MIDAS™ DEMONSTRATION PLOTS IN BELL PEPPER

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A demonstration trial comparing MIDAS™ (methyl iodide:chloropicrin 50:50) to methyl bromide:chloropicrin (67:33) was conducted in Saint Lucie County, FL on a commercial bell pepper production farm. Methyl bromide:chloropicrin was shank injected into performed beds at 392 kg/ha using three 25 cm deep shanks spaced 30 cm apart. Methyl idodide:chloropicrin was shank injected at 336 kg/ha using the same application equipment modified to include a twelve-hole flow divider equipped with sight glasses and 3.18 mm diameter double wall tubing for delivery of the fumigant to the shanks. Check valves were installed on each chisel to maintain full lines. Fumigated beds were immediately covered with black high density polyethylene mulch (Pliant Corporation). Soil moisture at the time of application was estimated at 16-17%. Fumigants were applied on 19 January, 2006 and peppers were transplanted on February 13. Four rows 232 m in length (0.14 ha total) were treated with methyl iodide and eight adjacent rows treated with methyl bromide.

Weed populations were assessed three times during the growing season on March 16, April 12, and May 10, just prior to fruit harvest. Data on weed emergence was taken relative to field location in order to assess if weed escapes were due to lack of efficacy or if they were related to application issues.

Weed density was generally higher in the methyl iodide treated beds with more species being found in these rows than in the methyl bromide-treated areas. Goosegrass (*Eleusine indica*) occurred throughout the methyl iodide treated rows. Nutsedge (*Cyperus* spp.) in the methyl bromide treated beds was found only in the initial 45 m of the beds, coinciding with initiation of the fumigation application.. Dog fennel (*Eupatorium capillifolium*), was present in low numbers at the second and third sample dates in both fumigant treatments, with slightly higher numbers in the methyl bromide treated beds.

The incidence of Phytophthora blight, caused by *Phytophthora capsici*, at 163 days after transplanting was 2.2% and 2.7% in adjacent rows treated with methyl bromide:chloropicrin and methyl iodide:chloropicrin, respectively.

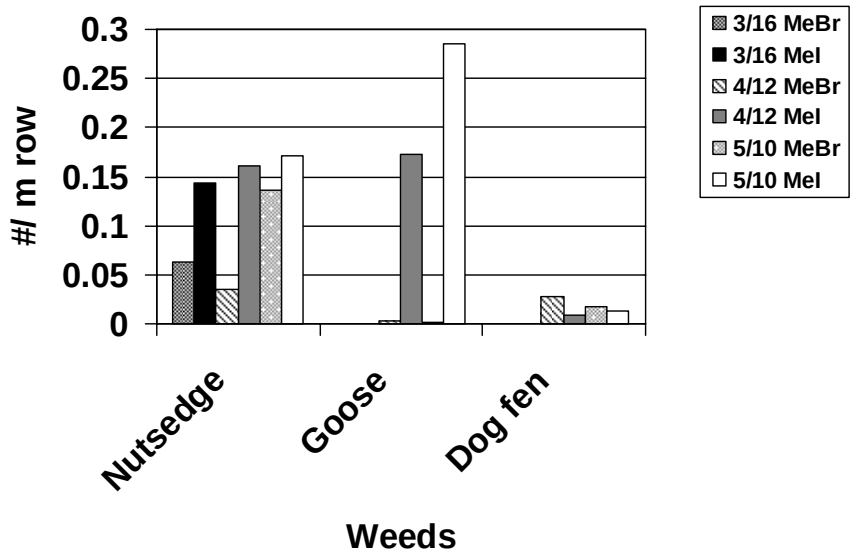

Figure 1. Average number of nutsedge (*Cyperus* spp.), goosegrass (*Eleusine indica*), and dogfennel (*Eupatorium capillifolium*) per meter of row for methyl bromide and methyl iodide treated beds on three assessment dates.