



# Persistent Herbicide Residues in Plant Material, Manure, and Compost

# Rapid City, South Dakota Municipal Composting Program, 2020



## Case 1: Adam Z. , (June 28, 2021)

- ✓ Added City of Fargo compost to his raised garden in early spring.
- ✓ By mid-June potatoes and peas showed curled, cupping leaves and distorted growth.



# Injury on soybeans



Readel--clopyralid on soybean





## Clopyralid Carryover in Soybeans Due to Low Moisture



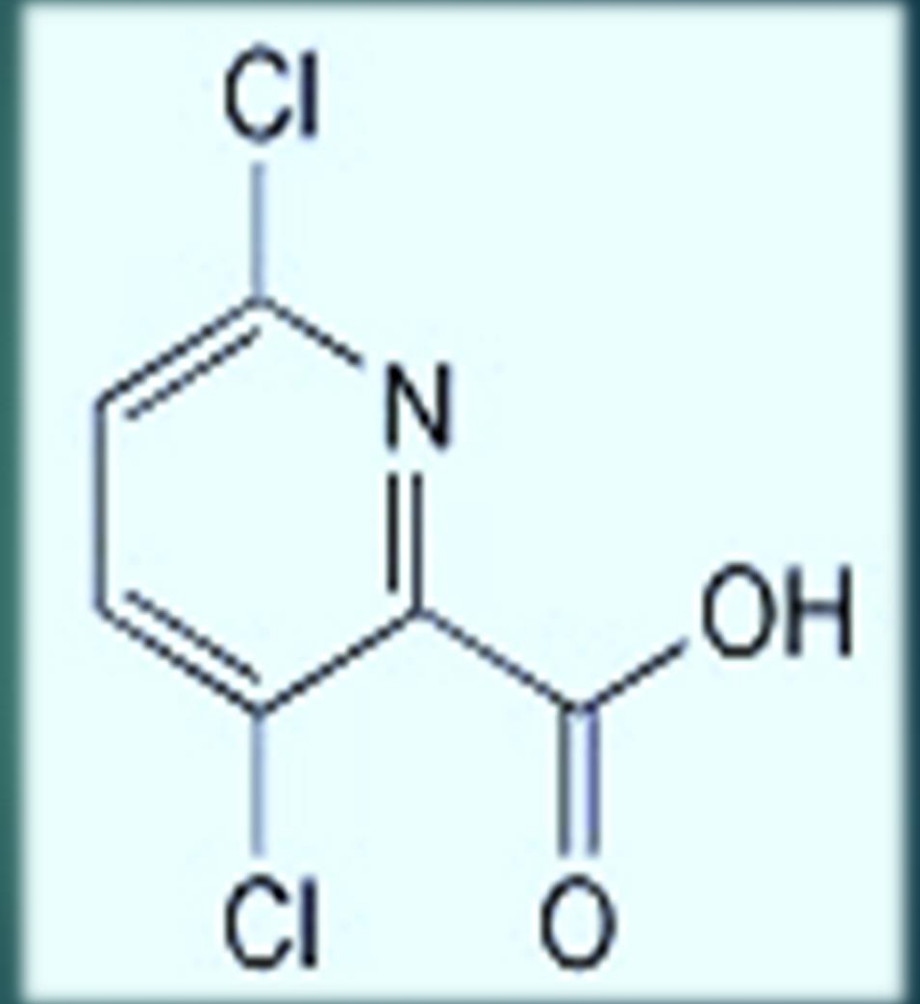
- Stunting/stacked nodes
- Leaf cupping
- Stunting is erratic in the field, more severe in sprayer overlaps
- Often resembles picloram injury



**What herbicides cause this?**

# Pyrimidine/Pyridine Herbicides

1. **Clopyralid**, known as **Stinger**, are primarily agricultural use herbicides; landscape products such as **Confront** (clopyralid + trichlopyr); range and roadside products such as **Transline**



2. Aminopyralid—Milestone

3. Picloram—Tordon

4. Aminocyclopyrachlor—Method





# Magnitude of acres treated in ND

## ▶ Clopyralid containing herbicides

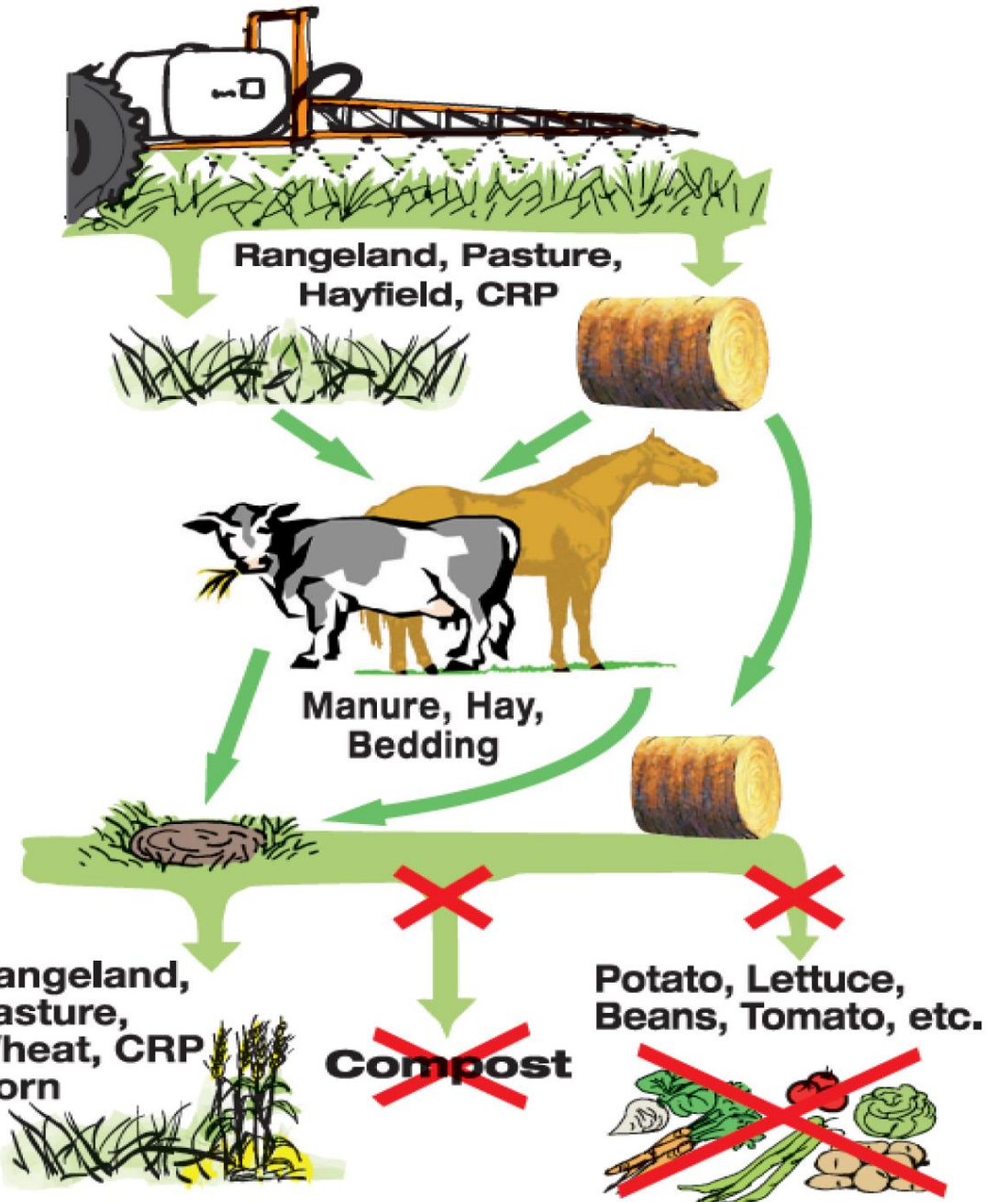
- I. Annually, 40 to 50% of all small grains acres
- II. Annually, 30% of corn acres
- III. Annually, 40% of sugar beet acres

## ▶ Aminopyralid

- I. Annually, at least 200,000 acres of range, pasture, roadside with name brand products. Perhaps 2X more with generics.
- II. How much of this will end up in or on pasture/manure/hay?



# Forage and Manure Management



How do these products injure sensitive off-target plants?

# Contaminated manure on cropland



**Contaminated  
manure on  
residential  
landscape**



## Case 2: Julie V. (July 1, 2021)

- ✓ Applied composted manure to garden last fall. Planted garden in May.
- ✓ By July 1, tomatoes were stunted, potato plants were stretched and distorted.
- ✓ Cucumber plants and others showed cupped, stunted growth.



# Contaminated mulch and compost



# Bedding, gardening, or ornamental straw



# Rights of way applications

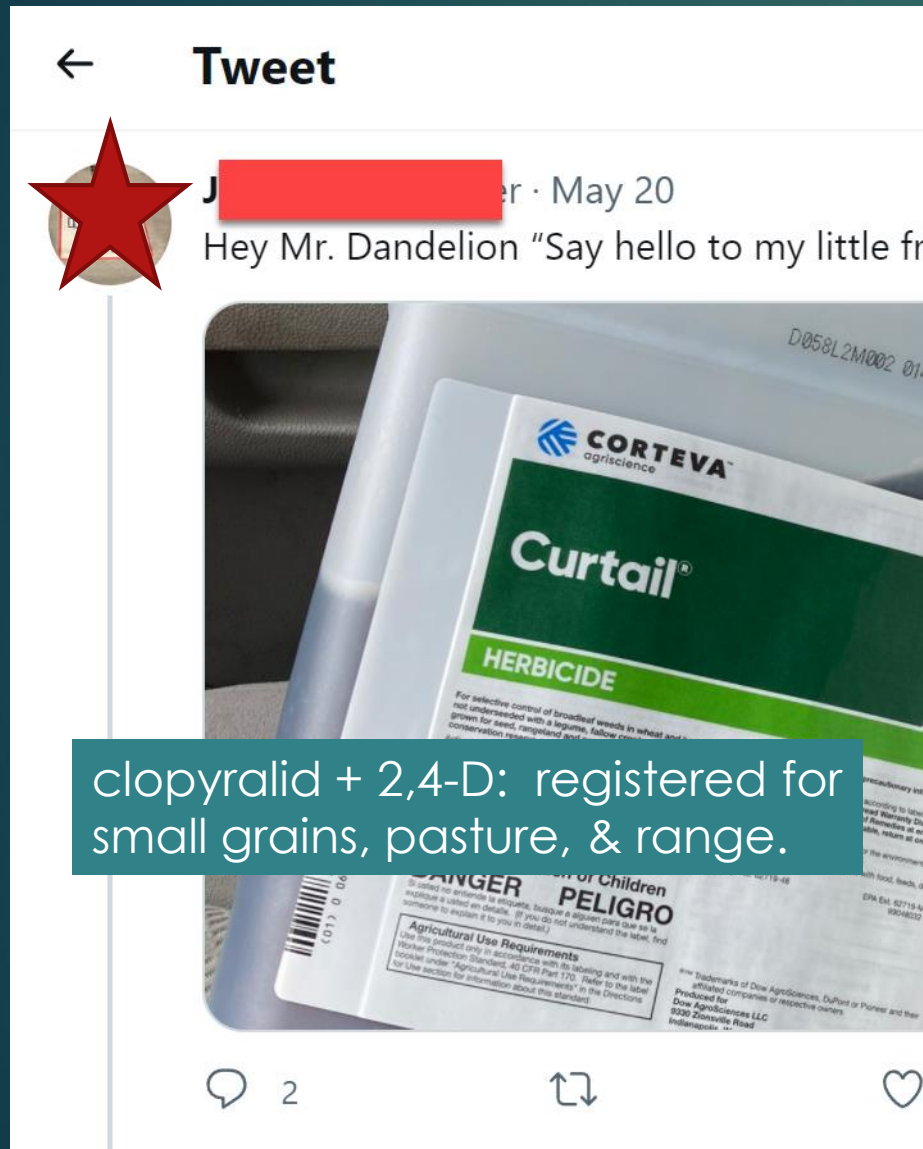




# Rights of way haying



# Illegal homeowner use



## Case 4: Annette L., (August 2021)

- ✓ Neighbor in twin home sprayed both yards with Curtail herbicide to control lawn weeds.
- ✓ Her rhubarb, tomatoes, shrubbery, perennials showing curled, stunted, distorted growth.
- ✓ Neighbor has offered to replace soil.



# What happens on the farm stays on the farm.....or does it?

- ▶ Share the legal practices please
- ▶ Retailers don't need to sell to those who abuse it
- ▶ One high profile incident can change the situation for several products



# How is EPA dealing with this?

## **EPA Addresses Ecological Risks Posed by Four Pyridines and Pyrimidines Herbicides**

**For Release: March 18, 2021**

Today, the U.S. Environmental Protection Agency (EPA) is releasing a proposed interim decision for picloram and interim decisions for clopyralid, dithiopyr and triclopyr to address ecological risks.

# New Labeling--Notification

“The applicator must document that they have notified property owners/operators, or customers, in writing, of the compost and animal bedding/feed prohibitions **before application** of the product occurs. Applicators must keep the records of notification for two years...

## **continued New Labeling--Notification**

“This record must include date of application, the name of the applicator, the EPA registration number of the product applied, the area(s) treated, and a copy of the written notification provided to the property owner/operator. Notification may be made via email, via mail, via paper handout, or by any other written communication method.... ”

# Public Relations Dimension

The Counter

5 Years

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## Contaminated compost: How an industrial herbicide is ruining backyard gardens

by Tove Danovich  
07.22.2020, 1:21pm

Health

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Oregon State University/Flickr



# What are the potential ramifications?

# Tordon\*

*No label - N.D. - 2001*  
*Label Only in Montana - 2001*

## WHEAT, BARLEY, & OATS:

- **Crop stage:** 3-5 leaf to early jointing.
- **Weed stage:** For best results when weeds have a minimum of 6-8 inch runners up through blooming stage and are actively growing.
- **Rates:** 1 oz. Tordon + ½ to 1 pint 2,4-D amine or MCPA. (For oats, do not tank mix with 2,4-D herbicides).
- **Weeds controlled:** Wild Buckwheat, Volunteer Sunflower, Lambsquarter, Pigweed, Russian Thistle, Wild Mustard, Pennycress
- **Crop Rotation:** Rotate to wheat, barley, oats, flax, fallow, or grass. Do not rotate to sensitive oilseeds for 18 months after application.

## FIELD BINDWEED CONTROL WITH TORDON\*

### SUMMERFALLOW APPLICATION

- **Timing:** June through July
- Apply when bindweed has a minimum of 6-8 inch runners up through blooming stage.
- **Rate:** 8 oz. Tordon\* + 1 pt. 2,4-D per acre.
- Addition of Roundup\* may be used for grass control as well.



**No label - ND - 2001**

### POST HARVEST APPLICATION

- Apply anytime after harvest when bindweed has minimum of 6-8 inches of runners and actively growing.
- **Rate:** 8 oz. Tordon + 1 pt. 2,4-D per acre.
- Addition of Roundup may be used for grass control as well.
- Rotation to summerfallow only with post harvest application. 36 month minimum before rotation to a sensitive oilseed crop.



# Take-home Message

- ▶ Persistent herbicide residues are a big issue, especially with the general public
- ▶ Agricultural, Rights of Way, and Lawncare Applicators must communicate with land owners about plant material and manure considerations
- ▶ Applicators and dealers must not share these chemicals with the general public, especially those products that are likely to be used illegally.
- ▶ Failure to adhere to the above will result in more stringent regulations and loss of product availability.

Thank you for your time, attention and concern.

We truly want to make sure the quality active ingredients that are on the market, stay on the market.

Please help share the message!



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