

TURFGRASS SCIENCE

at the University of Tennessee

EPA Decision on the Use of Organic Arsenical Herbicides for Weed Management

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Organic arsenical herbicides are currently registered to control weeds in both turfgrass and cotton. Examples of some commonly used organic arsenical herbicides used in Tennessee are monosodium methanearsonate (MSMA), disodium methanearsonate (DSMA) and calcium acid methanearsonate (CAMA).

On April 22nd, 2009, the United States Environmental Protection Agency (EPA) announced the final decision regarding the use of these herbicides for weed management¹. Impacts on the turfgrass and cotton industries are significant.

Turfgrass

Golf Courses

Sales of all products containing MSMA for golf course use will end on December 31, 2012. Product remaining in storage after this date can be used until December 31, 2013. The EPA has not publically commented on the fate of product remaining in golf course maintenance inventories after this date. Until 2013, newly constructed courses will be allowed one broadcast application, and existing courses will be able to use MSMA only as a spot treatment, providing that spots are less than 100 ft² and no more than 25 percent of the course is treated within a given year.

Sod Farms

Sales of all products containing MSMA for use on sod farms will end on December 31, 2012. Product remaining in storage after this date can be used until December 31, 2013. The EPA has not publically commented on the fate of product remaining in sod farm inventories after this date. Until 2013, two broadcast applications of MSMA will be allowed per season, and a 25-ft buffer strip will be required for farms bordering permanent water bodies.

Highway Rights-of-Way

Sales of all products containing MSMA for use on highway rights-of-way will end on December 31, 2012. Product remaining in storage after this date can be used until December 31, 2013. The EPA has not publically commented on the fate of product remaining in inventories after this date. Until 2013, two broadcast applications of MSMA will be allowed per year, and a 100-ft buffer strip will be required when spraying near permanent water bodies.

Residential Turf, Commercial Turf and Sports Turf Maintenance

Sales of all products containing MSMA for residential, commercial and sports turf use will end on **December 31, 2009**. Product remaining in storage

after this date can be used until December 31, 2010. The EPA has not publically commented on the fate of product remaining in inventories after this date.

Other uses that fall under this restriction include forestry, non-bearing fruit and nuts, citrus (bearing and non-bearing), seed production (bluegrass, fescue and ryegrass), drainage ditch banks, railroad, pipeline, utility rights-of-way, fence rows and storage yards.

Cotton

Unlike turfgrass, the EPA has allowed for the re-registration of MSMA for use in cotton if data are provided describing the magnitude of herbicide residue in meat and milk, and the magnitude of herbicide residue in food crops (i.e., peanuts) rotated with cotton. However, some new use restrictions have been implemented. These restrictions include:

1. Applications in cotton are limited to 1 postemergence application at 2 lbs ai/A, with a second application at 2 lbs ai/A allowed only if needed for salvage purposes. For example, if pigweed (*Amaranthus* spp.) is not controlled by the first application, a second application at 2 lbs ai/A will be allowed.
2. A 50-foot buffer zone must be maintained around permanent bodies of water, including rivers, streams and lakes.
3. Pre-plant cotton use must be deleted.

Dealing with the ruling

The loss of MSMA will certainly make managing weeds in warm-season turf more difficult. Turf managers struggling to control dallisgrass (*Paspalum dilatatum*) should put a high priority on using MSMA to control this species while it is still legal to do so. Researchers are continually evaluating new compounds, as well as combinations of existing compounds, that will help soften the blow of this EPA ruling. To follow the latest research being conducted at the University of Tennessee, visit: <http://tennesseeturf-grassweeds.org>, <http://weeds.utk.edu/> and <http://hort-weeds.tennessee.edu>.

Reference

¹U.S. Environmental Protection Agency. 2009. Pesticide Reregistration – Organic Arsenicals: Web page: http://www.epa.gov/pesticides/reregistration/organic_arsenicals_fs.html. Accessed: May 2009.