

# *Clopyralid in Compost*

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## **Questions and Answers for Gardeners and Farmers in Western Washington**

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### **Background**

Clopyralid contamination of yard debris compost emerged as a problem in eastern Washington in 2000 and in western Washington in 2001. Clopyralid was banned a lawn herbicide in Washington in the spring of 2002, removing the risk of contamination of yard debris compost. Because clopyralid is still registered for use on grass hay and some grain crops, the risk of contamination of some animal manures with clopyralid remains. However, no clopyralid problems have been reported in the state since 2001. This fact sheet provides information and history on the clopyralid problem.

### **What is clopyralid?**

Clopyralid is the common name of a herbicide that kills broad-leaved weeds such as dandelions, clover, and thistle. It was been registered for use on turf, grass hay, wheat, and some other crops. Most turf applications were banned in 2002. Legumes, nightshades, polygonums (buckwheat), and composites are the families of plants that are the most sensitive to clopyralid. Sensitivity varies among species within the families. Some of the products containing clopyralid include Confront, Curtail, Redeem, and Stinger.

### **Why is clopyralid used?**

It has long lasting effects against target weeds when applied at low rates. Clopyralid has low toxicity to humans and animals.

### **How does clopyralid get into compost?**

Clopyralid was used by some home lawn care companies. When clippings from treated lawns were recycled as yard debris, they became a feedstock for compost. Clopyralid may also be present in straw used for animal bedding, or in the manure of animals that have eaten treated grass hay (such as horses). Clopyralid appears to break down very slowly during the composting process. As a result, it is possible that animal manure composts can still contain clopyralid.

### **Are all plants harmed by clopyralid?**

No. Clopyralid affects only susceptible plants, including legumes (peas, beans, lupine), composites (sunflowers, marigolds, lettuce), nightshades (tomatoes, potatoes, peppers), and buckwheat. Clopyralid does not affect grasses, corn, berries, cole crops, tree fruit, or the vast majority of woody and perennial ornamental plants.

## **Are other herbicides a problem in compost?**

It appears that other locally used herbicides break down quickly during composting, and are not a problem in the final product. In Pullman, picloram, which is chemically similar to clopyralid, was found in compost. The picloram contamination was an isolated incident. Picloram is not used in western Washington, and plant materials that could contain picloram are not part of the compost feedstock stream west of the Cascades.

## **Is there clopyralid in western Washington compost?**

Some samples of local yard-debris compost taken in 2002 showed positive bioassays (plant-growth tests) and analytical tests for clopyralid. The use of clopyralid on lawns in Washington was banned on March 1, 2002, and clopyralid levels in yard debris compost had declined by nearly 90% by late 2003. Check with your local compost supplier for more information on their products.

## **Will contaminated compost damage my plants?**

In eastern Washington and adjacent Idaho severe damage occurred in some gardens where susceptible plants were grown. Clopyralid levels are now so low in yard debris composts that there is no risk of damage to susceptible plants when grown in beds amended 1 to 3 inches of yard debris compost.

Some manure composts in western Washington may present a risk to susceptible crops. If animals eat large amounts of feed (such as grass hay) containing clopyralid, high levels of clopyralid may result in the manure. Straw bedding may also be contaminated with clopyralid. We used greenhouse bioassays to test 12 manure samples from western Washington, and saw no evidence of high levels of clopyralid. Ten of the samples showed no clopyralid effect and two samples showed minimal effect in the bioassays. Our sample population was not large enough to estimate the fraction of manure sources that could contain damaging levels of clopyralid.

## **What has WSU done?**

At WSU Puyallup we conducted bioassay tests on local composts and animal manures (2001–2004), [greenhouse studies](#) on compost-soil mixes (2002), and a study of [clopyralid dissipation](#) in turfgrass clippings (2002 – 2003). We did [garden trial](#) in 2002 and 2003, growing tomatoes, peas, and beans in soil amended with composts containing clopyralid. We have shared information with compost producers, the Washington State Department of Agriculture, and compost users.

## **What have composters done?**

Some composters established bioassay and analytical testing programs to evaluate each lot of their product to determine if it is suitable for sale to gardeners. Contact your local composter for more information on their procedures and products.

## **What has the State of Washington done?**

The Washington State Department of Agriculture (WSDA) banned the use of clopyralid on all turf, except for golf courses. Clopyralid may be applied to golf courses only if no grass clippings, leaves, or other vegetation are removed from the site and sent to compost facilities that provide product to the public. The purpose of the ban was to eliminate clopyralid from yard debris compost feedstocks. WSDA also restricted the purchase of clopyralid for hay and grain crops, allowing purchase only by certified pesticide applicators. For details on the clopyralid rule see: <http://agr.wa.gov/PestFert/Pesticides/Clopyralid.htm>

## **How should I use compost?**

The ban of clopyralid from most turf uses, coupled with active monitoring programs by local composters, has made western Washington yard debris composts safe for all uses at standard recommended rates. We recommend a maximum application of one-third by volume of compost when establishing a landscape or garden bed in western Washington, a maximum of 20% by volume when establishing turfgrass, and a maximum annual amendment rate of 1 inch in established beds. Because clopyralid can still be used on grass hay and straw crops, it is possible that some manure composts may contain higher levels of clopyralid. We have received no reports of damage from manure compost applications since 2001, however. For more information about clopyralid in a specific product, check with your local compost producer.

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