

Vistas

Business Solutions for the VM Professional

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UNDERSTAND GRAZING RESTRICTIONS TO MITIGATE POTENTIAL PROBLEMS



Rights-of-way and roadsides frequently pass through or are adjacent to pastures grazed by livestock. For vegetation managers and herbicide applicators, this is significant because it's illegal to apply herbicides — in this case, herbicides without grazing tolerances to land used for grazing (even if it's land converted to pasture after the fact) — on sites not labeled for use under the Federal Insecticide, Fungicide, and Rodenticide Act. It's comparable to spraying a nonaquatic-use herbicide directly into water.

Additionally, it can lead to unfortunate situations such as a herd of valuable beef cattle grazing forage that has been treated improperly, and, in turn, not being able to be sold for human consumption by the rancher. And there's little doubt as to where that rancher will look to for reparations.

Grazing tolerances are established for a pesticide by the U.S. Environmental Protection Agency. They are only established for products that have undergone stringent testing for use of the pesticide on grass, hay or other feedstock for livestock animals such as cattle, horses, sheep and goats.

Only herbicides with grazing tolerances should be used to treat unwanted vegetation in grazed areas. Products with grazing tolerances may have certain grazing restrictions, which are listed on the product label. The restrictions include any special instructions (such as maximum allowable use rates, and how to handle hay, manure or use for lactating dairy animals) pertaining to applying the herbicide within grazed areas.

THREE EASY TIPS TO AVOID ISSUES

TIP 1: Eliminate risk all together and prescribe or use only herbicides that contain grazing tolerances.

For example, all Dow AgroSciences Industrial Vegetation Management (IVM) herbicide products, including Milestone®, Vastlan® and Opensight® specialty herbicides, have grazing data packages with no or limited restrictions on use.

TIP 2: Even when using herbicides with grazing tolerances, it's still a good policy to practice proactive landowner communication prior to application, especially in areas where grazing is likely.

It helps alleviate landowner concerns, and it can help spur discussion regarding sensitive areas not on your radar.

TIP 3: It's also a best practice that when planning for a herbicide bid package, vegetation managers should work with applicators to fully assess grazing lands or other sensitive sites that applicators might encounter.

It minimizes confusion and reduces the chance for error. For an extra layer of protection, specify in the bid package that only products with grazing labels be used.

It's easy to overlook this issue by assuming everyone understands what is or isn't pasture, or that applicators in the field will just switch tanks when they do encounter it. At some point, it will likely lead to unintended consequences, such as angry phone calls from landowners — or much worse.

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When treating areas in and around roadside or utility rights-of-way that are or will be grazed, hayed or planted to forage, important label precautions apply regarding harvesting hay from treated sites, using manure from animals grazing on treated areas or rotating the treated area to sensitive crops. See the product label for details. State restrictions on the sale and use of Milestone and Opensight apply. Consult the label before purchase or use for full details. Vastlan is not registered for sale or use in all states. Contact your state pesticide regulatory agency to determine if a product is registered for sale or use in your state. Always read and follow label directions.

LONG-STANDING INDUSTRY RESEARCH PROJECT TURNS ATTENTION TO BEES

The Pennsylvania State Game Lands 33 (SGL33) research began in 1953 in central Pennsylvania at the urging of local hunters looking to understand the impact of vegetation management practices on wildlife within electric transmission rights-of-way. Now, a new phase of this important research could be instrumental in the efforts to preserve native bee populations and diversity, especially within rights-of-way corridors.

Over the last 60 years, the SGL33 project (also known as the Bramble and Byrnes project, after the two Pennsylvania State University professors who initiated the research) has measured the effects of herbicides and mechanical vegetation management practices on plant, mammal, bird, reptile, amphibian and butterfly diversity and populations throughout central Pennsylvania. It has also examined their effects on wildlife habitat as well as wildlife use within rights-of-way.

Today, led by research partners from Penn State, SGL33 claims the distinction of being the longest continuous study of its kind. And, starting in 2016, it widened its scope to begin studying the effects of vegetation management practices on bee populations and diversity within rights-of-way.

BEE CONSERVATION A HIGH PRIORITY

Why bees? Well, it's estimated that 4,000 different species of bees are responsible for pollinating nearly 75 percent of the fruits, nuts and vegetables grown in the United States. With bee species in serious decline in the United States and worldwide, their conservation has become a priority.

Many in the vegetation management industry believe that one promising strategy to combat this decline is to promote native flowering plants and suitable nesting habitat in transportation and utility corridors. With millions of acres of power line rights-of-way in the United States alone, there is great potential to develop critical habitat needed for native bee species while at the same time effectively managing vegetation for safe, reliable power.

Spurred by increased industry interest, SGL33 researchers, along with cooperators from Dow AgroSciences, Asplundh Tree Expert Co., FirstEnergy Corp., PECO Energy Company and the Pennsylvania Game Commission, agreed to initiate a multiyear study to better understand the impact of various vegetation management practices on bee populations and diversity.



In 2016, SGL33 conducted bee surveys at six different sites every month over the course of four months. Each site represented a different vegetation management method, including high-volume foliar, ultra low-volume foliar, mechanical mowing, mechanical mowing followed by a cut-stubble application, low-volume basal treatments and hand cutting.

INITIAL FINDINGS POINT TOWARD BENEFITS OF SELECTIVE TREATMENTS

SGL33 released a report after the first year of its bee study, and its initial results have been summarized in two points:

1. The most diverse assemblages of bees were collected from sites at which a low or ultra low volume of herbicide had been applied selectively.
2. The least diverse assemblages of bees were collected from sites that had used broadly applied treatments, whether herbicidal or mechanical.



Travis Rogers, market development specialist with Dow AgroSciences, has been an active participant on the bee research and commented on the initial results. "The key findings from the first year of research align with what we anticipated," says Rogers. "The broadcast treatments which were found

to lead to lower bee populations versus the more selective treatment methods shouldn't be a surprise, as the broadly applied treatments would have eliminated a majority of the herbaceous broadleaf plant species that were present. These findings are also consistent with operational experience that has demonstrated how integrated vegetation management practices are capable of reducing woody plant species on rights-of-way, while at the same time selecting compatible vegetation that is seen as desirable habitat for the animal species that use those rights-of-way."

The project team met in early July to begin data collection for this year's phase of research, and Rogers is excited to compare the data collected this year against last year.

"Last year's data was collected four years post treatment, whereas this year's data collection will be one year after treatment," says Rogers. "So, it will be interesting to see what differences there may be based on plant response following each application method."

For more information, including both the full and summary versions of the report, visit: <http://sites.psu.edu/brambleandbyrnes>.

InvasiveWatch



Canada thistle flower heads are small, bristly clusters and are typically light lavender to deep rose purple.



An erect perennial, Canada thistle grows from 1 to 4 feet tall and has tremendous leaf variability.

WHAT TO LOOK FOR

Canada thistle is an erect perennial plant that grows from 1 to 4 feet tall. It has tremendous leaf variability, varying from light to dark green, oblong or lance-shaped, deeply cut, often with spiny-toothed margin, and slightly hairy below. Flower heads typically appear from June to October and are small, bristly clusters that range from light lavender to deep rose purple or sometimes white.

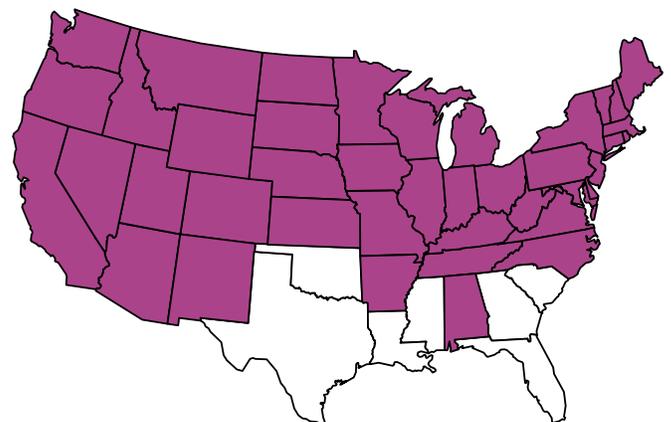
Canada thistle has extensive, fleshy, creeping roots that rapidly spread to form dense colonies. Each plant can spread up to 12 feet through the soil by root growth in a single season. Vegetative shoots arise from adventitious buds located on the plant's roots. Plants are both male and female and spread by seed, with each shoot capable of producing more than 1,000 seeds.

WHERE THEY ARE FOUND

Canada thistle, despite its name, is native to Europe and is generally thought to have been introduced into the United States in the 1600s through farm seed shipments. It is listed as a noxious weed in at least 43 states, with the only exceptions being the most southern states, such as Florida and Georgia. This noxious weed invades a variety of dry to moist habitats such as cultivated fields, roadsides and other noncrop areas, wet meadows, and rangelands and pastures. It can often be found along stream banks or other waterways.

HOW TO TREAT THEM

There are several effective herbicide treatments to control Canada thistle. The most effective is a foliar broadcast or high-volume hand spray application of Milestone® specialty herbicide at 5 to 7 fluid ounces per acre. Other highly effective foliar or high-volume treatments are Capstone® specialty herbicide at 6 to 9 pints per acre or Opensight® specialty herbicide at 2.5 to 3.3 ounces per acre.



■ Canada thistle

Source: USDA PLANTS Database Profile

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CANADA THISTLE (*CIRSIUM ARVENSE*)

If you're treating Canada thistle under trees, use 0.67 to 1.33 pints per acre of Transline® specialty herbicide or selective control.

If you're treating minor thistle infestations or are performing follow-up spot treatments using a backpack sprayer, the recommended spray mixture is Milestone at 0.5 to 1 teaspoon per gallon of spray solution. When working with such low use rates, proper calibration of spray equipment is required to determine the exact amount to add to the backpack. Transline at 0.25 to 0.33 fluid ounce per gallon of spray solution can also be used.

For all treatments, a nonionic surfactant containing 80 percent or greater active ingredient, at 1/4 to 1/2 percent v/v, is recommended to improve wetting and penetration.

WHEN TO TREAT IT

Canada thistle may be treated in spring or fall. For spring applications, apply herbicide after all plants have fully emerged (some may be budding) until the oldest plants are in full flower stage. Good control is obtained up to the full flower stage but decreases at the fuzz stage (when many blooms are setting seed).

In the fall, Canada thistle plants translocate sugars to the roots, and this is an excellent time for herbicides to be translocated down to kill the roots. Fall treatments can be made even when plants are starting to senesce and after a light frost if there is some green foliage. Use higher rates for older, denser stands.

Control of Canada thistle requires follow-up treatment of all new plants. Soil disturbances will enhance new plant growth, while the development of a thick cover of desirable plants, especially grasses, will reduce re-invasion and seed germination. The treated sites must be checked each year and new plants treated.

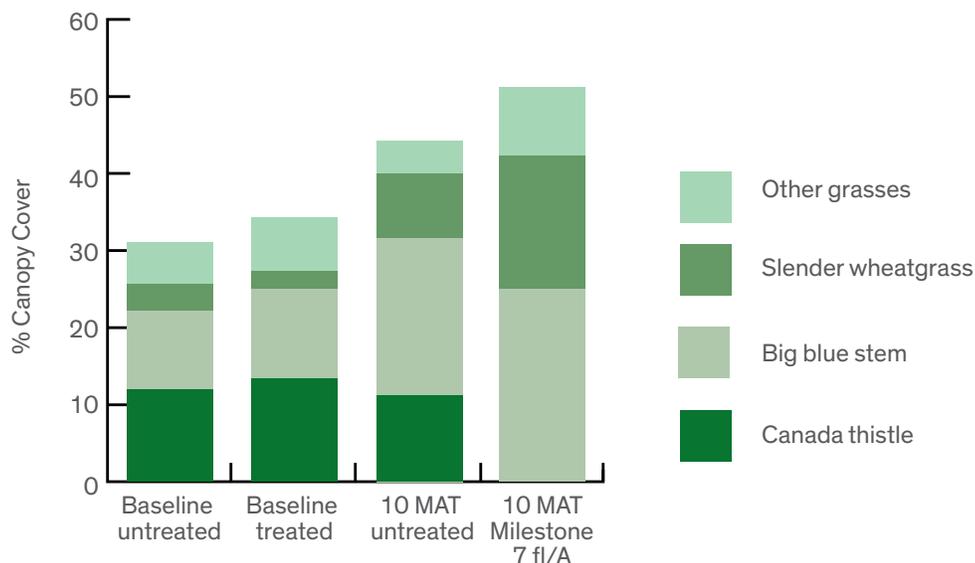
BENEFITS OF CONTROL

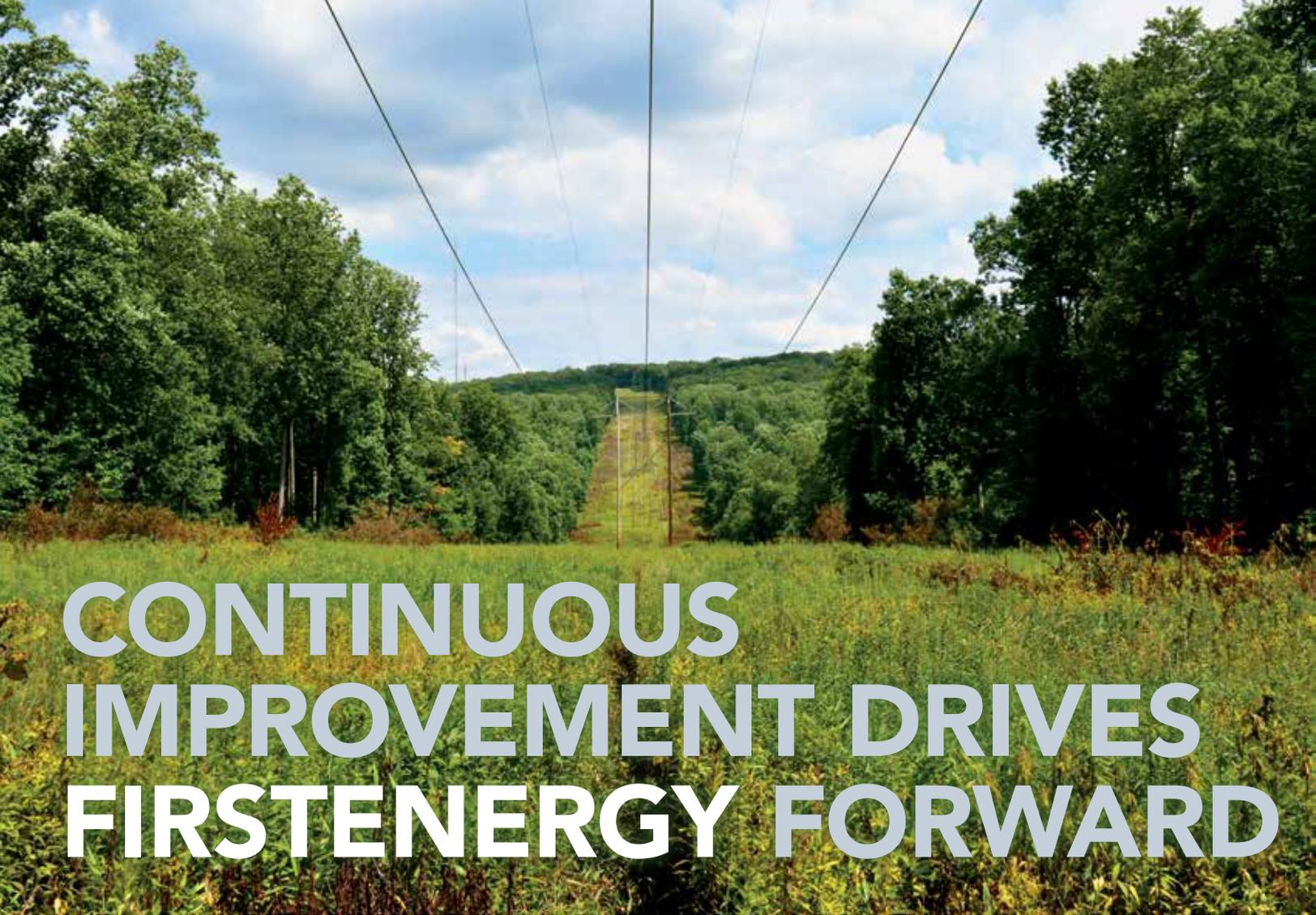
When Canada thistle is allowed to form dense monocultures, it can negatively impact desirable grasses and forbs, which, in turn, reduces beneficial forage for wildlife and nesting areas for birds. However, successful control can result in increased grass and improved habitat for wildlife.

The graph below summarizes the percentage canopy cover of several grass species present at a research location at North Dakota State University. The baseline data shows a very similar composition before treatment for treated and untreated plots. The second set of data shows the grass response 10 months after treatment (10 MAT). The grass response after an application of Milestone to control Canada thistle was outstanding, averaging a 46 percent increase compared with treated plots.

In addition, Milestone, with its low toxicity to birds, fish, mammals and aquatic vertebrates, is an excellent herbicide option in natural areas where wildlife is present and can be applied to seasonably dry wetlands and up to the water's edge.

Grass Response to Canada Thistle Control with Milestone® 10 Months After Treatment (MAT)





CONTINUOUS IMPROVEMENT DRIVES FIRSTENERGY FORWARD

Mark Twain is quoted as having said: “Continuous improvement is better than delayed perfection.” It serves as a fitting mantra for FirstEnergy Corp., one of the nation’s largest investor-owned electric providers. While rights-of-way perfection is a tall order, FirstEnergy recently implemented several industry best practices that have made its vegetation management program operationally more efficient while also positively affecting the environment in which it works.

FirstEnergy manages an infrastructure of more than 24,000 miles of transmission lines and 269,000 miles of distribution lines that connect the Midwest and Mid-Atlantic regions, and its 10 regulated distribution companies serve more than 6 million customers.

Shawn Standish is the manager of program management and oversight with FirstEnergy. Standish, based in York, Pennsylvania, has been with FirstEnergy for 13 years and is responsible for vegetation management activities for all new transmission construction, ensuring compliance with federal and state regulations, training staff and contractors, emerging technologies and contract strategies.

“It’s no surprise that the company’s first priority is to provide safe and reliable electricity to its customers,” says Standish. “To accomplish that, our team employs integrated vegetation management methods along managed rights-of-way as an integral part of what we deem to be the safest, most effective and efficient maintenance practices.”

As Standish works to apply industry best practices to FirstEnergy’s vegetation management program, he’s uniquely fortunate to have direct involvement in perhaps the most well-respected industry research on responsibly managing utility rights-of-way. In fact, this research takes place in his backyard.

THE CONVERGENCE OF RESEARCH AND REAL-WORLD APPLICATION

In 1953, the Pennsylvania State Game Lands 33 (SGL33) research began in central Pennsylvania to document the impact of vegetation management practices on wildlife within electric transmission rights-of-way. Over the years, it has provided a blueprint for how to effectively manage rights-of-way with the environment in mind.

FirstEnergy and its predecessor companies have been involved with SGL33 from the beginning, and other partners, such as Dow AgroSciences, Asplundh Tree Expert Co., PECO Energy Company and the Pennsylvania Game Commission, have made sure this independent research treasure has been able to continue over the decades.

“I’ve represented FirstEnergy as a cooperator on SGL33 for the last 10 years and am responsible for the transmission lines that run through this project area,” says Standish. “SGL33 serves as a proving ground to the world when it comes to vegetation management practices and its effects, and we feel fortunate to have represented the industry with what FirstEnergy is doing on these rights-of-way. We implement on our rights-of-way what we see with our own eyes in the research, and that will continue as our program develops and the research continues.”

A new phase of SGL33 research promises more applicable results around one of the hottest topics in the industry right now: pollinators. FirstEnergy is playing a key role.

“FirstEnergy helped initiate the recent focus on pollinators, specifically, bees,” says Standish. “FirstEnergy has been able to share learnings from our involvement in other pollinator projects within our system and look forward to more data as this project continues.”

BEING SELECTIVE WITH BRUSH CONTROL

A good example of FirstEnergy applying SGL33 findings on its own rights-of-way is in its shift to the implementation of selective herbicide treatments. No small task, as FirstEnergy employs multiple contract applicators to treat between 25,000 and 30,000 acres across its system every year.

“We’ve been able to get to a point where most of our management work consists of selective application of herbicides,” says Standish. “Previous to that, the company went through multiple cycles across our system where we were employing mostly high-volume herbicide applications along with mechanical methods in an effort to re-establish managed rights-of-way with more compatible plant species that are consistent with NERC and FERC requirements.”

Instituting a true integrated vegetation management program, with the goal of creating a stable, early successional plant community, is what helped facilitate the company’s transition to using more selective herbicide treatments. To demonstrate the positive impact of that move, consider that FirstEnergy has been able to reduce the number of applied gallons by 65 percent from previous maintenance cycles.



FirstEnergy has transitioned to using selective brush treatments on its rights-of-way.

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Using selective herbicides allows native vegetation to thrive for the benefit of wildlife and pollinators species.

“The majority of the FirstEnergy system is on a five-year treatment cycle, unless local conditions or a particular state mandate requires a four-year cycle,” says Standish. “In our program, each cycle includes treatment of all incompatible vegetation or vegetation that may grow tall enough to interfere with the overhead facilities or impede our access to work or inspect the transmission corridors. Some of the species we target as incompatible are tartarian honeysuckle, olive species, buckthorn and choke cherry as they tend to harbor faster-growing tree species and make it difficult to identify and control them.”

The move to more selective treatments has also eased landowner communications, which can be a time-consuming part of any vegetation manager’s job.

“There’s a lot of negative perceptions around the necessary work we complete in keeping rights-of-way clear, and we’re working against a lot of misinformation or outdated information,” says Standish. “So, we stay proactive with our communications, and it’s why we invest so many resources in our landowner communication program. We’ve found that being able to show landowners that we are employing selective herbicide treatments — to the benefit of the land and wildlife — has made things a lot easier.”

MORE FLEXIBILITY MEANS FEWER MIXES

Standish and the FirstEnergy team also made the decision to be more selective with what herbicides are included on FirstEnergy’s approved Mix Code list — a list containing all the approved herbicide mixes FirstEnergy’s contract applicators can use across its footprint. There are options for various application methods, and the available mixes factor in things such as local field conditions.

Over the years, the list grew to the point that it became difficult to manage and measure effectiveness. Now, it contains just 22 approved mixes, an 89 percent reduction, something he credits to a more stringent review process and the employment of foundation herbicides that are more flexible.

“When our team reviews the Mix Code list every year, we always consider safety to workers and to the environment as the No. 1 criteria in a herbicide, followed closely by its ability to successfully eliminate target vegetation,” says Standish. “But now the team has also placed increased emphasis on selecting herbicides with the greatest overall application flexibility, especially when factoring in all the various local conditions like pastures, topography and aquatic scenarios our applicators encounter.”

“FirstEnergy uses a lot of Milestone, Vastlan and Garlon 4 Ultra as our team considers them to be very flexible herbicides.”

*Shawn Standish
Manager of Program Management*

A “flexible” herbicide, as Standish calls it, is one that can be used in various application methods and use sites during a wide application window and for controlling multiple species of weeds and brush.

“FirstEnergy uses a lot of Milestone, Vastlan and Garlon 4 Ultra as our team considers them to be very flexible herbicides,” says

Standish. “When looking at our current Mix Code list, you’ll find them or another Dow AgroSciences product included in at least one of our prescribed mixes for each application type we use across FirstEnergy’s service territory, which is a testament to their flexibility.”

Fortunately, the flexibility of Milestone®, Vastlan® and Garlon® 4 Ultra specialty herbicides doesn’t come at the expense of control. “Our specification requires 95 percent control of incompatible vegetation in each span along with total control of vegetation that may pose a reliability issue prior to the next scheduled maintenance,” says Standish. “And we’ve had good success meeting those desired expectations.”

The annual review of the Mix Code list relies on input from multiple sources. “We rely on input from Brandon (Dunlap, a sales specialist with Dow AgroSciences), our distributors and our team of applicators when it comes to initially choosing herbicides, as well as those we will continue to use,” says Standish. “Once the list is set, we collaborate with our applicators in following a detailed prescription process that starts with looking at the rights-of-way to be treated. That includes a resource planning flight a year prior to any scheduled maintenance or treatments.”

STREAMLINING HERBICIDE MANAGEMENT THROUGH CLOSED CHAIN OF CUSTODY

Drastically reducing the number of approved herbicide mixes also helped pave the way for added efficiency in other areas,

namely, in the storage, mixing and tracking of those herbicides — coming in the form of a closed chain of custody (CCC) herbicide delivery system. In 2014, FirstEnergy started the CCC process, which included Continuum® Prescription Control & Container Management System to eliminate container rinsing and disposal, reduce container storage and handling requirements, and reduce labor costs and accidental exposure to workers.

“It started by encouraging our partners to move our herbicide mixes through the closed chain of custody system, which resulted in conversion of about 60 percent of our total herbicide volume,” says Standish. “Since then, we’ve continued to refine the expectations around using the system with our applicators and our distributor and manufacturer partners.”

In 2017, FirstEnergy decided, upon competitive bid, to sole source delivery of all its 22 approved herbicide mixes through CCC. “That decision takes into account the industry position that this is a best practice, but also helps provide a level playing field across the entire FirstEnergy footprint and puts everyone involved in the best position to achieve success, in terms of safety for our workforce and environmental compliance, commitment to stewardship, quality assurance and efficiency,” says Standish. “It also ended up saving us several tons of waste while freeing up our applicators to spray more acres safely and completely.”

These types of strategic changes demonstrate how continuous improvement embodies FirstEnergy’s approach to vegetation management. And it’s an approach that will continue to serve FirstEnergy well into the future.



Shawn Standish (right) and Nick Wingerter (left) of FirstEnergy talk with Brandon Dunlap (center) of Dow AgroSciences during an inspection of a recently treated right-of-way.



TAKE STEPS TO MINIMIZE THE EFFECTS OF VOLATILITY AND SPRAY DRIFT

Applicators have plenty to consider before, during and after making a herbicide application — proper handling procedures, mixing rates, safe disposal of containers and personal protective equipment, to name a few. Each step can affect the desired result, which is targeted control of unwanted vegetation.

What is not desired is damaging off-target vegetation, such as ornamental plants on public or private property. Besides errors in applying the herbicides, there are two main culprits when it comes to off-target damage: volatility and spray drift. Understanding the differences between the two is essential to minimize the effects of each and should be a matter of regular training for newly hired applicators as well as those with more experience.

It's essential for applicators to first understand the differences between volatility and drift and then take steps to minimize instances of both when making herbicide applications. When either happens, it can lead to off-target damage to desirable vegetation or sensitive crops, with unintended environmental and financial consequences.

CAUSES OF HERBICIDE VOLATILITY AND WAYS TO MINIMIZE IT

Herbicide volatility is the result of movement after application when the herbicide converts to a gas and moves from the application site. Volatility can occur when spray solution settles on-site and then changes to a vapor and moves off-site.

Herbicide vapor can be carried off-site by wind. Potential for volatility is greatest on inert surfaces where the herbicide is not absorbed, such as rocks and pavement.

Volatility is a characteristic of the formulation of the herbicide and, in some cases, the active ingredient, so not all herbicides have the potential for volatility. When the conditions for volatility are higher, such as higher temperatures and low humidity, using a nonvolatile herbicide will help prevent off-target vegetation damage.

Milestone® specialty herbicide is considered essentially nonvolatile, so it is unlikely to move from the application site as a vapor. This characteristic is based on an active ingredient having a low vapor pressure along with rapid absorption into a plant's leaf. As a general rule of thumb, the lower the vapor pressure of the chemical, the less susceptible it is to volatility.

BEST PRACTICES TO MINIMIZE OFF-TARGET DAMAGE DUE TO HERBICIDE VOLATILITY

- Check weather conditions and avoid applying in high temperatures and humid conditions.
- When spraying, avoid applying to impermeable surfaces, such as rocks or pavement.
- Know which herbicide formulations are potentially volatile, such as ester formulations and certain active ingredients.

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CAUSES OF SPRAY DRIFT AND WAYS TO MINIMIZE IT

Spray drift is a more common concern for off-target injury. Drift occurs when small droplets or droplet fines from the application solution move to nontarget vegetation without ever landing on the target site.

Weather is an important factor contributing to drift potential, including wind speed and direction, air temperature and humidity. Selecting the proper equipment and treatment method can help minimize spray drift, especially in relation to the droplet size produced. As droplet size increases, the potential for drift decreases. Applicators should always start by referring to the herbicide product label for application guidelines. As an example, all Dow AgroSciences herbicide labels include a "Precautions for Avoiding Spray Drift and Spray Drift Advisory" section.

Applicators are responsible for applying herbicides in a manner that minimizes potential risk to people and the environment. This includes exercising good judgment and erring on the side of caution, which will always help mitigate that risk, especially when trying to avoid spray drift.

BEST PRACTICES TO MINIMIZE OFF-TARGET DAMAGE DUE TO SPRAY DRIFT

- Determine wind direction and try to avoid spraying when sensitive plants are downwind and adjacent to the site.
- Keep nozzle heights as low as possible when spraying.
- Avoid treating taller vegetation upwind when sensitive crops (soybeans, tobacco, grapes, etc.) or water are close or adjacent to the application site.
- Use nozzles that apply coarse, large and uniform droplets (about 400 µm or greater).
- When using an adjustable nozzle, use the coarse (as opposed to the fine) spray setting.
- Don't rapidly wave herbicide spray wands or guns back and forth as this shears spray droplets and creates more fine droplets that can drift off-site.
- Avoid using worn or improper nozzles and equipment.
- Consider the use of internal or external pressure regulators, such as constant flow valves.
- Avoid using higher pressures, which tend to generate smaller droplets.
- Consider using drift control additives, which can dramatically reduce drift potential.
- Always follow herbicide label directions.



Determine wind direction and keep nozzle heights as low as possible when spraying.

GARLON® XRT SPECIALTY HERBICIDE A NEW ADDITION TO GARLON FAMILY OF HERBICIDES



For years, foresters have relied on Forestry Garlon® XRT specialty herbicide for site preparation, mid-rotation release, forest roadside brush removal and establishment of wildlife openings. Now, that same triclopyr ester formulation is available for use on additional uses sites, including roadsides and utility rights-of-way, as simply Garlon XRT specialty herbicide.

"We've dropped forestry from the name because it's no longer just a forestry herbicide," says Matt Armson, U.S. product manager for the Dow AgroSciences industrial vegetation management (IVM) business. "While Garlon XRT will continue to offer the same results for our forestry customers, its benefits will now be available to roadside and utility vegetation managers as well to use in foliar, basal cut-stump, low-volume basal and dormant stem treatments."

Garlon XRT is a selective, postemergence herbicide that controls many broadleaf weeds and woody plants. It is a unique, solventless, high-load formulation of triclopyr ester, which is now labeled for use in noncrop areas, including industrial manufacturing and storage sites, rights-of-way such as electrical power lines, communication lines and pipelines, roadsides, railroads, fence rows, nonirrigation ditch banks, forests and in the establishment and maintenance of wildlife openings, including grazed areas within these sites.

Garlon XRT is available now and can be purchased in 2.5-gallon containers or 30-gallon drums.

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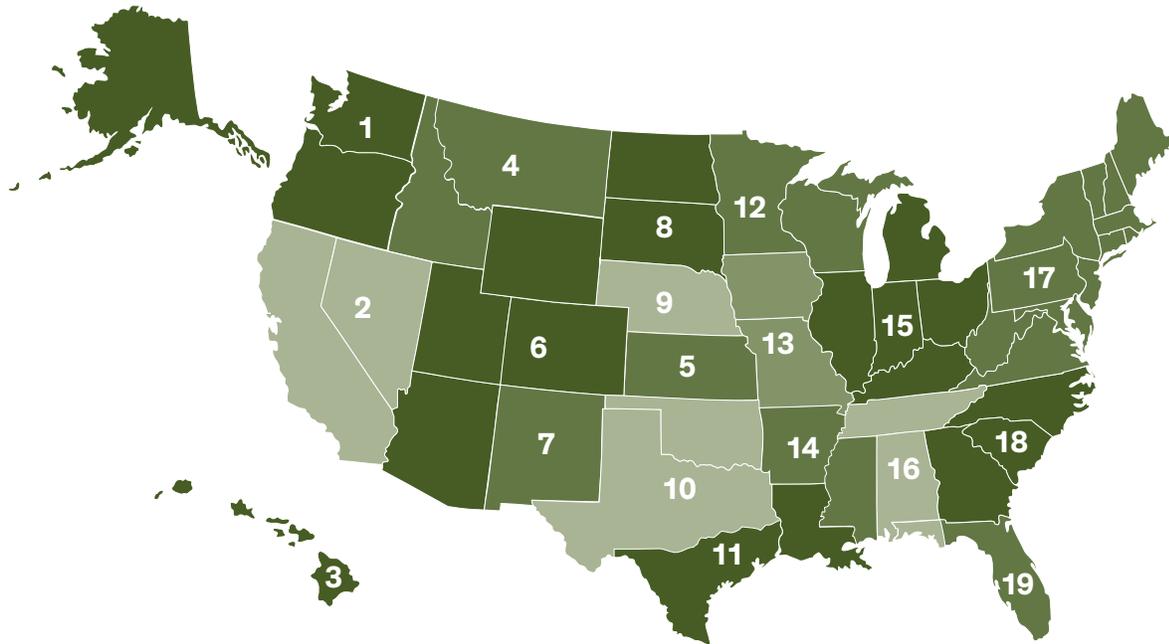
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Dow AgroSciences Vegetation Management Specialists



1. Bob Stewart, Albany, OR
541-924-0881
rastewart@dow.com

2. Beau Miller, Sacramento, CA
916-296-2811
bjmiller@dow.com

3. Roman Dycus, Honolulu, HI
808-779-7025
rddycus@dow.com

4. Trent Brusseau, Caldwell, ID
208-318-8877
tabrusseau@dow.com

5. Debbie Morton, Leawood, KS
913-948-1690
demorton@dow.com

6. Claire Volk, Loveland, CO
972-439-7666
cmvolk@dow.com

7. Greg Alpers, Roswell, NM
575-626-7438
gaalpers@dow.com

8. Karissa Floerchinger, Fargo, ND
406-788-4044
kafloerchinger@dow.com

9. Craig Davidson, Lincoln, NE
701-260-0712
cdavidson@dow.com

10. Rhonda Franklin, Princeton, TX
317-220-0665
rkfranklin@dow.com

11. Oracio Molina, Fort Worth, TX
682-308-7460
omolina@dow.com

12. Jamie Baumgardner, Des Moines, IA
712-299-2583
jdbaumgardner@dow.com

13. Brant Mettler, Sarcoxie, MO
940-641-0274
bcmettler@dow.com

14. Blake Williams, Memphis, TN
863-393-5772
bwwilliams@dow.com

15. David Jay, Mooresville, IN
317-946-4086
dmjay@dow.com

16. Jacob Hodnett, Wadley, AL
334-349-6123
jmhodnett@dow.com

17. Brandon Dunlap, Carlisle, PA
717-448-7101
btdunlap@dow.com

18. Darrell Russell, Roswell, GA
470-545-8983
dwrussell@dow.com

19. Daniel Leckie, Cape Coral, FL
843-513-3914
deleckie@dow.com

Railroad:

Homer Deckard, Friendswood, TX
281-992-5331
hedeckard@dow.com



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