shrub and tree plantings.

A granular formulation of dichlobenil is registered for control of certain submersed aquatic weeds. Applications of 7 to 10 lb/A a.i. are recommended on exposed bottoms or shorelines of ponds or lakes. Rates of 10 to 15 lb/A a.i. are recommended for applications made over the water surface in early spring before the weeds begin rapid growth.

A liquid formulation of fenac (2,3,6-trichlorophenylacetic acid) is registered for control of submersed aquatic weeds in ponds and lakes from which water is not used for irrigation. Applications of 10 to 13 gals. of fenac per acre in 50 to 100 gals. of water are recommended on exposed bottoms or shorelines of ponds and lakes. Water should be kept off of treated areas for at least 3 weeks (or longer in regions of low precipitation) to allow time for the slowly soluble herbicide to become thoroughly fixed in the surface soil by rain or snow.

Two new dimethylalkylamine salts of endothall (7-oxabicyclo (2.2.1) -heptane-2,3-dicarboxylic acid) are now available for control of submersed aquatic weeds and algae. They are effective on weeds at much lower concentrations than are the potassium and sodium salts of endothall that have been in use much longer. However, the amine salts are not safe for fish, whereas the potassium and sodium salts do not injure fish.

Aquatic Herbicides Restricted

The most important recent development affecting control of aquatic and bank weeds has been the restricted use of herbicides in or near canals, ponds, lakes, and streams. Most herbicides approved for control of aquatic or bank weeds include on the label the warning: *"Do not contaminate water to be used for irrigation or domestic purposes."* These restrictions are imposed, not because the herbicides are known to be toxic to warmblooded animals, but because not enough information is available to make certain that they are not toxic. One notable exception is a formulation of ammonium sulfamate which is registered for weed and brush control around domestic water supplies, lakes, and other bodies of water. Copper sulfate, the herbicide used extensively since 1904 to control algae, is still permitted in domestic water supplies at concentrations up to 4 ppmw of copper sulfate pentahydrate, equivalent to 1 ppmw of copper ion.

Some research has been initiated to determine the fate of certain herbicides in irrigation water, bottom soil, aquatic plants, and in certain crops and soils irrigated with treated water. Probably much more such research will be necessary before adequate use of effective and safe herbicides will be permitted for control of aquatic and bank weeds.

Illinois Turf Course Set

The University of Illinois will conduct its Third Turf Short Course from Jan. 30 to Mar. 10 at the University. Contact Short Course Supervisor, 104 Mumford Hall, University of Illinois, Urbana, Ill., for more information.