FACT SHEET
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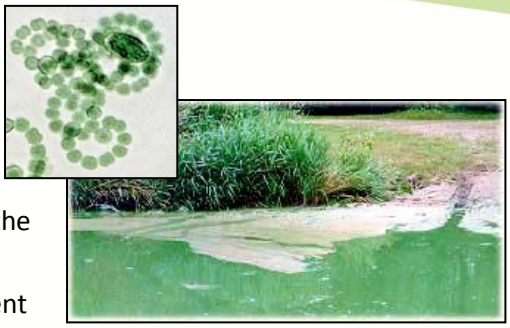
Turf Queensland
Grow Green

CONTROL OF "ALGAE BLOOM"



This "Fact Sheet" has been developed by Turf Queensland to assist with the control of algae in turf farm catchment dams and storage areas. There is considerable information available on the control of algae via management and cultural processes i.e. preventing nutrient build-up, removal of unwanted plants etc. that would form part of a longer term preventive management plan on the farm.

Algae – What are they?

Algae are simple aquatic plants that occur naturally in habitats such as rivers, lakes, damp soil, tree trunks, hot springs and snow. They can vary considerably in shape, colour and size.

Blooms can discolour water, form surface scum and produce unpleasant tastes and odours. They may vary in colour from green to blue, red, brown, dark green or black. Some will be easily seen as a scum while others may be evenly spread throughout the water or concentrated at depth.

The longer the period of calm weather conditions, the greater the "bloom-forming potential". Such potential exists mostly in slow flowing rivers or in lakes, dams, weirs and reservoirs. Blooms can persist for several weeks or sometimes months. Cooler, windy weather or increased flow may reduce or stop them fairly quickly. As a bloom ages or begins to die, concentrations of toxins may increase. Some toxins may persist for more than three months before they are degraded by sunlight and microbial activity.

Harmful Algal Blooms

At times, about three hundred species of microalgae occur in masses—referred to as 'algal blooms'—with nearly one quarter of these species producing toxins.

Harmful algal blooms (also referred to as 'phytoplankton blooms', 'microalgal blooms', 'toxic algae' or 'red tides') are common seasonal events occurring throughout Queensland in both fresh and coastal marine waters. Blooms caused by organisms including cyanobacteria, diatoms and dinoflagellates may pose a direct threat to human and animal health.

Turf Farm Response

Initially it is important to identify and establish which algae species is/are present and what is causing the algae blooms. Blue-green algae are the potentially harmful type which can produce toxins, and probably need a certain type of management. The type that can affect irrigation systems etc drawing from a dam may be filamentous, green alga that causes more of a physical clogging problem. An important step would be to have the water tested by a specialist provider to confirm the type of algae and the nutrient load and chemical composition of the water.

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In the shorter term, there may be chemical products for algae control available to use. Again it is recommended that you speak to a specialist reputable agricultural supplier (such as Nuturf for example) that has appropriate knowledge and history to find out about potential products, suitability, breakdown rates etc. essential to ask your supplier about which potential products are suitable for a particular situation, which products are registered for the particular purpose and ensure you read all labels and other available information before using the product.

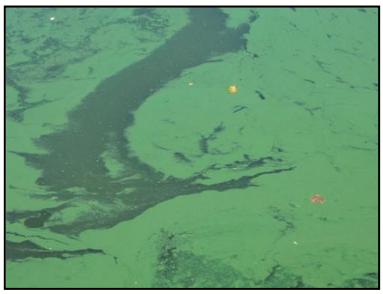
NB: *It is critical to mention exactly what the treated water will be used for, to confirm that any algae control products used won't adversely affect the variety/species of natural Turfgrass or other plants on which it is applied.*

Where an irrigation system produces a spray all efforts should be made to avoid contact or inhalation of the spray. Contact with the outer layer of blue-green algal cells may cause allergic reactions. Spray irrigation systems are utilised on Turf farms, golf courses and agricultural fields.

The Turf farm may already have established processes to have the water percolated through a bank to filter it prior to its entry into the irrigation system or process. If algae are present this does tend to clog and can be time-consuming and frustrating to remove. Parts of the system could be physically moved down deeper in the water column, so water is moving through the system at a point lower than the algae, since the algae tend to grow towards the higher and better illuminated parts of the water storage area stop aquatic plants could be planted such as waterlilies, which cover the surface and cut out the light to prevent the algae growth, as long as the correct species a use (i.e. don't use a submerged macrophyte as this will potentially create more problems with roots etc. clogging equipment). It is recommended that a specialist check the dam and the irrigation system to help design and appropriate algae prevention and management system suitable for the enterprise.

For more information go to the following links:

- http://www.derm.qld.gov.au/factsheets/pdf/water/w3.pdf
- http://www.derm.qld.gov.au/water/blue_green/index.html
- http://www.derm.qld.gov.au/factsheets/pdf/water/w79.pdf
- http://www.coptrol.info/?gclid=COT-55_3uawCFel4godxHShpw



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