

What can I do to clear up my muddy farm pond?

Source: Indiana Department of Natural Resources, FAQs

Without sunlight, microscopic plant growth ceases, disrupting the base of the food web. Fish that feed by sight can't catch their food. Fish stunt or fail to reproduce and grow. Bass grow up to five times faster in clear water. Extremely clear water does not produce fish either. A balanced pond you will be able to see the bottom in about 18 inches of water.

Muddy water can be due either (1) to animals or shoreline erosion stirring it up or (2) to clay suspension caused by water chemistry. To determine which might be the problem, take a sample of water in a clean gallon jar and write the date on the jar. Set the jar on the shelf and observe how fast the mud settles. If it clears in a week or less, the cause is probably stirring caused by crayfish, burrowing insects, carp, channel catfish, bullheads, muskrats or soil erosion from bare shorelines or wave action. Muddiness caused by catfish or carp may only be seasonal during spawning. Numerous bottom feeders tend to keep a pond muddy. If muddy water is caused by carp or bullheads, complete pond draining and chemical eradication of all fish may be necessary, followed by restocking and protecting the inlet and outlet so problem fish cannot re-enter the pond. If muddiness is chronic, even after attempting to solve it, the pond will still support channel catfish and fathead minnows-fish that do not feed by sight.

Muddiness caused by crayfish can be reduced by maintaining more bass. If handfuls of mud from the bottom reveals several brownish inch-long insects in the sediments, the pond may have too many burrowing mayflies. You may also see numerous pencil-size or small holes in the surface of undisturbed mud. Control of mayflies may be accomplished by stocking 300 to 400 2-inch bluegill per acre of water. Mayflies hatch and leave the pond in late summer and fall.

Alum, or agricultural gypsum, is most effective in a situation where pollution of a pond by sediment or nutrients is no longer occurring but nutrients from a past pollution continues to circulate in the pond. The alum salts precipitate phosphorus out of the

water column and lock it in the sediments. Use of alum can be expensive. Continuing sources of nutrients may negate the benefits of the alum treatment. Alum is usually spread across the pond by casting from a boat. The amount used depends on the size and depth of the pond. For instance, a one-quarter acre pond that is two feet deep would be treated with 250 pounds of gypsum. A one acre pond that is five feet deep would require 2,600 pounds. The dosage and risks are related to water hardness. In water that is not well-buffered, low pH caused by the aluminum can cause a fish kill. This condition is less common in Indiana waters due to buffering by limestone, but signs of fish stress should be monitored during the application. The pond should clear within 1-4 weeks following treatment. A reapplication of 1/4 of the original amount of may be necessary. Smaller amounts can be applied annually to keep it clear. More information about alum is available on the web.

Muddy water caused by suspended clay particles can sometimes be corrected by spreading broken bales of high quality hay or barley straw in the water around the shoreline. Acids formed during plant decay can cause clay particles to settle. Approximately two bales of hay per surface acre should clear the water. Do not use too many bales and do not use uncured or fresh cut vegetation. Either mistake may cause a fish kill. To determine if this method may work, add two tablespoons of vinegar to your water sample. If it clears overnight, use of bales will probably work.

To prevent similar problems in the future, pond owners should also control erosion along the shoreline with stone or vegetation (cattails and lilies) and keep a well vegetated buffer on upland areas between the pond and any farm or urban drainage. Livestock can trample shorelines and should not be allowed in fish ponds. Landowners can call the county Soil and Water Conservation District (SWCD) for suggestions on plant varieties that would work best as a drainage filter. The SWCD might also be able to help neighbors use better soil and nutrient conservation practices, although large rain events can overwhelm any buffer system. The county SWCD phone numbers are on the web.

Based on Missouri Pond Handbook by Ken Perry:

http://mdc.mo.gov/sites/default/files/resources/2010/05/mopondhandbook_2011.pdf