Nevada Department of Agriculture
February, 2013

Hexazinone

Pesticide Fact Sheet: Protecting Nevada's Groundwater

Hexazinone detections in Nevada's groundwater: reversing the trend.

Product Information

- Hexazinone is the active ingredient found in the herbicide Velpar® and other brands. It is a contact and residual herbicide providing control of annual, perennial, and biennial weeds as well as woody plants.
- Hexazinone is labeled for weed control in certain crops, including alfalfa. It is also used in industrial areas and rights of way.
- Products containing hexazinone are classified as general use pesticides. Labeling must contain the signal word DANGER due to its ability to cause irreversible eye damage

Environmental Fate

- Hexazinone does not adsorb to soil particles and is soluble in water. It is highly mobile in most soils and has a high potential to contaminate groundwater. Local conditions such as precipitation, irrigation, and soil type play a role in groundwater contamination.
- Hexazinone is broken down by microbes and sunlight.

Hexazinone in Groundwater

- To protect Nevada's water resources from pesticide contamination the Nevada Department of Agriculture collects groundwater samples annually from a network of 60 shallow monitoring wells located in urban and agricultural regions throughout the state. The samples are analyzed for pesticide contamination. The purpose of the program is to detect pesticides in groundwater in early stages and if found, take steps to prevent further contamination.
- From 2006 through 2010 hexazinone was detected in 15 samples from six wells located in Lyon and Douglas Counties showing an increasing trend in detections. It is important to note that the amount of hexazinone in samples was well below established action levels such as Maximum Contaminant Levels (MCL) or Health Advisory Levels (HAL). The HAL for hexazinone is 400 ppb and the maximum level detected between 2006 and 2010 was 3.45 ppb (2009).
- Occasional detections of pesticides below advisory levels are not of immediate health concern. However if there is an indication of an increasing trend, steps should be taken to reverse the trend so contamination does not reach advisory levels.

Preventing Contamination

- Use the principles of Integrated Pest Management (IPM) when available. This includes prevention, mechanical, biological, and cultural methods,. Maintain a healthy competitive crop that is resistant to weed infestation. IPM practices can help reduce weed pressure resulting in less herbicide use.

- Identify weeds and use the lowest rate which will provide acceptable control. Only certain areas of fields may require spraying.

- Use other effective herbicides in conjunction with hexazinone.

Are alternative herbicides available?

- Yes, there are several alternative products including glyphosate, imazethapyr (Pursuit®), metribuzin (Sencor®), or paraquat (Gramoxone®). Be sure to read product labeling and apply the pesticide according to label instructions. Consult with licensed pesticide dealers and pest control operators/advisors for herbicide recommendations and other management strategies.

What if hexazinone detections continue to rise?

- There is currently no cause for immediate concern but if detections continue an upward trend the negative impact on groundwater could be irreversible. Removing pesticides from groundwater is, in most cases, impossible. Serious impacts include contamination of deep aquifers that supply municipal and domestic wells.

- If detections begin to approach advisory levels there are regulatory mechanisms in place that may result in use restrictions on the use of hexazinone.

Additional Information:

- **Nevada Department of Agriculture (NDA):**
www.agri.nv.gov
(775) 353-3715

- **USGS/NDA Fact Sheet:** *"Monitoring for Pesticides in Groundwater and Surface Water in Nevada, 2008"*
http://pubs.usgs.gov/fs/2009/3093/

- **Pesticide Environmental Stewardship;** Provides information on proper pesticide handling.
http://pesticidestewardship.org

- **National Pesticide Information Center (NPIC): Science based information on pesticides.**
http://npic.orst.edu/

- **UNCE Fact Sheet:** Integrated Weed Management in Seedling Alfalfa:
http://www.unce.unr.edu/publications/files/ag/2011/fs1101.pdf

- **UC IPM : Alfalfa Pest Management Guidelines:**
http://www.ipm.ucdavis.edu/

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