

Broad Spectrum Weed and Algae Control in Irrigation Canals Using Endothall

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Irrigation canals are a major source of water for agricultural production in the western United States. Control of aquatic vegetation and algae in irrigation canals is crucial for efficient water delivery in irrigation canals. While aquatic weeds can have a significant impact on water flow, the tools available to canal managers for control are limited. In 2010, two endothall formulations were labeled for use in irrigation canals. Cascade is the dipotassium salt of endothall, and works to control a range of aquatic weed species. Teton is an amine formulation of endothall that can control both submersed plants and algae. Since their introduction in 2010, Cascade and Teton have been successfully incorporated into the programs of many irrigation districts. Sago pondweed [*Stuckenia pectinata*] was the main target species identified during the development of endothall for irrigation canals. During their first three seasons of use, differential susceptibility was identified, with some species being more difficult to control. Elodea [*Elodea canadensis*] is one species that has been difficult to control. Additional studies conducted on elodea have indicated that Teton applied at 2 ppm or greater can significantly reduce elodea biomass, with longer exposure time resulting in greater control. Chara [*Chara spp.*] is an algae species that commonly occurs in the West, and is often difficult to control in flowing water systems. A trial evaluating chara control using Teton indicated that a concentration of 0.5 ppm for a minimum of 4 hrs can provide excellent control. These and other trials have been used to refine use rates for irrigation canals. Results from field applications and these ongoing trials indicate that Cascade and Teton provide a safer and more effective tool for controlling aquatic weeds and algae in irrigation canals compared to alternative control methods.