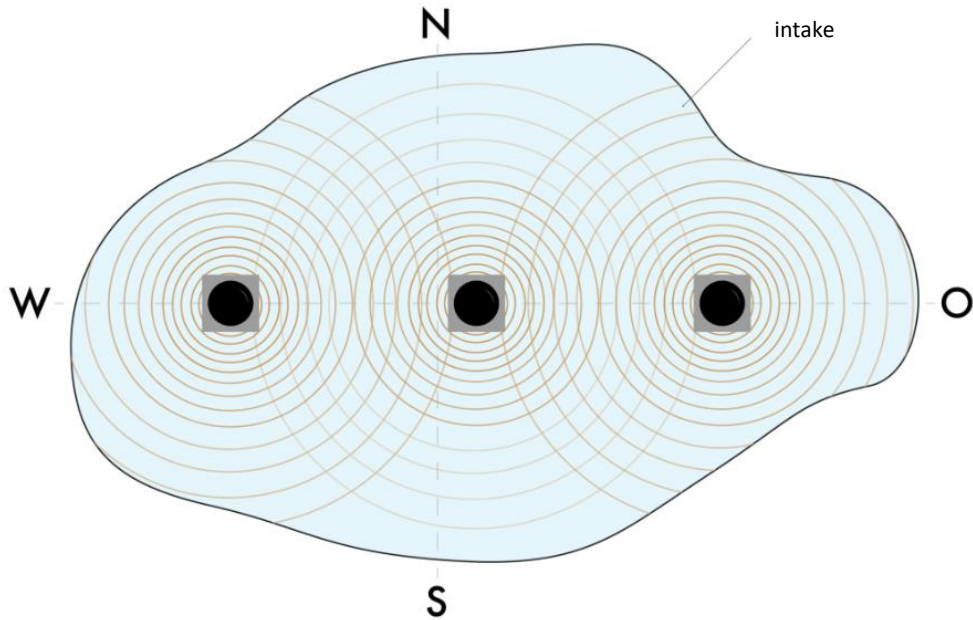
Storage of the oak wood cubes during the winter months:

During the winter months, the information carriers (oak wood cubes), wrapped in a protective aluminium layer, are stored in a plastic barrel filled with water to prevent the information carriers from drying out. The winter storage barrel is designed for 3 information carriers.

As soon as the weather allows it in spring, the information carriers must be replaced on the existing base plates to prevent algae growth over the summer months.



Graphical representation of the placement of information carriers in all waters:



Graphic representation and positioning of information carriers for golf course, koi, swimming ponds and fish farms:

Depending on the size and water quality, the size of the information carriers is determined after the inspection and assessment of the lake or pond system to be rehabilitated. There are three different sizes of information carriers.

3 information carriers are always required as a unit.

