WEED POPULATIONS IN PERENNIAL CROP NURSERIES TREATED WITH METHYL BROMIDE AND ALTERNATIVE FUMIGANTS

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Failure to control weeds with pre-plant fumigation results in high labor costs for weeding in perennial crop nurseries where PRE and POST herbicides cannot be used around the young, developing tree seedlings and cuttings. Studies were conducted at four locations in California in almond and walnut nurseries to test the effect of methyl bromide (MB) and alternative fumigants and their method of application on weed population. Treatments varied by locations and included MB + chloropicrin, iodomethane + chloropicrin (IM:PIC), Telone II, Telone C35 with HDPE, and Telone C35 with a virtually impermeable film (VIF), Inline, and a non-fumigated control. The alternative fumigants and application methods were generally effective as MB but results varied by location and were influenced by the dominant weed species present. For example, the dominant weed in Yuba City was volunteer oats and the most effective treatment was MB. All the fumigants were less effective against harder seeded weed species such as burr clover (*Medicago* sp.) and mallows (*Malva* sp.). Therefore, fumigants alone (whether MB or alternatives) will not be effective against these species unless supplemental measures are applied or developed. The alternate fumigants may provide similar weed control as MB. VIF and HDPE had similar results in these nurseries. Inline showed some benefit in the control of mallows.