

SULFONYLUREA HERBICIDES FOR SEDGE CONTROL IN TURF

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Sedges are considered some of the most difficult weeds to control in turfgrass sites. Although often called 'nutgrass', sedges are not grasses but belong to the cyperaceae family (while grasses are in the poaceae family). In California, purple nutsedge (*Cyperus rotundus*), yellow nutsedge (*Cyperus esculentus*), and green kyllinga (*Kyllinga brevifolia*) are the common sedges found in turf sites. Both purple and yellow nutsedge reproduce primarily from tubers while green kyllinga is a non-tuberous, rhizominous species of sedge. One reason sedges are difficult to control is the extensive underground plant structure. Herbicides must translocate to the rhizomes and tubers for control of new plant growth for effective weed control. Some foliar active herbicides may burn existing foliar but fail to translocate in sufficient quantities to effect tuber viability. A relatively new class of herbicides, particularly in turf, is the sulfonylureas. Members of this herbicide class have a varied range of safety to turf and weed spectrum depending on structure. Some the chemical characteristics of these herbicides that make them effective for control of nutsedges are water solubility and activity by both foliar and root uptake. Manage (Halosulfuron) was the first sulfonylurea herbicide registered in CA for sedge control in turf. Field use had shown Manage to be an effective tool for control sedges in both cool and warm season turfgrasses. Manage tends to be more effective for control of yellow nutsedge than purple or green kyllinga. Trifloxysulfuron-sodium, Monument, is a new broad-spectrum herbicide for post-emergence weed control in warm season turfgrasses that shows excellent activity on the major sedge species. Federal registration of Monument 75 WG occurred in 2003, and is pending registration in CA. Other new herbicides for sedge control are sulfosulfuron (pending turf registration) and flazasulfuron (not registered). These new herbicides are effective on a broad range of turf weeds besides sedges, and will probably be labeled for use on warm-season grasses only. Sulfonylurea herbicides are active at low AI concentrations. Water solubility and soil persistence are pH dependent, increasing under alkaline conditions. Most of the new sulfonylurea herbicides labeled (or pending labeling) for turf use have a short soil half-life, less than 30 days even under alkaline conditions. Use rates of Monument for sedge control are 0.33 to 0.56 oz per acre. It has been in turf field trials since 1996 and has shown excellent activity on purple nutsedge, yellow nutsedge and green kyllinga. Controls of these weeds exceed 85% with one or two applications and compare favorable to current herbicide standards. Monument is safe to use on bermudagrass and zoysiagrass turf on golf courses, sports fields, sod farms and commercial properties. Sulfonylurea herbicides will play a larger role in the weed control strategies of turfgrass managers in the near future as new products gain registration.