

**Herbicides Registered in Kansas (2003 - 2005)
Containing Clopyralid**

Brand names vary– please check active ingredients

<u>Product Name</u>	<u>% Active Clopyralid</u>
16-4-8 w/Millennium Ultra Herbicide	0.094
Accent Gold Herbicide	51.700
Accent Gold WDG	51.400
Battleship	1.300
Chaser Ultra	2.530
Confront	12.100
Curtail	5.100
Curtail M	5.000
Hornet	62.500
Hornet WDG	60.000
Lesco Momentum Selective Herbicide	1.300
Lontrel Turf and Ornamental	40.900
Millennium Ultra Weed and Feed 20-5-10	0.094
Millennium Ultra Plus	0.820
Momentum Weed and Feed 0-0-7	0.028
Momentum Weed and Feed 21-0-12	0.028
Momentum Premium Weed and Feed 21- 0-12	0.028
Preen N Green Lawns	0.180
Proscape with Confront 19-2-9	0.180
Redeem R&P	12.100
Riverdale Millennium Ultra	5.090
Riverdale Millennium Ultra Plus	0.820
Riverdale Millennium Ultra Selective Herbicide	5.090
Riverdale Millennium Ultra2	2.540
Riverdale Trupower	5.180
Riverdale Trupower TM Selective Herbicide	5.180
Stinger	5.0
Strike 3 Ultra	1.980
Tee Time w/Millennium Ultra Herbicide	0.094
Transline	10.900
Weed 'n Feed w/Millennium Ultra HJE	0.037
Weed and Feed (Howard Johnson's)	0.094
Weed and Feed 32-3-5 (Free Flow Fertilizer)	0.094
Winter Weed and Feed 24-4-14 (Free Flow Fert.)	0.094



If you bag your lawn clippings for curbside collection, please do not apply Clopyralid-containing herbicides to your lawn. Ask your lawn care provider to do the same.



LAWRENCE
WASTE
REDUCTION
& RECYCLING

**How to Avoid
Contaminating Our Community's
Compost**

Waste Reduction & Recycling Division
PO Box 708
Lawrence, KS 66044

Phone: 785-832-3030
www.LawrenceRecycles.org
E-mail: recycling@ci.lawrence.ks.us

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LAWRENCE
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**CLOPYRALID
and
COMPOST**



In 2002, residents collect finished compost at the City of Lawrence annual giveaway. The 2003 giveaway was cancelled due to unacceptable levels of Clopyralid in the compost.

**How to Avoid
Contaminating Our
Community's Compost**

What is Clopyralid?

Clopyralid (pronounced clo-PEER-a-lid) is an active ingredient found in many herbicide products registered for use in the state of Kansas. It is designed to kill unwanted broadleaf plants (weeds) such as clover, thistles, and dandelions. These plants are commonly found in lawn and turf environments.



Grass clippings that have been treated with Clopyralid, set out for curbside collection and enter Lawrence's Compost Facility, are the primary source of contamination of our community's compost.

Products containing Clopyralid are available to both homeowners and commercial users. However, Dow Agrosiences and the Environmental Protection Agency recently changed the label on Clopyralid products to disallow application to residential turf. Clopyralid does not break down readily during the composting process, unlike other commonly-used herbicides. Compost contaminated with Clopyralid can adversely affect certain "susceptible" plants commonly used in the garden.

Sensitive Plant Families

LEGUMES: Peas, Beans, Lentils, Clover

SOLANACEOUS: Potato, Tomato

COMPOSITE: Sunflower, Thistle, Dandelion

SOME OTHER SENSITIVE PLANTS:

Asters	Lettuce
Beans	Lupine
Carnation	Peas
Carrot	Petunia

The Science

Unlike other herbicide ingredients like 2,4-D, dicamba, and triclopyr, Clopyralid has excellent soil (preemergence) and foliar (postemergence) activity. Clopyralid is an auxin-mimic type herbicide that is more selective (kills a more limited range of plants) than some other auxin-mimics like picloram, triclopyr, or 2,4-D. Clopyralid has little effect on grasses and other monocots.

Clopyralid controls many annual and perennial broadleaf weeds, particularly of the Asteraceae (sunflower family), Fabaceae (legume family), Solanaceae (nightshade family), Polygonaceae (knotweed family) and Violaceae (violet family). Please note that many plants within these families, due to their popularity, are selected for landscaping and backyard garden plantings. Symptoms of plant injury are typical of other growth regulators and include bending and twisting of the stems and petioles, stem swelling and elongation, leaf cupping and curling. If enough Clopyralid is present, this is followed by chlorosis (yellowing), growth inhibition, wilting and eventually, plant death.

Clopyralid is not degraded by sunlight or hydrolysis. It remains relatively persistent in soil, water and vegetation. It is degraded almost entirely by soil microbes and is not susceptible to photo or chemical degradation. This means plants treated with Clopyralid residue may retain herbicidal properties for some time.

Clopyralid is non-toxic to birds and mammals, including humans. It has a low toxicity to aquatic animals.

Source: Weed Control Methods Handbook, The Nature Conservancy, Tu et al.

Example of Damage to Plants



Normal Bean Plant



Bean Plant exhibiting Clopyralid damage

What You Can Do

If You Set Out Grass for Curbside Collection — Read the Label

If you set out grass and leaves for curbside collection in Lawrence, please do not purchase or use herbicides on your lawn that contain Clopyralid. Ensure your lawn care professional is not using such a product as well. Read the label. Herbicides using the active ingredient Clopyralid will have one of the following listed as an ingredient.

- Clopyralid (ANSI)
- Clopyralid, monoethanolamine salt
- Clopyralid, triethanolamine
- 3,6 Dichloropicolinic acid
- 3,6-Dichloro-2-Pyridinecarboxylic acid

Proper disposal of unwanted herbicides may be arranged by calling the Lawrence Household Hazardous Waste Facility at 785-832-3030.

If You Choose To Use Clopyralid-Containing Herbicides

- Do not set out your grass clippings for Monday curbside collection of yard waste
- Do not compost materials in your backyard that have been treated with a Clopyralid-containing herbicide
- Mulch mow (grasscycle) your clippings back onto your lawn.
- Grass clippings are 85-95% water, decompose quickly and provide nitrogen back to the soil.



Mulch mowing and other lawn care tips are available through the Waste Reduction and Recycling Division (832-3030) or K-State Research and Extension— Douglas County (843-7058).