









# The first step in this process is to compile a list of retail names of Persistent Herbicide products in your state because very few users will know active ingredient names.

allow it to be used on: blueberries; Brassica leafy vegetables; canola and crambe; corn including silage; cranberry; grasses grown for seed; grass pastures; hayland; hops; natural areas such as CRP and wildlife management areas; nurseries; ornamental plantings, peppermint and spearmint; rangeland; small grains (barley, oats, wheat); sod farms; spinach; stone fruit trees; sugar beets; tree plantings; turfgrass; and turnip.

**HOW:** Clopyralid is applied via ground and aerial spray methods and in cut surface treatments for some woody plants. It is also included as an ingredient with synthetic fertilizer in some pelletized weed and feed products.

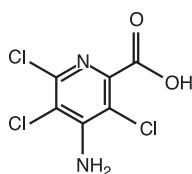
**WHY:** Clopyralid weakens or eliminates sensitive broadleaf plants so that they do not compete with tolerant plants such as grasses and some crops. It is similar to Aminopyralid in its action and weeds controlled but use rates are nearly triple and practitioners have observed clopyralid resistance in some plant populations. Manufacturer and independent tests reveal clopyralid to be virtually non-toxic to animals and fish. Metabolically, the active ingredient is quickly eliminated following ingestion by animals and organisms with little change of the chemical or effect on the animal.<sup>8</sup>

## Picloram

**WHAT:** Picloram was developed by Dow AgroSciences and first marketed in the U.S. in 1963. Picloram is off-patent with many generic retail products that combine it with other active ingredients for broader weed control. Picloram as a spray is labelled for **post-emergence** control but the active ingredient does persist in the soil for **pre-emergence** control on seeds. Dow AgroSciences retail products intended for spray type applications include: Graslan™, Grazon®, Surmount®, and Tordon® and generic product retail names generally include “22K” or “Picloram.” Maximum labelled rate is 64 fluid ounces per acre per year.

**WHO:** Picloram became a **Restricted Use** herbicide in 1995 based on hazards to non-target plants when applied via spray type methods. It is still **General Use** when applied to cut shrubs or trees. Farmers, ranchers, and land managers use Picloram.

**WHERE:** Picloram is registered throughout the U.S. although Hawaii further restricts use beyond the label. Applicators use it to control susceptible broadleaf weeds on rangeland and permanent grass pastures, fallow cropland, Conservation Reserve Program (CRP) acres, non-crop areas including forest planting sites, industrial manufacturing sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, and wildlife openings in forest and non-crop areas. The label specifies that



users should not use grass or hay from treated vegetation for composting or mulching of susceptible broadleaf plants or crops.

**HOW:** Picloram is applied via ground and aerial spray methods and in cut surface treatments for some woody plants.

**WHY:** Picloram was one of the first specialty herbicides that controlled broadleaf plants. Practitioners have observed numerous plants with resistance, and that reality combined with regulatory change to a **Restricted Use** product and availability of more effective products has made Picloram less popular. Similar to studies of other Persistent Herbicides, one Picloram study using dogs revealed that 90% was excreted in urine within 24 hours and no Picloram remained in their system 48 hours after the last dose.<sup>9</sup>

## Speaking Your Customer’s Language

Compost producers must be prepared to ask feedstock generators the right questions to understand if those feedstocks may contain Persistent Herbicide contamination. The first step in this process is to compile a list of retail names of Persistent Herbicide products in your state because very few users will know active ingredient names. Two websites allow users to search herbicide products by active ingredient:

- 1. Kelly Solutions** (<http://www.kellysolutions.com/>). This is a company that provides a pesticide database to chemical companies, government agricultural departments and related agencies, general manufacturers and landscapers. Kelly Solutions has enrolled 30 states that share their pesticide registration data. One may search for all registered herbicide products in a state by navigating to the bottom of the main page, selecting the state from the drop-down menu, selecting *Pesticide Registration Search*, then *Search by Active Ingredient*, and then typing the active ingredient name. For example, a search of Clopyralid products in Minnesota returns 44 retail products! A compost producer could copy and paste retail names into a single document for quick and easy reference and then include such a list in a written certification in which a tipping customer reveals any Persistent Herbicide treatments to the a feedstock for composting (see Fact Sheet #2).
- 2. National Pesticide Informational Retrieval System (NPIRS)** (<http://npirspublic.ceris.purdue.edu/state/>). This database is a collection of pesticide-related databases available by subscription. NPIRS has 38 enrolled states. One may search for all registered herbicide products in a state by selecting the state of interest from the map which will link to a page that enables a search by several criteria. Next, the user types an active ingredient name and then

Search [state] Pesticide Data button underneath the field. The search will return company names and the user may click to see product names. It is more difficult to obtain a retail product list using this website.

Five states do not subscribe to either of the above services: Arkansas, Louisiana, New Hampshire, South Dakota, and Tennessee. In these states, a Compost producer's best option is to utilize lists from neighboring states and also to speak with your state Department of Agriculture staff.

### Conclusion

A Compost producer must have a thorough understanding of what, who, where, how, and why people use Persistent Herbicides. Some Compost producers may find that they can avoid Persistent Herbicide contamination because of their location and their choice of feedstocks. Most composters will compost at least some feedstocks with Persistent Herbicide contamination that could impact their customer's plants and those managers should consult the next fact sheet in the series, *Strategies to Mitigate Persistent Herbicide Contamination at Your Compost Facility*. ▶

For more information, go to <http://compostingcouncil.org/persistent-herbicides>

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