

ALGAE CONTROL WITH BARLEY BALES: A SURVEY

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Algal growth during the summer season in ponds can pose a number of problems. The algae that grow in ponds used for irrigation can clog pumps, block filters, cause odor problems, and is generally considered to be aesthetically unacceptable. The proliferation of algae appears to be closely associated with the level of nutrients, especially phosphorous, in the water. High nutrient levels are often found in ponds and lakes associated with parks, golf courses, housing complexes and industrial sites.

Conventional control of algae control can be either mechanical or chemical. Both methods can be expensive and not efficient. Chemical control may limit, depending on the pesticide used, irrigation use or harm non-target aquatic plants and fish. In some instances the algae problem may increase over time if competitive plants and algae feeding fish are decreased.

Barley straw has been suggested for use in ponds for algae control, yet replicated scientific research does not exist to substantiate the observed positive results. The Center for Aquatic Plant Management in the United Kingdom has the most active efforts in the development of this method of algae control. Following is a brief summary of their observations:

This method will not kill algae already present. The bales must be in place prior to algae bloom.

The algae are suppressed best when the straw is decomposing in a well-oxygenated environment.

How much straw is needed depends on the surface area of the pond. Pond depth or volume does not appear to influence suppression.

One half to 1.5 oz of barley straw per 10 square feet of surface area will provide good activity against the algae. Higher rates have been shown to provide better algae control if the problem is severe.

Too much straw can deoxygenate the water.

It is best if the straw is applied loose so that water can move freely through it. A cage or netting can contain the loose barley.

The barley works best when it is at or near the pond surface.

It is better to use multiple "barley stations."

Apply the straw in the fall or early spring. This will give the straw a chance to rot and get ahead of the spring/summer algae blooms.

Water temperature will affect how quickly the bales will begin suppression. At temperatures below 50 F, 6-8 weeks are required, at 70 F, 1-2 weeks are sufficient.

Once active the straw will remain effective for approximately six months.

No negative side effects have been reported, however, increased invertebrate populations and improvement of gill development in fish from ponds where barley straw was applied, have been observed.

In 1998 six golf course superintendents in Nebraska used barley bales to evaluate their effectiveness in suppressing algae populations. Following is a brief summary of their observed results:

Fremont Golf Club, Mick Reifert; CGCS, Superintendent.

Four compressed bales in driving range netting put on frozen pond surface with cinder blocks to "sink" bales. Bales floated and moved freely around pond. Quote: "I would show you the algae but there isn't any." His biggest concern is where to get bales next year.

Lochland Country Club, Hastings, NE, Craig Ferguson;CGCS, Superintendent

Compressed bales installed after significant algae bloom. No positive results. He will use conventional means next year (aerate and copper sulfate).

Meadowlark Hills Golf Course, Kearny, NE, John Beideck;CGCS, Superintendent

Nine compressed bales on three surface acres. Reasonable/acceptable results. Applied in early Spring, prior to bloom. Excellent results on a smaller pond. He will use barley bales again next year, if available.

Lon Camp;CGCS, Superintendent

Applied six compressed bales/surface acre in early Spring along edge of pond when water was down. Previous year, algae problem was "disgraceful." In 1998 no algae was evident. He will use barley bales again, if available.

Grand Island Municipal Golf Course, John Hadwick;CGCS, Superintendent

Applied two barley bales to a "no turnover pond" of approximately 1/3 of an acre in early Spring. Pond has a small aerator. Control was substantially better than ponds treated with copper sulfate. Will use barley bales again, if available.

Country Club of Lincoln, Charlie Hadwick, Superintendent

Late installation, with results comparable to Lochland Country Club. Possibly will try again next year.

Summary

If guidelines reported by The Center for Aquatic Plant Management in the United Kingdom are followed, successful suppression of algae in ponds with barley bales appears feasible.

NOTE: A portion of this article was taken from: *Farm Pond Algae Control With Barley Straw*, Bryan Butler, Faculty Assistant, Carroll Cooperative Extension Service, University of Maryland Cooperative Extension Service. Available at <http://www.agnr.umd.edu/users/cmrec/3-7art2.htm>