



excalibio is a new product in the renowned **Pond Healer Remedy** family. It harnesses selected microbes to change the water chemistry of the lake and steer the ecosystem away from a tendency to grow nuisance algae.

In still waters, problems with algae result from an imbalance in the aquatic ecosystem. Where there are insufficient waterweeds present, algae are the first to 'grab' available nutrients when temperature and light increase in the spring. Rapid growth of algae can quickly shade or smother waterweeds, making algae the dominant recyclers of nutrients. If this annual cycle can be broken, waterweeds can re-establish a long-lasting balance.

excalibio succeeds our highly-successful remedy **excalibar**. It works to suppress the growth of algae, by environment-friendly means, by starving it and modifying the water chemistry - *simply giving nature a helping hand*

It's a jungle out there..

In the aquatic environment, millions of micro-organisms compete for dominance of the available resources, including nutrients and light. These battles could be described as *passive-aggressive* because many micro-organisms have developed the ability to produce substances that are hostile to their competitors, so that they can gain competitive advantage. **excalibio** contains carefully selected microbes with great ability to compete for nutrients, but they also have other, special properties. They appear to produce substances that hamper growth of algae. They also breakdown sources of organic matter in the lake, producing substances that can result in the production of hydrogen peroxide in sunlight, which can itself suppress the growth of algae. Indeed, **excalibar**, contained similar substances, resulting from these same microbes being set to work to break down barley straw. So, we consider **excalibio** to be an enhanced product, as the bacteria it contains also compete for nutrients as they grow and become established in the lake.

Although some Lake Managers use barley straw in an attempt to control algae, this has several drawbacks, including:

- Using crude barley straw is inconvenient. It must be handled, put loosely into net bags, made to float (eg with plastic drums) and then distributed around the water to be treated. These nets are unsightly, and prone to snagging by anglers, for example. Once the straw is spent it must be hauled out and disposed-of, away from the lake
- To be effective, the barley straw must break down under the right, oxygen-rich conditions. If these conditions are not present, the barley straw may just add more nutrients to the water, and so **feed** the algae !
- It usually takes many weeks for decomposition to begin yielding anti-algae compounds.
- The potential capacity for yielding anti-algae compounds can vary greatly between batches of straw.

excalibio

- has been developed over several years to suppress (selectively) the growth of algae whilst causing no harm to the fish, higher aquatic plants, humans and other animals that live in and around the lake or pond*.
- comes as an easily-applied liquid which is safe to handle.
- is produced under carefully controlled conditions, and is batch-tested for quality assurance

excalibio should ideally be used as a preventive tool, and added in the spring, before the algae begin to grow strongly. It can be used under algal bloom conditions, but may take some weeks to bring the bloom under control, as the algal cells expire. Suspended algae (green and blue-green species) succumb to **excalibio** more quickly than filamentous types.

excalibio complements a wide range of other **Pond Healer Remedies** and water management products. Our approach to pond and lake management is to consider and treat the symptoms of the problems. However, we also like to *consider and treat the causes*, and aim to create an ecological balance, if possible. If you are uncertain about the water quality problems in your lake, we offer a site visit service. We inspect, assess, take and analyse samples and produce a report. This includes a suggested programme of management and remedies.

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