pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Central Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET PESTICIDES

Application Type	**Renewal**	Application No.	**PA0270822**
Facility Type	**Pesticides**	APS ID	**911629**
Permit Type	**Individual**	Authorization ID	**1383377**

Applicant and Facility Information

Applicant Name	**PPL Electric Utilities Corp**	Facility Name	**PPL Electric Utilities Transmission & Distribution System**
Applicant Address	1639 Church Road	Facility Address	2 N 9th Street
	Allentown, PA 18104-9342		Allentown, PA 18101-1139
Applicant Contact	Patrick Renshaw	Facility Contact	Patrick Renshaw
Applicant Phone	(484) 661-4486	Facility Phone	(484) 661-4486
Client ID	308109	Site ID	814954
SIC Code	4911	Municipality	Statewide
SIC Description	Trans. & Utilities - Electric Services	County	Statewide
Date Application Received	February 1, 2022	WQM Required	No
Date Application Accepted	February 9, 2022	EPA Waived	No
Purpose of Application	Renewal of a statewide NPDES Individual Pesticides Permit for the application of pesticides to control weeds in the area of transmission and distribution lines and facilities.		

Internal Review and Recommendations

PPL Electric Utility Corporation (PPL) submitted an application on February 1, 2022 seeking the renewal of Individual Pesticides NPDES permit number PA0270822, for the use of pesticides to control vegetation in and around their substations, rights-of-way (ROWs) and areas under its transmission and distribution systems throughout their service area. PPL had obtained permission to submit the application after the due date, December 2, 2021, via email on November 22, 2021. The control of vegetation is needed to ensure the safety and security of PPL's systems, and to allow access for employees and contractors. PPL's service area spans 29 counties of the Commonwealth and includes approximately 33,000 miles of aerial transmission and distribution lines that are all to be included in the proposed treatment area.

The application and Pesticide Discharge Management Plan (PDMP) state that vegetation management is necessary due to the fact that vegetation can interfere with PPL's ability to reliably supply energy to its 1.4 million customers in central and eastern Pennsylvania. Vegetation can degrade wires and structures, prevent access to infrastructure, create paths for trespassers over fences, provide unwanted animal habitat, and conduct electricity across substation areas.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		Zachary Steckler Zachary Steckler, E.I.T. / Project Manager	April 28, 2022
X		Maria L Schumack Maria L Schumack, P.E. / Environmental Engineer Manager	May 13, 2022

Internal Review and Recommendations

A query for any open violations was performed on WMS and returned no results for the Client ID number associated with this permit.

The schedule of treatments according to the application are as follows:

March – October	Complete vegetation management cycle on **transmission system** every **four years**.
March – October	Complete vegetation management cycle on **distribution system** every **five years**.
March – October	Complete vegetation management cycle on **substations every year**.

According to PPL, its Vegetation Management Program utilizes a combination of pest management options so that the corporation can most efficiently control target pests, while minimizing the use of pesticides. In developing Pest Management Measures for each corridor and facility, PPL claims to be evaluating its management options considering potential impact to water quality, impacts to non-target organisms, feasibility, and cost effectiveness. PPL requires personnel or applicators to conduct inspections of substation, transmission, and distribution corridors. In order to effectively manage its vegetation, PPL has divided its treatment area in various zones and their practices in place in their Pesticide Discharge Management Plan:

1) Wire Zone - that area of the right-of-way corridor that extends from the centerline to a distance ten (10) feet from the outermost conductors. All woody stems shall be controlled in the wire zone. Only Grasses, Ferns, and Herbaceous Plants may be preserved in the wire zone.
2) Border Zone - that area of the right-of-way corridor that extends from the limit of wire zone to the limits of the easement boundary. Low growing tree and shrubs may be preserved in the border zone.
3) The area outside the easement boundary shall be managed for hazard trees.
4) The only exception to the above applies to non-compatible trees growing in ravines, gullies, or on side hills where topography is such that vegetation as a species maximum height will never encroach into the maximum sag wire security zone. In those areas non-compatible species may be preserved across the entire corridor at the discretion of PPL's authorized representative.

If PPL needs to apply pesticides directly over surface water, they are required to obtain joint permit coverage prior to the discharge. (25 Pa. Code Chapter 91.38 and 58 Pa. Code Chapter 51.61(b)(18)). No direct applications to surface waters are being proposed by this permit renewal application. The previous permit document included the following Part C condition which will be retained in the renewed permit:

"Pesticides may not be directly applied to surface waters unless the applicant obtains prior authorization in accordance with the regulations set forth at 25 Pa. Code Chapter 91.38 and 58 Pa. Code Chapter 51.61(b)(18)."

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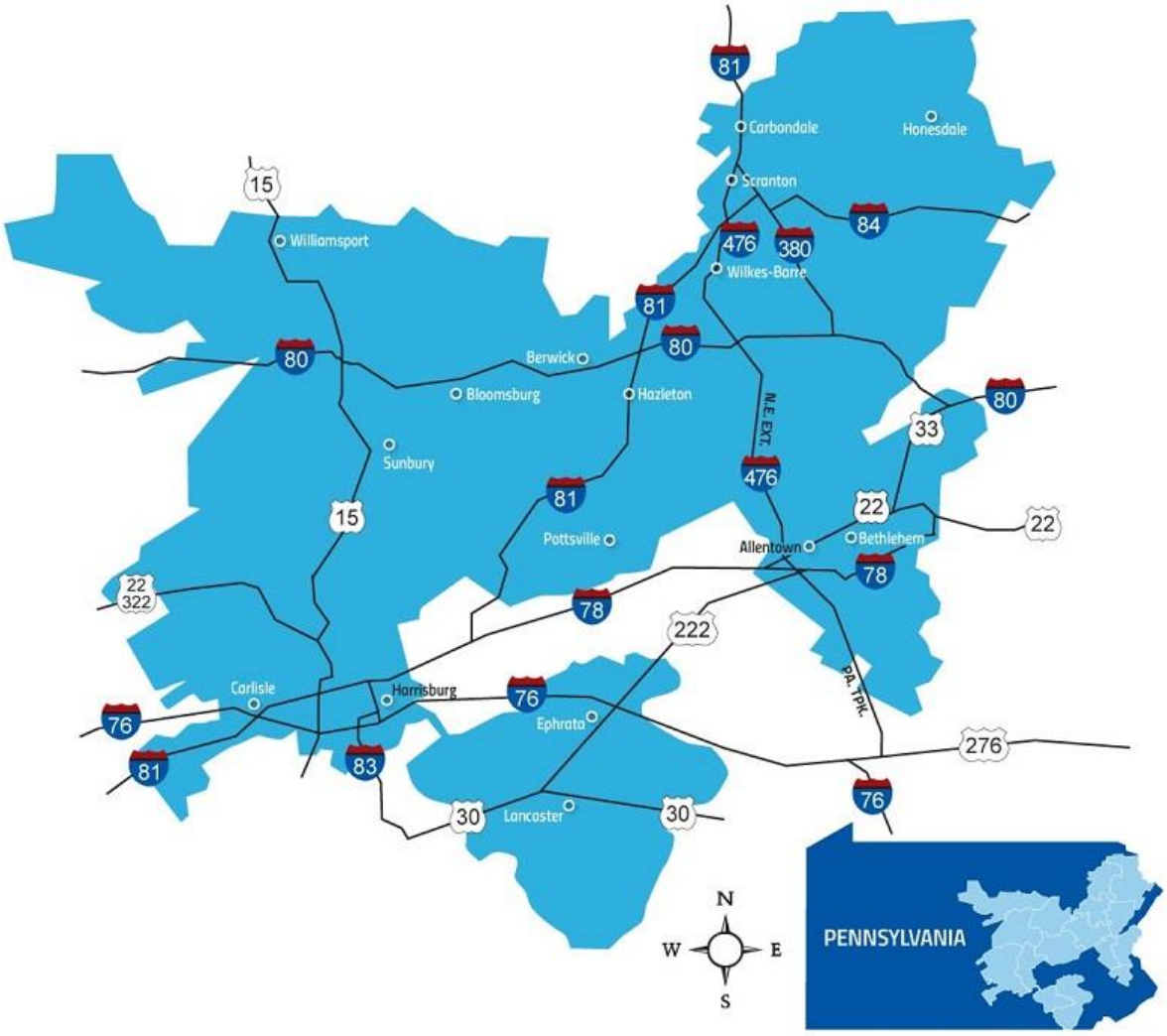
Map of Treatment Area PPL's transmission and distribution system is generally contiguous and spans 29 counties in central and eastern Pennsylvania.



Proposed Treatment Areas, Waterbodies, and Pesticides

Table 1 below lists pesticides proposed for use under the renewed NPDES permit. PPL has not provided a specific maximum annual dose of each pesticide, but has provided their list of approved herbicide mixtures (Table 2 in attachments) which details the mixing proportions, target vegetation, use, and maximum application rate. Because of the treatment area size, there are significant variations in dosage rates due to differences in landscape, vegetation conditions, density and species, anticipated growth rates, easement restrictions, and environmental concerns. Licensed applicators will comply with instructions on product labels, including restrictions for making decisions on effective dosage prior to applying the pesticides. In the following table, the annual maximum dose is taken from the product labels. In no circumstances should the applicant exceed the maximum dose for each product, or the maximum aggregate annual dose for each active ingredient across all products, as specified on the product labels. Potentially impacted waterbodies and their designated uses are listed in the application documents, and generally include all waterbodies in the counties served by PPL.

Table 1: Pesticides Approved for Use During Permit Term

Herbicide / Pesticides Name	Manufacturer's Name	EPA Registration Number	Maximum (Annual) Dose	
			Dose	Units
Accord XRT II	Dow AgroSciences	62719-556	8.0	quarts/acre/year
Arsenal Powerline	BASF Corporation	241-431	6.0	pints/acre/year

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Escort XP	Bayer	432-1549	4.0	ozs/acre/year
Garlon 3A	Dow AgroSciences	62719-37	3.0	gallons/acre/year
Garlon 4 Ultra	Dow AgroSciences	62719-527	8.0	quarts/acre/year
Krenite S	Bayer	42750-247	6.0	gallons/acre/year
Method 240SL	Bayer	432-1565	0.28	lb of active ingredient/acre/year
Milestone	Dow AgroSciences	62719-519	7.0	fl ozs/acre/year
Pathfinder II	Dow AgroSciences	62719-176	10.7	gallons/acre/year
Pathway	Dow AgroSciences	62719-31	4.0	gallons/acre/year
Polaris	NuFarm	228-534	6.0	Pints/acre/year
Rodeo	Dow AgroSciences	62719-324	8.0	quarts/acre/year
Stalker	BASF Corporation	241-398	48.0	fl ozs/acre/year
Streamline	Bayer	432-1570	11.5	ozs/acre/year
Tordon 101	Dow AgroSciences	62719-5	8.0	quarts/acre/year
Tordon K	Dow AgroSciences	62719-17	2.0	quarts/acre/year
Tordon 22K	Dow AgroSciences	62719-6	2.0	quarts/acre/year
Viewpoint	DuPont	352-847	20.0	ozs/acre/year

A PNDI search was performed for the proposed treatment area, and responses from the review agencies have been received. All agencies responded that no impact was anticipated as a result of the project, though many state and federally listed species do occur within PPL's service area. All product label precautions and best practices should be followed, and it is recommended that additional focused PNDI searches be completed if pesticides are to be applied to wetland habitats or areas that are suspected to hold species of concern.

Anti-Degradation Analysis

A number of HQ/EV watersheds are included in the proposed treatment areas, and PPL submitted an anti-degradation module in accordance with permit application requirements. PPL has developed two vegetation management plans, the "Specification for Transmission Vegetation Management" and the "Distribution Vegetation Management Specification", that guide their maintenance program.

Public Health and Environmental Benefits: As discussed above, PPL serves approximately 1.4 million customers with electricity within proposed treatment area. According to the antidegradation module, pesticides are applied to serve two main purposes: "1) Control vegetation that could interfere with transmission and distribution corridors, and 2) Control vegetation, especially at substations, that could create a safety and security risk or has the potential to limit access by PPL EU personnel to facilities." Pesticides are applied as just one part of PPL's vegetation management program.

Non-Discharge Alternatives: PPL has reviewed the required non-discharge alternative options, and responded as follows:

1. No Action – PPL asserts that this is not an option for the majority of their treatment area, as vegetation management is necessary to maintain the electric utility's service and access.
2. Prevention – PPL does prohibit the planting of certain species in and along its corridors, and continues to educate adjacent property owners regarding problem species and maintenance of landscaping.
3. Mechanical or Physical Methods – Mechanical removal of pest vegetation is employed by PPL to the maximum extent practicable to prevent the need for blanket pesticide applications. Methods used include tree pruning, mowing, and manual removal of pest species performed on regular maintenance cycles.
4. Cultural Methods – PPL has a program to modify land within its corridors from turf/scrub environment to natural meadow habitats by remove invasive and pioneer species and transplanting local vegetation. The company also leases areas of land for agricultural, horticultural, or municipal uses, which allows those areas to be maintained by the lease holders.

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5. Biological Control Agents – This method is not currently used by PPL as part of their Vegetation Management Plan due to the wide variety of target species, potential for off-site effects, and lack of certainty for maintenance schedules.
6. Pesticides – Pesticide application is integrated into the other methods utilized above to ensure that facilities are maintained according federal and state standards. Pesticides are applied in spot treatments (following mechanical removal) and at bare ground facilities (substations) to prevent growth in early season and spot treatment throughout the growing season,

Antidegradation Best Available Combination of Technologies (ABACT): PPL evaluates all options and potential management actions for each facility in developing its maintenance plan. PPL ensures that the minimum effective dose rate is determined following product label mixing instructions and requires that its employees and contractors hold all appropriate licenses and certifications for use and handling of pesticides. Decay rates and uptake are taken into account by applicators, and residual impacts are minimized by precise application to target species. Application of pesticides is more concentrated at substations, where bare earth conditions are required, but PPL employs other control methods to minimize pesticide use.

All pesticides, use patterns, application rates, and treatment areas identified in this fact sheet will be approved for use once the final permit is issued. One change from the previous permit is that an application for permit amendment will no longer be required for changes to pesticides, application rates, or use patterns. Instead, the permittee must submit a request for approval to the Department at least 30 days in advance of any change in the pesticide use pattern for an authorized treatment area; a change in the pesticide (active ingredient) that will be used for a treatment area; an increase in the total amount (dosage) of pesticide that will be used in a treatment area; or increases (in area or length) in the treatment area(s) or location(s) of the treatment area(s) or the addition of new treatment areas. A PNDI search must be completed for any new treatment areas, and a PNDI receipt, along with review agency responses, should accompany the request. In no case may application rates exceed the approved product label instructions.

The Department has made a tentative determination to issue the draft NPDES permit subject to the terms and conditions of the permit. The proposed permit contains conditions that require implementation of Pest Management Measures, Recordkeeping and Annual Reporting Requirements, Corrective Action Documentation and Reporting, and a Pesticides Discharge Management Plan.

Table 2

PPL Approved Herbicide Mixtures

	Code	Mix	Uses	Application Notes and Restrictions	Max Volume/Ac
Aquatic	HVA	4 qts Rodeo +12 fl oz Polaris per 100 gallons water	Controls broadleaf weeds, grasses, vines, and brush. Non-selective. Labeled for use on aquatic and wetland sites. Typical use rates are between 50 and 150 GPA.	Grasses will not recover as quickly due to the residual activity of Polaris. Approved for aquatic areas - Non-Selective	200 gallons
	LVA	4 gal Rodeo + 64 fl oz Polaris per 100 gallons water	Controls broadleaf weeds, grasses, vines, and brush. Non-selective. Labeled for use on aquatic and wetland sites. Typical use rates are between 10 and 25 GPA.	Grasses will not recover as quickly due to the residual activity of Polaris.	50 gallons
	ULVA	8 gal Rodeo + 1 gal Polaris per 91 gal Thinvert RTU	Controls broadleaf weeds, grasses, vines, and brush. Non-selective. Labeled for use on aquatic and wetland sites Typical applications are made at 5 gallons per acre or less.	Grasses will not recover as quickly due to the residual activity of Polaris.	25 gallons
	STA	50% Rodeo + 50% Water + Indicator Dye	Recommended for sensitive areas where no residual herbicides are allowed. Approved for aquatic and wetland sites. Treat cambium (outer edge) area only.	Only effective if performed immediately after cut.	4 gallons
	Code	**Mix**	**Uses**	**Application Notes and Restrictions**	**Max Volume/Ac**
High Volume Foliar	HV1	3 pts Vastlan + 24 fl oz Tordon K + 3 fl oz Milestone per 100 gallons water	Controls various brush species such as, oak, pine, poplar, maple, cherry, elm, vines, and broadleaf weeds while maintaining most grasses. Recommended for most areas. Typical use rates are between 50 and 200 GPA.	Spray all leaves until thoroughly covered for best results. Use caution when treating brush along edges of ROW due to chance for off-target from root uptake. Tordon is a restricted use herbicide. Do not use on areas with low organic matter such as, soils with a high composition of sand or areas with Karst topography.	234 gallons
	HV1A	3 qts Garlon 3A + 2 oz Escort per100 gallons of water	Controls various brush species such as poplar, maple, allanthus, cheery, elm, locust, olive, vives and broadleaf weedswhile maintaining most grasses. Recommended in most areas.Wetlands approved. Typical application is 75 -150 gal per acre	Thoroughly apply leaves and stem to the point of run-off. Treat all sides and the top. **Add 1qt Freelexx to control Pine and Oak.**	200 gallons
	HV2	3 pts Vastlan + 5 fl oz Milestone per 100 gallons water	Controls various brush species such as, oak, pine, poplar, maple, cherry, elm, vines, and broadleaf weeds while maintaining most grasses. Recommended for areas where Tordon is not allowed. Typical use rates are between 50 and 125 GPA.	Spray all leaves until thoroughly covered for best results.	140 gallons
	HV3	1.5 gal Krenite + 5 fl oz Milestone + 2 oz Escort per 100 gal water	Recommended late season for high visibility areas where brush exceeds 8 feet in height and brush densities are medium to high. Suitable areas include brush along roadsides where slow brown out is desired to reduce visibility. Typical use rates are between 50 and 125 GPA.	Spray all leaves until thoroughly covered for best results.	140 gallons
	HV4	1.5 gal Krenite + 6 fl oz Polaris + 1.5 oz Escort per 100 gal water	Mix was approved for use in 2014 on Pennsylvania Game Commission (PGC) properties only. Consult PGC Herbicide Permit for requirements. Typical use rates are between 50 and 200 GPA.		266 gallons
	HV4P	1.5 gal Krenite + 4 fl oz Polaris + 1/2 oz Escort per 100 gal water	Mix was approved for use in 2015 by the Pennsylvania Department of Transportation on their highway ROWs in the Susquehanna Region . Consult PennDot Roadside Permit (Herbicide Section) for requirements. Typical use rates are between 50 and 200 GPA.	PENNDOT MIX	266 gallons
	HV5	12 fl oz Method 240SL + 8 fl oz Polaris + 1.5 oz Escort per 100 gal water	Controls various brush species such as, birch, oak, pine, poplar, maple, cherry, elm, vines, and broadleaf weeds while maintaining most grasses. Recommended for most areas. Typical use rates are between 50 and 100 GPA.	Very effective on hard to control Black Birch . Spray all leaves and stems until thoroulyy covered for best results. Do not apply more than 18 fluid ounces of METHOD 240SL HERBICIDE per acre per year. **See Method 240SL Supplemental Label for use in grazed areas.**	150 gallons
	HV6	1 gal Rodeo + 8 fl oz Polaris + 1 oz Escort per 100 gal water	Controls broadleaf weeds, grasses, vines, and brush. Excellant control on Allanthus and wild pear. Non-selective. Typical use rates are between 50 and 150 GPA.	Grasses, if present, will not recover as quickly due to the residual activity of Polaris. Alpply selectively to all targeted woody stems.	200 gallons
	Code	**Mix**	**Uses**	**Application Notes and Restrictions**	**Max Volume/Ac**
Low Volume Foliar	LV1	4 gal Rodeo + 64 fl oz Polaris + 43 fl oz Milestone per 100 gallons water	Controls brush, vines, broadleaf weeds, and grasses. Non-selective. Recommended for use on all terrestrial sites. Improved control of conifers especially during late season applications as well as legume species. Should only be applied to target vegetation as a directed, spot treatment. Typical use rates are between 10 and 25 GPA.		32.5 gallons
	LV2	Method 240 SL 50 oz + Polaris 64 oz + Escort XP 4 oz + Chempro surfactant 1 gal per 100 gals	Controls brush, vines, broadleaf weeds, and grasses. Non-selective. Recommended for use on all terrestrial sites. Improved control of conifers especially during late season applications as well as legume species. Should only be applied to target vegetation as a directed, spot treatment. Typical use rates are between 10 and 25 GPA.		36 gallons
	Code	**Mix**	**Uses**	**Application Notes and Restrictions**	**Max Volume/Ac**
Ultra Low Volume Foliar	ULV	7% Krenite + 16oz Polaris + 1 oz Escort in 5 gal Thinvert RTU	Recommended for applications made after dormancy has started to set in or high visability areas where a slow brown out is desired. Non-selective. Typical applications are made at 5 gallons per acre or less.	For use ONLY in calibrated broadcast applications ONLY. Radiarc, Boom Systems, Wide Cast No	20 gallons
	Code	**Mix**	**Uses**	**Application Notes and Restrictions**	**Max Volume/Ac**
Stump and Basal	ST1	25% Garlon 4 Ultra + 75% Basal Oil + Indicator Dye	Recommended for sensitive areas where no residual herbicides are allowed. May be used anytime after cutting. Treat the exposed bark and roots as well as cambium area. Typical use rates are 5 GPA or less.	Do not apply when bark is wet indicated by solution turning white upon application. Not as effective on prolific root suckering species. ****PennDOT approved mix add 1% stalker****	8 gallons
	ST2	20% Garlon 4 Ultra + 1% Milestone + 1% Polaris + 78% Basal Oil + Indicator Dye	Recommended for most sites. Use for improved control of root-suckering species such as oak, cherry, maple, Allanthus, poplar. May be used anytime after cutting. Treat exposed bark & roots as well as cambium area. Typical use rates are 5 GPA or less.	Do not apply when bark is wet indicated by solution turning white upon application.	10 gallons
	Code	**Mix**	**Uses**	**Application Notes and Restrictions**	**Max Volume/Ac**
Cut Stubble	CS1	8 qts Tordon 22K + 64 fl oz Polaris + 28 fl oz Milestone + 8 qts/A Garlon 4 Ultra per 100 gallons water	Recommended when cut brush has begun to resprout. Best results when applied before or during periods of active growth. The application should occur before re-growth occurs. Apply with calibrated equipment at 25 GPA.	Use caution when applied to ROW edges due to residual activity and potential for damage to trees along ROW edges. Tordon is a restricted use herbicide. Do not use on areas with low organic matter such as, soils with a high composition of sand or areas with Karst topography.	25 gallons
	CS2	64 fl oz Method + 64 fl oz Polaris + 28 fl oz Milestone per 100 gallons water	Recommended for areas where Tordon is not permitted. Best results when applied before or during periods of active growth. The application should occur before re-growth occurs. Apply with calibrated equipment at 25 GPA.	Use caution when applied to ROW edges due to residual activity and potential for damage to trees along ROW edges. Best if applied when rainfall is not expected within 48 hours to reduce chances of product reaching surface water.	25 gallons
	CS3	8 qts Tordon 22K + 64 fl oz Polaris + 28 fl oz Milestone per 100 gallons water	Standard cut stubble mixture suitable for most sites. Best results when applied before or during periods of active growth. The application should occur before re-growth occurs. Apply with calibrated equipment at 25 GPA.	Use caution when applied to ROW edges due to residual activity and potential for damage to trees along ROW edges. Tordon is a restricted use herbicide. Do not use on areas with low organic matter such as, soils with a high composition of sand or areas with Karst topography.	25 gallons
	CS4	320 fl oz Method + 320 fl oz Polaris + 140 fl oz Milestone in 100 gallons Thinvert	Recommended for areas where Tordon is not permitted. Best results when applied before or during periods of active growth. The application should occur before re-growth occurs. Apply with calibrated equipment using Thinvert nozzles at 5 GPA.	Use caution when applied to ROW edges due to residual activity and potential for damage to trees along ROW edges. Best if applied when rainfall is not expected within 48 hours to reduce chances of product reaching surface water.	5 gallons
	CS5	40 qts Tordon 22K + 320 fl oz Polaris + 140 fl oz Milestone in 100 gallons Thinvert	Standard cut stubble mixture suitable for most sites. Best results when applied before or during periods of active growth. The application should occur before re-growth occurs. Apply with calibrated equipment using Thinvert nozzles at 5 GPA.	Use caution when applied to ROW edges due to residual activity and potential for damage to trees along ROW edges. Tordon is a restricted use herbicide. Do not use on areas with low organic matter such as, soils with a high composition of sand or areas with Karst topography.	5 gallons

Based on application methods, Surfactants, Adjuvants, Drift Agents, and Colorants shall be added. All product label directions shall be followed.

HV - High Volume Foliar - Add 0.25-0.5% non-ionic surfactant from early - mid season and 0.25-0.5% methylated seed oil from mid-late season.

LV - Low Volume Foliar - Add 1.0% non-ionic surfactant from early - mid season and 1.0% methylated seed oil from mid-late season.

CS - Cut Stubble - Add 16-32oz non-ionic sticker spreader per acre

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