The Challenge of Weed Management in One - Two Acre Ponds

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In recent years there has been an increase in the number of one and two acre ponds. These ponds are important sources of irrigation water and frost protection. In the high value vineyards of California's North Coast these ponds provide water for drip irrigation from June through October. Many vineyards use these same ponds to provide frost protection (through overhead irrigation) from March through April.

These ponds are often used as part of the overall 'winery experience' provided to visitors and must be clean and attractive. Many ponds also provide recreation through boating, swimming and fishing. In mansy of these ponds aquatic weeds have become a major problem. The major weed and algae problems come from floating mats of filamentous algae, Pacific mosquitofern (*Azolla filiculoides*), Eurasian watermilfoil*(Myriophyllum spicatum),* American Pondweed *(Potamogeton nodosus),* Creeping waterprimrose *(Ludwigia species), and* Common cattail *(Typha latifolia).*

There is a lack of trained personnel to assist the grape growers manage their 1 and 2 acre ponds and many small problems become big problems very quickly. Weed control options in vineyard ponds are often expensive. These options include mechanical harvesting of weeds, dredging the ponds to increase depth and manual removal of weeds above and below the waterline. Herbicide treatments can be effective but are also costly; some examples of approximate costs for one acre herbicide treatment: Glyphosate: $300, Fluridone: $900 to $1,000, Endothall: $650, 2,4-D: $300-600, Diquat: $300 to $400. Grapes are very sensitive to growth regulator type herbicides such as 2,4-D and Triclopyr and because of this many growers are reluctant to use them. Safe and effective herbicides such as Fluridone-have a long waiting period which makes there use difficult at best.

Field days that provide information to the growers on available services and management options were very popular. Even in very wet years water available for crop production is always and issue and the management of small ponds for irrigation and frost protection will become an even more important issue in the future.