



Cautionary Notice to Hay Producers, Livestock Owners, Farmers, and Home Gardeners: Manure Compost Contamination

Clopyralid and Aminopyralid Herbicide Residues Found in Manure and Compost from Treated Hay/Straw Can Affect Certain Sensitive Plants



Eastern Washington hay from a 2010 or 2011 crop was purchased by farms on Whidbey Island that had evidently been sprayed with a persistent herbicide. The hay was fed to livestock and the manure was collected. The manure was used in the owner's gardens and was shared, free of charge, with other residential families as well as small farms for their 2012 spring/summer planting that resulted in severe damage to sensitive plants. Symptoms of damaged plants include poor seed germination, death of young plants, twisted, cupped and elongated leaves and misshapen fruit. There is evidence that this persistent herbicide contamination has occurred on Whidbey Island previously.

This informational bulletin is intended to educate the following audiences about persistent herbicide residues in manures and composts:

- Landowners who may spray herbicides on pastures and hayfields for weed control.
- Livestock owners who purchase hay and use the manure from animals that consume the hay on their crops and gardens.
- Gardeners who use livestock manure or manure-based compost on their flowers, fruit and vegetable crops.

What is aminopyralid and clopyralid? These are persistent broadleaf herbicides registered for use in pastures and on grass crops such as hay, barley, and wheat. Picloram is another persistent broadleaf herbicide used in similar situations. These herbicides do not readily break down in compost.

- Aminopyralid can be purchased under trade names such as Milestone, ForeFront, Pharaoh, and Banish.

- Clopyralid can be purchased under names such as Stinger, Millennium Ultra, Millennium Ultra Plus.
- Picloram is sold under trade names such as Access, Tordon, Surmount, Grazon and Pathway.

Where is it used? These herbicides are used to control broadleaf weeds, such as Canada thistle, in the following situations:

- Pastures for animals such as cattle, horses, and other livestock.
- Grass family crops such as grass hay, barley, and wheat.
- In ditches, along roads, and under utility lines.
- On turf grass and golf courses.

How could these herbicide residues could end up in your garden or crops?

- Through contaminated mulch materials such as hay, straw, and grass clippings.
- Through compost made from **manure and bedding from livestock that have been fed crops or grazed pastures that were treated with these herbicides.**
- From compost made from contaminated hay and grass clippings.

What will it do to my plants? Residues of aminopyralid can damage sensitive plants at levels as low as 1 part per billion. Leaves of plants will begin to cup, stems will twist, fruit will not set, and apical growing points will become distorted. Examples of sensitive plants are legumes (peas & beans), nightshade family (potatoes, tomatoes, peppers, eggplant), and many other vegetables and flowers.

How can I prevent contamination of my plants from this herbicide residue?

- If you have a product containing one of these herbicides used on your own pasture, **follow label directions carefully.** Do not use manure from animals grazed on the treated pasture in your garden or in compost used for the garden. Composted manure can be applied back to the pasture (per recommended rates and timing) where the herbicides will break down in the soil over time.
- If you purchase hay, particularly grass hay, make an effort to **know your hay grower and ask them** if they use any of these herbicides. They will be able to provide you with that information. If you purchase through a feed store, from a hay hauler, or a hay broker, ask them the same question. They can take responsibility to know their source.
- Hay that contains legumes, such as clovers, alfalfa, or lespedeza, has very likely not been treated with these herbicides because legumes are affected by the herbicide.
- WSU recommends performing a bioassay on manure or compost prior to use to determine the possible presence of herbicide residue. A bioassay is a test where a seed from a sensitive species (such as a pea) is started in the compost or manure material to determine what the affect will be on the growth of the seed/plant. This test takes time (at least 4 weeks) and must be done correctly to obtain conclusive results. To conduct a bioassay, follow the instructions in this link: <http://whatcom.wsu.edu/ag/aminopyralid/bioassay.html>

Where can I learn more about issues related to this herbicide residue?

Whidbey Island Conservation District: www.whidbeycd.org Karen Bishop 360-678-4708

WSU Island County Extension <http://county.wsu.edu/island/Pages/default.aspx> Janet Hall 360-679-7974