

THREE YEARS OF PREPLANT SHANK, INCORPORATION OR DRIP FUMIGATION IN FLOWER CROPS

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Preplant fumigation has been evaluated as an alternative for using methyl bromide in a mixture. Current fumigants have been generally successful for the control of many soil pathogens. Weed control has not been as successful at some sites. Some weed species such as little mallow, and clovers, have not been controlled with a mixture of methyl bromide and chloropicrin at standard rates. Little improved control of these weeds have been found with new combination alternatives. In a location where these troublesome weeds were few in number, alternative combinations of incorporated dazomet or bladed metham and shanked 1,3-D and chloropicrin gave similar weed control as methyl bromide/chloropicrin. Iodomethane/ chloropicrin at reduced rates has given similar control to methyl bromide/chloropicrin at standard rates. When applied under VIF rates could be further reduced and still achieve weed control. In a location where little mallow and clovers were exceedingly common, it was difficult to show major weed control with any treatment.

Drip applied fumigants were evaluated over a three year period at one location but at two sites. Through there was some reduction in weed numbers there was no decrease in weeding times with most treatments. Plant growth and Ranunculus flower and bulb yield was improved when chloropicrin was added to any mixture indicating the principal reduction of the crop was from soil pathogens. In a larger field size trial preplant drip application of either iodomethane/chloropicrin (33/67) at 200 lb/A, chloropicrin at 200 lb/A or 1,3-D/chloropicrin (Inline) at 200 lb/A gave similar flower yield and was significantly better than untreated blocks. When metam was drip applied in each treatment one week after the initial treatment yield was practically returned to the treated plots, but was not as good as any of the pretreatment followed by metam. Little mallow and clover numbers were reduced when there was a one week interval between the initial treatment and a sequential treatment of metam at 40 gal/A. Fusarium and pythiaceus fungi were also reduced with sequential treatments or when metam at 40 gal/A was used alone with no pre-treatment though the soil was covered with plastic during the seven days before treatment and seven days after metam treatment. Inline at 200 lb/A, chloropicrin at 200 lb/A or iodomethane/chloropicrin seemed to be easier on Trichoderma than when metam was added a week later in this study.

A sequential drip treatment with either chloropicrin, iodomethane/chloropicrin, or 1,3-D/chloropicrin followed by metam sodium increases weed control. Because of increased management and time required to get into fields it may pose a problem for scheduling plantings.

This paper will summarize several of the studies on treatments, locations and pest control in California cut flowers.