CHEMICAL CONTROL OF ALGAE IN FARM PONDS

BIOLOGY JOB SHEET TX-5 **APRIL 1995**

TYPES OF ALGAE

1. **Phytoplankton** - Microscopic plants that color the water green (often called "bloom"); usually beneficial, but can become excessive; normally controlled by removing fertility sources; use of chemicals not advised
2. **Filamentous** - "Pond scum", which begins growth on bottom, breaks loose, floats to the surface, and forms "scum" mats; a handful feels like wet wool or cotton
3. **Chara** - Often called "skunkgrass" or "muskgrass" because hands smell of skunk when handled; begins growth on bottom and forms dense underwater mats, or "moss" in clear water less than 6 feet deep

APPROVED ALGAECIDES

1. **Copper sulfate** - "Blue Viking", "Copper Snow", "Bluestone"
2. **Chelated copper** - "Cutrine Plus", "K-TEA"
3. **Endothall** - "Hydrothol"
4. **Diquat** - "Reward", "Weedtrine-D"

APPLICATION RATES

1. Copper sulfate for filamentous algae and Chara
   a. Soft water - apply agricultural limestone to increase alkalinity
      1) < 25 mg/L alkalinity - do not apply; toxic to fish
      2) 25 to 50 mg/L alkalinity - 1 1/2 lbs/ac-ft
   b. Hard water
      1) 50 to 100 mg/L alkalinity - 3 lbs/ac-ft
      2) 100 to 250 mg/L alkalinity - 4 lbs/ac-ft
   c. Very hard water (> 250 mg/L alkalinity) - do not apply; ineffective
2. Chelated copper products - Follow label instructions; may be toxic to fish in waters < 25 mg/L alkalinity; apply agricultural limestone to increase alkalinity
   a. Filamentous algae
      1) "Cutrine Plus"
         (a) Liquid - 2/3 gal/ac-ft
         (b) Granular - 60 lbs/surface acre
      2) "K-TEA" - 1 3/4 to 3 1/2 gals/ac-ft
   b. Chara
      1) "Cutrine Plus"
         a) Liquid - 1 1/4 gals/ac-ft
         b) Granular - 60 lbs/surface acre
      2) "K-TEA" - 1 3/4 to 3 1/2 gals/ac-ft

Prepared by USDA Natural Resources Conservation Service, Temple, Texas

3. Endothall for filamentous algae and Chara
    a. Granular - 11 lbs/ac-ft; higher rates may be used for marginal and spot treatments
    b. Liquid - 2 1/4 pts/ac-ft; higher rates may be used for marginal treatments
4. Diquat for filamentous algae - 3/4 to 2 gals/ac-ft

TIME OF APPLICATION

1. Granular - Apply in spring after water temperatures reach 65 degrees F.
2. Liquid, powder, crystals - Apply in spring when water temperatures are 65-85 degrees F.
3. Apply on calm, sunny days
4. Application after June 15 should be avoided; oxygen depletions and fish die-offs may occur

METHOD OF APPLICATION

1. Granular products - Broadcast over algal beds
2. Liquid, crystals or powder - Mix completely with water; spray or splash onto water surface
3. Crystals - Place in porous bag; dissolve in pond over algal beds

PRECAUTIONS

1. Copper sulfate or chelated copper - Determine water hardness and do not exceed recommended rates; these materials may be toxic to fish in waters with < 25 mg/L alkalinity
2. Endothall
    a. Material is caustic and should be handled very carefully; liquid can "burn" the skin; dust from granules can irritate eyes.
    b. Fish may be killed by dosages in excess of 4 pts/ac-ft.
3. Diquat - Do not apply to muddy water

RESTRICTIONS

1. Copper sulfate and chelated copper - None
2. Endothall
    a. Do not use fish from treated water for food or feed within 3 days of treatment
    b. Do not use treated water for drinking, livestock watering, irrigation or spraying for 7 days
3. Diquat - Do not use treated water for drinking, livestock watering, irrigation or spraying for 14 days

REMINDER: ALWAYS READ PRODUCT LABELS AND FOLLOW DIRECTIONS