

## CONCURRENT COMPARISON OF METAM SODIUM APPLIED BY CHEMIGATION AND SHANK INJECTION

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Metam Sodium can be applied by many application methods, including chemigation (overhead sprinklers or center pivot), shank injection, drip irrigation, flood, or surface spray / incorporation / compaction. The Responsible Farmers Coalition sponsored field trials in July 2007 that compared emission rates associated with concurrent applications by chemigation / overhead sprinkler and shank injection / compaction. Four separated one hectare treatment plots were evaluated based through on-field profiles and the use of the integrated horizontal flux method, which also were supplemented with ambient monitoring networks established around each treatment plot.

The four treatment plots were established as follows:

- Field 1: chemigation / 2 hour water seal on completion / 2 hour water seal first sunset
- Field 2: chemigation / 2 hour water seal on completion / 4 hour water seal first sunset pulsed 30 minutes on and 30 minutes off
- Field 3: shank injection: compaction / 2 hour water seal on completion / 2 hour water seal first sunset
- Field 4: shank injection: compaction / 2 hour water seal on completion / 4 hour water seal first sunset pulsed 30 minutes on and 30 minutes off

These treatments were all nighttime-start applications, which provide options to evaluate exposures during worst-case conditions. This paper will summarize the results, which lead to the following conclusions: (1) emissions associated with chemigation were of similar magnitude as previous studies, and (2) shank injection / compaction as applied during this study was highly effective in minimizing concentrations and exposures.