

## Herbicide contamination of dairy derived organic matter in Whatcom County: New developments in 2011

### ***Recap of 2009-2010 activity***

Effects of aminopyralid residues in dairy organic matter (manure, composted manure, silage) applied to broadleaf crops on farms and gardens in Whatcom County have been seen in 2009 and 2010. Aminopyralid is an auxinic herbicide that will cause damage to sensitive broadleaf plants such as tomato, beans and peas; these plants will usually not die, but will produce no or few, low quality fruit. Aminopyralid is a broadleaf herbicide registered for use on grassland and rangeland. It is registered under several product names to control many broadleaf weeds, including invasive and noxious weeds, on grass crops as rangeland, permanent grass pastures, as well as non-cropland areas.

Aminopyralid was applied to fields for cut forage of several dairies in Whatcom County. The dairy farmers were unaware of issues that may result from using the resulting manure as organic matter on farms or gardens growing certain crops. When this manure was exported from the dairy, the farmers did not realize that the product may result in damage to crops.

### ***What is being done now to mitigate this issue in Whatcom County for the 2011 season?***

Composters of dairy solids in Whatcom County are methodically conducting bioassay tests of finished product to ensure that product to be sold has undetectable levels of aminopyralid. They are using highly sensitive plants, such as tomato seedlings and beans, to determine that the material will not have an effect on growing these types of crops. They are also being careful to only accept manure from dairies that have not used aminopyralid on their forage crops.

Dairy farmers who have had aminopyralid applied to fields for forage are aware of the issue and have been educated that they must not export their manure to compost facilities or farms growing sensitive crops. They will apply manure only to forage fields. Aminopyralid breaks down by microbial metabolism in the soil; chemical analyses of grass treated the previous year suggest that the compound breaks down to low levels one year. Levels of aminopyralid in forage crops with applied contaminated manure should decrease to non-detectable levels over 1-3 years.

Herbicide applicators are aware of the issue and will not apply this herbicide to dairy farms where manure is exported. They are also willing to share information about fields to which they have applied aminopyralid to farmers wanting to accept manure.

### ***National issue***

In response to issues such as those experienced in Whatcom County, Dow AgroSciences has proposed a label change of aminopyralid to the Environmental Protection Agency (EPA). They are proposing to:

- Prohibit use of aminopyralid on hay that will be moved off farm.
- Prohibit use of aminopyralid on grass grown for haylage, bailage, silage, or green chop.

### ***Is there concern with using dairy derived organic matter in 2011?***

Dairy derived organic matter ready for use in 2011 may still be of concern for trace amounts of aminopyralid. Before using this material consider doing the following:

- Ask your supplier of compost if they have tested the material using a bioassay.
- Perform a bioassay on the material. Follow the instructions at: [OUR SITE FOR BIOASSAY](#)
- Talk to your supplier of compost, manure, or topsoil to find out if they are aware of aminopyralid being applied to forage crops that supplied the dairy.
- If using uncomposted manure, talk to the herbicide applicator to determine if aminopyralid was applied to the field supplying the dairy.

### ***What if I had an issue in 2010 and want to plant sensitive crops in 2011?***

Perform a bioassay with the soil/organic matter mix where the sensitive crop is to be grown. Use the soil/organic matter mix at full strength and compare to plants grown in straight peat based potting mix. Follow the instructions for a bioassay at: [OUR SITE FOR BIOASSAY](#)

If the contaminated material had contact with soil and was exposed to winter rains, the concentration of aminopyralid likely decreased significantly, perhaps to a level where crops may be grown without damage. A bioassay of the material using desired plant types will reveal the potential issues with growing in that soil.

### ***How should I use compost or manure in my garden or farm?***

Both raw and composted dairy manure make great amendments to garden and farm soil, but they should be used properly. Using compost as an amendment can be applied at 1-3 inches thick of compost in the first year and then no more than 1" per year in following years. It should be mixed into the soil before planting. As mulch, compost can be used at rates of between 1 and 4 inches thick. Over-application should be avoided to reduce potential toxicity issues of certain nutrients.

Information about using compost as soil amendments can be found at:

<http://whatcom.wsu.edu/ag/compost/compostassoilamend.htm>

Colleen Burrows: February 2011

### ***References:***

Washington State Department of Agriculture, Herbicides in Compost.

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Dow AgroSciences. Manure Matters Website

<http://www.manurematters.com>

Washington State University and Washington State Department of Ecology. 2002. Bioassay test for Herbicide Residues in Compost: Protocol for Gardeners and Researchers in Washington State.

<http://www.puyallup.wsu.edu/soilmgmt/Pubs/CloBioassay.pdf>