



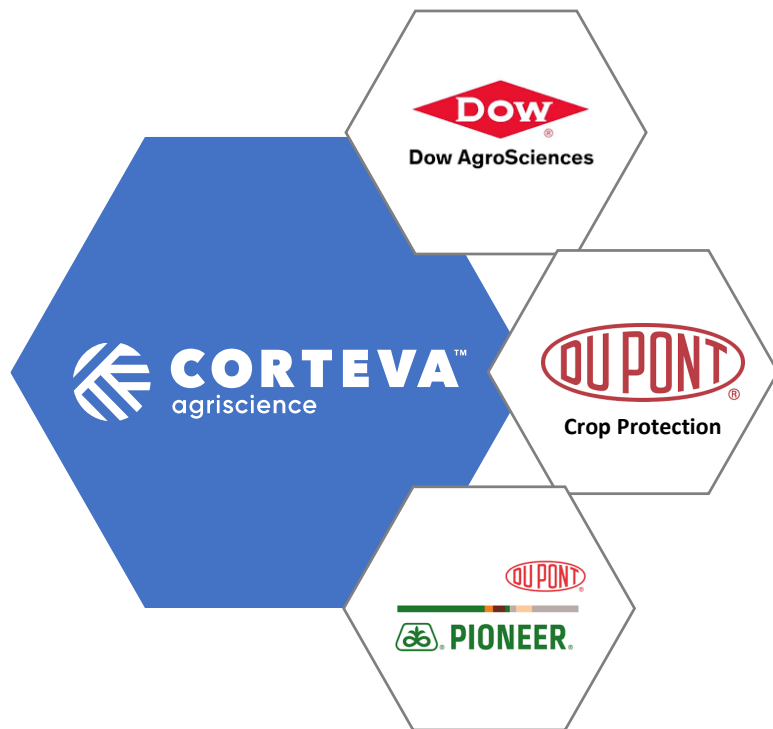
Agriculture Division of DowDuPont™

ROW Habitat Working Group Meeting

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Bringing Industry Leaders Together



U.S. EPA Registration Requirements

- \$250-350MM & 10-12 years
- ≥ 6 divisions within EPA review submitted data package
 - Risk Assessment, Cancer Assessment, Reproduction and Developmental Toxicity, Metabolism Assessment, Mechanism of Toxicity, and Hazard ID Assessment
- Registration review every 8-15 years
 - Human & ecological health
 - Acute & chronic toxicity for larva and adult bees



Registered Compounds

- Aminopyralid
- Triclopyr
- Picloram
- Clopyralid
- Fluroxypyr
- Glyphosate
- Metsulfuron methyl
- Imazapyr
- Aminocyclopyrachlor
- Indaziflam

Understand Product Attributes

	Uses				Controls			
Product	Terrestrial	Aquatic	Cut Surface	Basal Bark	Grasses	Broadleaves	Brush & Vines	Residual Control
Accord® XRT II	•		•		•	•	•	
Capstone®	•		•			•	•	•
Garlon® XRT	•		•	•		•	•	
Garlon® 3A	•	•	•			•	•	
Garlon® 4 Ultra	•		•	•		•	•	
Graslan® L	•		•			•	•	•
Freelexx®	•	•				•	•	
Milestone®	•		•	•		•	•	•
Opensight®	•				•	•	•	•
Pathfinder® II	•		•	•			•	
Pathway®	•		•				•	
Rodeo®	•	•	•		•	•	•	
Tordon® 22K	•			•		•	•	•
Transline®	•					•	•	•
Vastlan®	•	•	•			•	•	
Vista® XRT	•					•	•	

Control Woody & Invasive Plants







Biodiversity Research

- Initiated > 60 years ago
- PA region
- State Gamelands 33 (SGL 33) initiated 1953 and Green Lane Research & Demonstration Area (GLR&D) initiated 1987
- Led by Penn State University
- 6 VM practices evaluated



Bee Research

- Treatments using a selective herbicide application supported the highest number & diversity of bees
- Discovered two specimens of the Golden Bumble Bee (*Bombus fervidus*)
- Indicates that IVM, which may include the use of selective herbicide application, is compatible with supporting native bees



Photo: Carl Engstrom

Impacts of VM Practices on Plant Communities

- Can be changed with appropriate use of herbicides and application methods
- Practices using selective herbicides result in diverse vegetation which provides forage and habitat for wildlife
- Can be created which inhibit tree establishment resulting in reduced maintenance costs
- Mow only resulted in least plant species diversity and high number of incompatible tree species

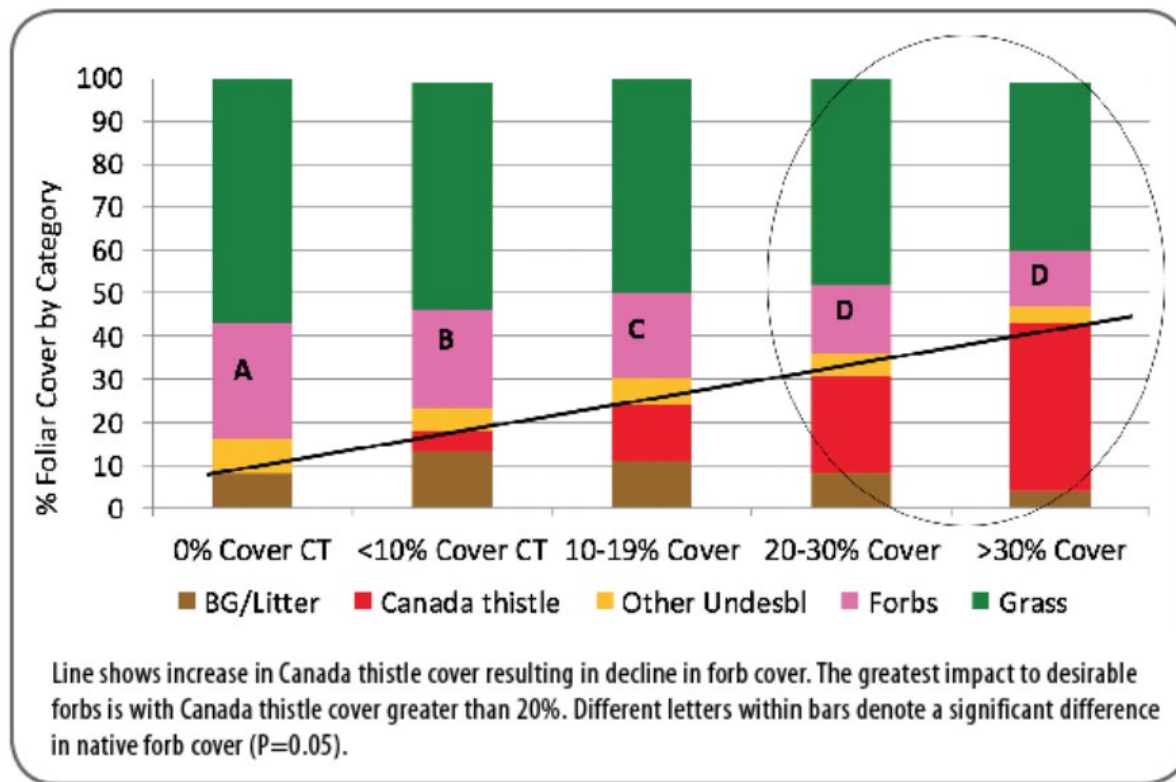


Impacts of VM Practices on Butterflies

- Flowering herbaceous plants occurring within the ROW provide excellent habitat for butterflies
- Excluding hand-cutting all herbicide and mowing + herbicide treatments provide habitat for diverse butterfly populations
- Using herbicides on the ROW did not have a detrimental impact on butterfly species or the total butterfly population



Impact of Canada Thistle Cover on Plant Community Structure



Source: *Impact of Canada Thistle Cover on Plant Community Structure in Early Stage Prairie Restoration* by Byron B. Sleugh, Mary B. Halstvedt, Roger L. Becker, and Paul Bockenstedt. For information go to bit.ly/CanadaThistleImpact

Thank You

<https://sites.psu.edu/transmissionlineecology/>

<https://www.vegetationmgmt.com>