

Sharpen & Shark; Two New PPO Herbicides for Established Alfalfa.

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Marketing clean high quality alfalfa remains as much an incentive today as ever. Approximately 75% of alfalfa acreage is treated for weeds and the market rewards weed free high quality alfalfa hay by as much \$100 per ton (hay market report 11/2016). Therefore, it is an incentive for producers to maintain weed free fields for economic purposes and to extend the productive life of alfalfa stands. During the winter dormant period when alfalfa is slow growing, weeds such as groundsel *senecio vulgaris*, fleabane *conyza bonariensis*, burning nettle *urtica urens*, mallow *malva spp*, flourish under these conditions and control becomes difficult. Alfalfa also has multiple cuttings with short intervals that reduces the crops ability to compete with many summer weed problems; purslane *portulaca oleracea*, pigweed *Amaranthus spp*, & knotweed, *Paspalum distichum*.

Controlling these weeds is often ineffective with current herbicides once they have emerged and can range in different growth stages and sizes. Two PPO herbicides have recently been approved for use in California, Shark *carfentrazone* approved in 2014 and Sharpen *saflufenacil* in 2016. Both show good potential to control some of the more difficult broadleaf weeds with much better efficacy. In addition, Shark can be used in season between cuttings during the summer period for problem broadleaf's that have emerged. Both herbicides are compatible tank mix partners with most post and pre-emergent herbicides and also add value in a tank mix with glyphosate in Roundup Ready varieties.

