

## **SEDIMENT-APPLIED HERBICIDES FOR AQUATIC PLANT MANAGEMENT: PROMISING PRODUCTS FOR A DAUNTING PROBLEM**

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Due to increasing concerns about pesticide residues in water and increasing demands for compliance with California NPDES permits, there is an urgent need for soil-active aquatic herbicides that can be used under seasonal drawdown conditions in western irrigation canals as well as lake and reservoirs where water levels can be manipulated. Drenching exposed canal sediments with acetic acid has been shown to reduce aquatic weed propagule viability (e.g. in *Potamogeton* spp and *Hydrilla verticillata*), and to impede sprouting of rhizomes in *Spartina alterniflora*. This paper summarizes preliminary results from simulated drawdown studies on SePro's SP1019 herbicide (penoxsulam) suggest that this material may provide control and suppression of problematic pondweeds while exhibiting little lateral off-site movement. Rectilinear containers filled with natural canal sediments were planted ca. 5cm deep with propagules of sago pondweed (*Stuckenia pectinatus*) and American pondweed (*Potamogeton nodosus*). Penoxsulam was applied to air- exposed sediments at 200gal/acre at 25, 50, 100, or 200 g/ha ai and subsequently immersed in tanks 48 hrs later. Rates of 50, 100 and to 200 g/ha suppressed germination by over 90% in the first 30 days. Adjacent propagules in unexposed sediments did not appear to be affected by the applications. Rates of 100 and 200 g/ha continued to suppress plant growth only in the center treated sections up to 45 DAT. Flowering was also suppressed in both species up to 45 DAT at rates of 50, 100 and 200 g/ha. Results suggest that draw down application of penoxsulam has potential for suppression of weeds that interfere with irrigation delivery systems, but practical use needs to be examined in field tests.