

## RESERVOIR TIPS

Reservoirs must be properly maintained to ensure the best possible water quality. Treatment of reservoirs may harm fish, and care should be taken. These procedures are based on our experience with reservoirs since 1968 and are our recommendations. They should be used as a guide only. Please remember to take all necessary precautions when using chemicals.

### Aeration

Dugout aeration will tend to inhibit algae growth, and will lessen the odour problems associated with anaerobic decomposition.

### Taste, Odor, Color

The foul taste, odour and colour in reservoir water usually results from algae or water plants. Decomposing algae and plants on the bottom of the water produce hydrogen sulfide gas, which gives the water a "rotten-egg" taste and odour. By the end of winter, water may become black. Control of algae and plants during the spring and summer will reduce these problems.

### Controlling Aquatic Vegetation

All preventative and mechanical methods should be considered prior to chemical treatment.

### Preventative Methods

Deeper dugouts with steeper slopes reduce the shallow areas where plants grow rapidly. Limit nutrients:

- Flood diversion dikes with gated culvert inlet.
- Grass the water course and the area around the dugout.
- **KEEP LIVESTOCK OUT!**

### Mechanical Methods

- Hand pull plants
- drag a heavy chain or harrows across the bottom to cut plants

### Copper Sulphate (Bluestone)

Copper sulphate is an effective treatment for algae. It is more effective if used before the algae population becomes heavy. To apply, it may be placed in a burlap sack and dragged around the reservoir, or the water filling the reservoir may run over the sack. The dosage is 1 to 2 pounds per 100,000 gallons.

If heavy blooms of blue-green algae develop, use caution. Another source of water should be used for 2 weeks after treatment.

Copper sulphate is toxic to fish. If you must treat a dugout containing fish, treat 1/3 at a time and space the treatments 24 hours apart. Water usage should be avoided for 24 hours.

### Turbidity

Reservoirs that become turbid (muddy) will usually clear by themselves. Be careful not to confuse colour caused by decaying algae or organic matter with turbidity, as treatment is different. If turbidity persists, Alum may be used. The alum should be dissolved in water (1/2 pound per gallon) and spread evenly over the surface. The dosage is 10 to 20 pound per 100,000 gallons.

### Reglone A (Diquat)

This chemical is used to control aquatic plants. Treated water should not be used by humans or animals for 2 weeks. Contact your supplier for correct dosage.

### Granular Chlorine

One of the most effective treatments for organic matter and algae is granular chlorine. It may be simply broadcast over the surface. The dosage is 4# per 100,000 gallons. In severe cases, it may be necessary to repeat treatment in a week. Copper sulphate treatment may be applied at the same time for enhanced results.

### Gravel Filters

Gravel filters installed in or beside the dugout are not recommended.

## Recommended Maintenance

|                 |   |
|-----------------|---|
| Year-Round      | Dugout Aeration   |
| May—June        | First Algae treatment.<br>Repair and re-grass any eroded areas. |
| All Summer      | Cut grass around dugout   |
| Mid-July        | Second Algae treatment.   |
| Mid - September | Final granular chlorine treatment                               |
| As Required     | Granular Chlorine   |

### Floating Intakes

During the summer, 80% of the impurities are close to the bottom. A floating intake, 3 feet from the surface will collect the best water. During winter, lower the float to below the expected ice level. Floats may be constructed by 16' of 1 1/2" pipe coupled in a ring, or 3' of 3" PVC or ABS pipe capped at each end.

### Blue Green Algae

Blue—Green Algae can be toxic. Please follow this link to Alberta Environment information

[http://www.environment.alberta.ca/documents/Blue-green\\_algal\\_FS.pdf](http://www.environment.alberta.ca/documents/Blue-green_algal_FS.pdf)