

## The Future of Weed Control Without Metam

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Due mostly to their specialty crop status, many vegetable crops have a limited number of registered herbicides that can be used in a weed control program. As a result, growers must rely more heavily on cultural methods, such as hand hoeing and cultivation, and herbicide alternatives such as pre-plant fumigants. Metam sodium (Vapam, K-pam) historically has been applied as a pre-plant method to control many hard to control weeds in a variety of crops because it is registered for most crops and can be applied by numerous ways (sprinkler, flood, drip, shank, etc.). Additionally, combinations of metam with other soil fumigants, such as Telone (1,3-D) and Pic (chloropicrin) can enhance weed control efficacy while also providing control of nematodes and plant diseases.

Despite providing excellent weed control and crop safety, the future of metam and most soil fumigants in California is murky. In July 2009, the Department of Pesticide Regulation (Cal DPR) released a first draft for new metam use regulations designed to mitigate and control off-site and bystander short-term exposure. These proposed new mitigation regulations:

1. Cover all methods of application
2. Require buffers up to 2,500 feet from sensitive sites
3. Enact 24 hour acreage limitations (limit number of acres that can be fumigated within a 24-hour period from 24 – 80 depending on the site)
4. Restrict application to November – April, depending on application method
5. Require caps or tarps
6. Require 2 or 3 post application water treatments within 2 – 3 hours after fumigation (usually with sprinklers).

These rules, if adopted, would make use of metam very difficult for most growers. The requirement for post-application water treatments alone would completely eliminate use in sweetpotatoes, for example, since most growers are not capable of sprinkler irrigation. Thus, weed control in vegetable crops will likely be obtained through alternative methods such as improved cultivation equipment (robotic hoes), solarization, and new application methods and/or tank mixes of existing labeled herbicides. Examples given include results from field trials with tank mixes of Sandea (halosulfuron) and Matrix (rimsulfuron) in tomatoes (Figure 1), reduced rates of Valor (flumioxizin) for sweetpotato hotbeds, and post-plant shielded spray applications of Roundup (glyphosate) in sweetpotatoes. While all provided good control of weeds, there is the potential for crop phytotoxicity with all these techniques.

Sandea Herbicide Trial on Fresh Market Tomatoes  
Le Grand CA 2008

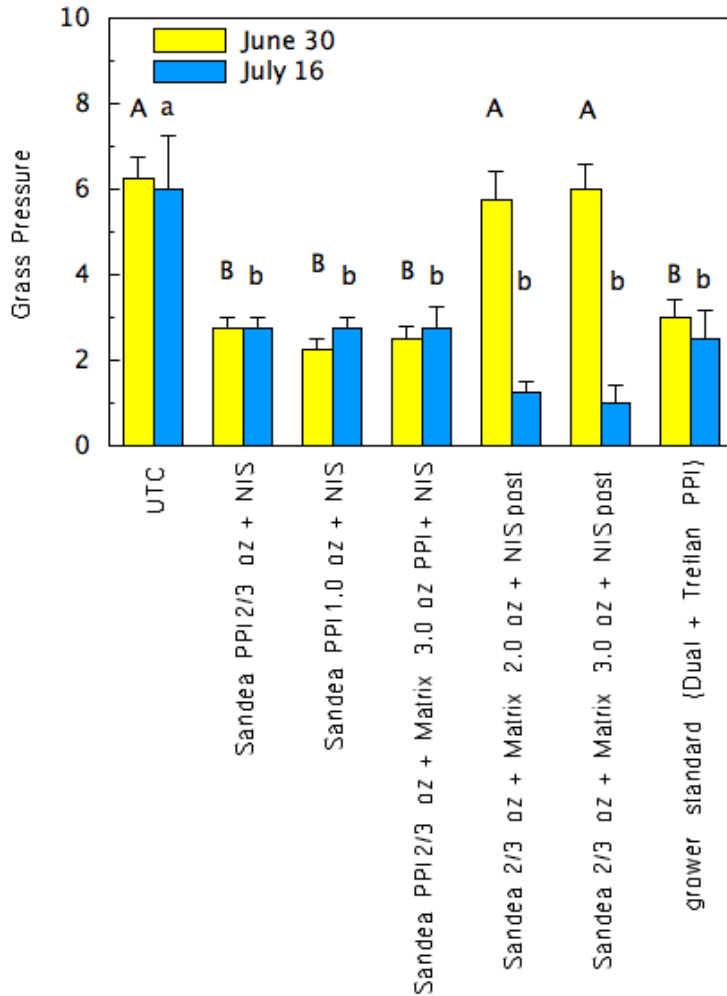


Figure 1. An example of a labeled herbicide combination that provides greater weed control than expected. Post-plant applications of a Sandea + Matrix tank-mix provided excellent control of the non-target weed Jungle Rice in fresh market tomatoes in this trial in 2008 (post treatments had not yet been made on the June 30 application date). Slight crop phytotoxicity was noted one week after application but did not impact crop yield.