



MANAGEMENT OF WATER QUALITY PROBLEMS

<u>PROBLEM</u>	<u>TREATMENT</u>	<u>COMMENTS</u>
Low alkalinity	Calcium hydroxide (hydrated lime)	Add 20-50 lbs/surface acre then check alkalinity level
	Sodium bicarbonate	About 3.7 lbs/acre foot will increase the alkalinity one ppm
	Agricultural limestone	Apply at 1-2 ton/acre to dry pond bottom. For more accurate applications rates determine the soil lime requirements every 2 to 3 years
Low chlorides	Sodium chloride (salt)	4.5 lbs/acre foot of salt will increase the chlorides one ppm.
	Calcium chloride (anhydrous)	4.3 lbs/acre foot will increase the chlorides one ppm
Low dissolved oxygen	Aerate	Aerate until oxygen levels reach 4 ppm
	Fertilize	May help if bloom is gone
High pH	Sodium bicarbonate	Add up to 200 lbs/surface acre, then check pH. Limited effectiveness in ponds with alkalinity over 100 ppm
	*Gypsum	Add 50-100 lbs/surface acre then check pH
	*Alum	Add 25-75 lbs/surface acre, then check pH
Low pH	Sodium bicarbonate	Add up to 200 lbs per acre, then check pH level
	*Calcium hydroxide	Add 20-50 lbs per acre, then check pH level
High ammonia level	Pump water	Pond or well water may provide a small area of acceptable water to the stressed fish
	Fertilize	May help if bloom is light
	Lower pH	See comments for high pH. Not practical in water with high alkalinity

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High nitrite levels	Calcium chloride	See rates above. For best results keep chloride to nitrite levels at 15:1
	Sodium chloride	See rates above
High carbon dioxide levels	*Calcium hydroxide	About 2.7 lbs/acre foot to remove 1ppm carbon dioxide
	Aerate	This is only useful if oxygen levels are low
Hydrogen sulfide poisoning	Potassium permanganate	Put about 5ppm in area of net landing
High iron levels	Aerate and filter or settle	The level of aeration, filtration or settlement is dependent on water flow and iron level in water
	Potassium permanganate	Apply 2-5 ppm in tanks depending on fish species. In ponds, the rate depends on the organic buildup
Low hardness	Calcium chloride	See rates above
	*Calcium hydroxide	About 3.9 lbs gives 1ppm lime/acre foot.

** If total alkalinity is less than 40 ppm it is best not to use this chemical*