

241-414

5/18/2010

1 of 12



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 18 2010

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Jeffrey H. Birk, Ph.D.  
Regulatory Manager  
BASF  
26 Davis Drive  
Research Triangle Park, NC 27709

Dear Dr. Berk:

Subject: Onestep® Herbicide  
EPA Registration No. 241-414  
Your Application and Letter Dated May 5, 2010,  
Request to Amend Labeling by Notification, To  
Add an Alternate Brand Name: Onestep® XL Herbicide

This Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated May 5, 2010 for the product Onestep® Herbicide. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any question, please call me directly at 703-305-5697.

Sincerely yours,

A handwritten signature in black ink, appearing to read "James Tompkins".

James Tompkins  
Product Manager (25)  
Herbicide Branch  
Registration Division (7505P)

20f12



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number 241-414	2. EPA Product Manager James Tompkins	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Onestep herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) BASF 26 Davis Drive Research Triangle Park, NC 27709 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

Notification of alternate brand name for Onestep herbicide (241-414). This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA. This notification is not subject to a fee under PRIA. Contact Jeff Birk at 919-547-2622 (phone), 919-547-2850 (fax) or by Email at jeffrey.birk@basf.com

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Metal Plastic Glass Paper Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Jeffrey H. Birk	Title Regulatory Manager	Telephone No. (Include Area Code) 919-547-2622
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Manager	
4. Typed Name Jeffrey H. Birk	5. Date May 5, 2010	



**NOTIFICATION**

**MAY 18 2010**

# OneStep<sup>®</sup> XL

herbicide

**For control of weeds on specified noncrop use sites and forestry sites.**

**ACTIVE INGREDIENTS:**

isopropylamine salt of imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)*	8.36%
isopropylamine salt of glyphosate (N-(phosphonomethyl)glycine)	22.13%

**INERT INGREDIENTS:** 69.51%

**TOTAL:** 100.00%

\*Equivalent to 6.82% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 0.637 pounds per gallon and 16.40% N-(phosphonomethyl)glycine acid or 1.531 pounds per gallon.

**EPA Reg. No. 241-414**

**EPA Establishment No. \_\_\_\_\_**

**Keep out of reach of children.  
WARNING! / ¡AVISO!**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

**In case of emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).**

See inside booklet for complete **Precautionary Statements, First Aid, Directions For Use, and Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

**Net contents:** \_\_\_\_\_

BASF Corporation  
Agricultural Products  
26 Davis Drive  
Research Triangle Park, NC 27709



<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>NOTE TO PHYSICIAN</b>	
Probable mucosal damage may contraindicate the use of gastric lavage.	
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS**

**WARNING**

Causes substantial but temporary eye injury. Harmful if absorbed through skin. **DO NOT** get in eyes or on clothing. Avoid contact with skin.

**Personal Protective Equipment (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for **Category A** on an EPA chemical-resistance category selection chart.

**Applicators and other handlers must wear:**

- long-sleeved shirt and long pants
- chemical-resistant gloves, such as barrier laminate, butyl rubber or polyethylene
- protective eyewear
- shoes plus socks

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

1. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**ENVIRONMENTAL HAZARDS**

For terrestrial uses, **DO NOT** apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. **DO NOT** contaminate water by disposing of equipment washwaters or rinsate. This herbicide is phytotoxic at extremely low concentrations. Nontarget plants may be adversely affected from drift.

**PHYSICAL AND CHEMICAL HAZARDS**

Spray solutions of **OneStep® XL herbicide** should be mixed, stored, and applied only in stainless steel, fiberglass, plastic, and plastic-lined steel containers.

**DO NOT** mix, store, or apply **OneStep XL** or spray solutions of **OneStep XL** in unlined steel (except stainless steel) containers or spray tanks.

**DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

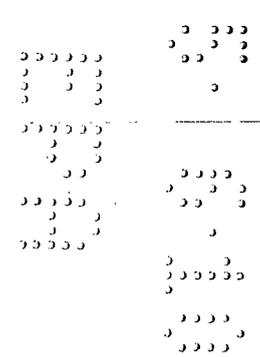
**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

**OneStep XL** may be used only in accordance with recommendations and restrictions on the leaflet label. Keep containers closed to avoid spills and contamination.

**OneStep XL** may be applied using helicopters, ground operated sprayers, low-volume, hand-operated spray equipment such as backpack and pump-up sprayers.

Observe all cautions and limitations in the package labels of products used in combination with **OneStep XL**.



**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

The requirements in this box apply to use on trees being grown for sale or other commercial use, or for commercial seed production, or for production of timber or wood products, or for research purposes.

**DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- coveralls
- chemical-resistant gloves, such as barrier laminate, butyl rubber or polyethylene
- protective eyewear
- shoes plus socks

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Noncrop weed control is not within the scope of the Worker Protection Standard. See the **GENERAL INFORMATION** section of this label for a description of noncrop sites.

**DO NOT** enter treated areas without protective clothing until sprays have dried.

**STORAGE AND DISPOSAL**

**DO NOT** contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE: DO NOT** store below 10° F.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in an approved sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**CONTAINER DISPOSAL FOR FIELD KEG, MINIBULK AND BULK:** When this container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase, or to a designated location. This container must only be refilled with the pesticide product. **DO NOT** reuse the container for any other purpose. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of container must be in compliance with state and local regulations.

**IMPORTANT**

**DO NOT** use on food or feed crops. **DO NOT** use on Christmas trees. **DO NOT** treat irrigation ditches, or water used for crop irrigation or for domestic uses. Keep from contact with fertilizers, insecticides, fungicides, and seeds to prevent unintentional exposure of desirable vegetation to **OneStep® XL herbicide**. **DO NOT** apply or drain or flush equipment on or near sensitive desirable plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. **DO NOT** side trim desirable vegetation with this product. Prevent drift of spray to desirable plants.

Clean application equipment after using this product by thoroughly flushing with water.

**GENERAL INFORMATION**

**OneStep XL** is an aqueous solution containing surfactant. It is mixed in water and applied as a postemergence spray for control of most annual and perennial grasses, broadleaf weeds, vines and brambles, and hardwood brush and trees for forestry site preparation.

**OneStep XL** may be applied on forestry sites that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by forest management activities, except in the states of California and New York. It is permissible to treat drainage ditches, intermittent drainage, intermittently flooded low-lying sites, seasonally dry flood plains, and transitional areas between upland and lowland sites when no water is present, except in the states of California and New York. Only the edge of drainage ditches can be treated for drainage ditches that contain water. It is also permissible to treat marshes, swamps, and bogs after water has receded, as well as seasonally dry flood deltas, except in the states of California and New York. **DO NOT** make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams, rivers and canals.

**OneStep® XL herbicide** is also recommended for control of undesirable vegetation along forest roads, non-irrigation ditchbanks, and the establishment and maintenance of wildlife openings except in the state of California. See use directions for **DIRECTED FOLIAR OR SPOT SPRAYS** and **SITE PREPARATION TREATMENTS**.

**SYMPTOMOLOGY:**

**OneStep XL** is readily absorbed through foliage and roots and is translocated rapidly throughout the plant with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis first appears in the youngest leaf tissue. In perennials, the herbicide is translocated into the roots, thus preventing most resprouting. The foliage of most woody plants, brush, and trees will normally display color change and necrosis within several weeks after application.

**MANAGING OFF-TARGET MOVEMENT**

The following information is provided as general guidance for managing off-target movement. Specific use recommendations for **OneStep XL** may differ depending on the application technique used and the vegetation management objective.

**Spray Drift:** Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Spray drift from applying this product may result in damage to sensitive plants adjacent to the treatment area. Only apply this product when the potential for drift to these and other adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or nontarget crops) is minimal. **DO NOT** apply when the following conditions exist that increase the likelihood of spray drift from intended targets: high or gusty winds, high temperatures, low humidity, temperature inversions.

To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Additional information may be available from state enforcement agencies or the Cooperative Extension on the application of this product.

The best drift management strategy and most effective way to reduce drift potential is to apply large droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see **Wind, Temperature and Humidity** and **Temperature Inversions**).

**Controlling Droplet Size:**

- **Volume** - Use high flow-rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure - DO NOT** exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow-rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift. **DO NOT** use nozzles producing a mist droplet spray.

**Application Height:** Making applications at the lowest possible height (aircraft, ground-driven spray boom) that is safe and practical reduces exposure of droplets to evaporation and wind.

**Swath Adjustment:** When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the application equipment (e.g. aircraft, ground) upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller droplets, etc.).

**Wind:** Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential.

**NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and Humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions:** Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud, which can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identi-

fied by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Wind Erosion:** Avoid treating powdery, dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

**Aerial Application Methods and Equipment:** Use 2 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

**Managing Spray Drift from Aerial Applications:** Applicators should follow these requirements to avoid off-target drift movement: 1) boom length - the distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor, 2) nozzle orientation - nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees, and 3) application height - without compromising aircraft safety, applications should be made at a height of 10 feet or less above the crop canopy or tallest plants. Applicators must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.

**Ground Application (Broadcast):** Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

**MIXING AND APPLICATION INSTRUCTIONS**

**BROADCAST APPLICATIONS**

**Helicopter Spray Equipment:** Thoroughly mix the specified amount of **OneStep® XL herbicide** in 5 to 30 gallons of water per acre and uniformly apply with properly calibrated aerial equipment. All precautions should be taken to minimize or eliminate spray drift. Applications should not be made under windy or gusty conditions. The use of controlled droplet booms and nozzle configurations is recommended. A drift control agent may be added at the recommended label rate except when applying with a **Microfoil® boom, Thru-Value® boom** or other similar equipment. A foam reducing agent may be added at the recommended label rate, if needed.

**IMPORTANT: DO NOT** make applications by fixed wing aircraft. Maintain adequate buffer zones. Thoroughly clean application and mixing equipment, including landing gear, immediately after use. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part.

**Ground Operated Spray Equipment:** Thoroughly mix and apply the specified amount of **OneStep XL** in 5 to 60 gallons of water per acre. A drift control agent and a foam reducing agent may be added at the recommended label rates, if needed. If desired, a spray pattern indicator may be added at the recommended label rate. For best results, uniformly cover the foliage of the vegetation to be controlled with the spray solution.

**IMPORTANT: DO NOT** spray under windy or gusty conditions. Maintain adequate buffer zones. Clean application and mixing equipment after using this product by thoroughly flushing it with water.

**DIRECTED FOLIAR OR SPOT SPRAYS**  
In addition to broadcasting the mixed herbicide solution across an entire acre, the solution can also be directed to individual clumps of herbaceous and woody weeds or to spots within the acre. Backpack sprayers and ground-operated equipment with hoses are generally used for directed foliar or spot sprays. Specialized helicopter equipment can also be used for this purpose. When making directed or spot spray applications with backpack sprayers, ground-operated equipment, helicopters, or similar equipment that permits directed application, thoroughly mix a solution of 5 to 10 percent by volume of **OneStep XL**.

To mix the spray solution, add the volume of **OneStep XL** indicated in the table below to the desired amount of water.

**SPRAY SOLUTION MIXING GUIDE**

Solution Volume	OneStep XL	
	Percentage of Total Solution Volume	
	5	10
1 gallon	6.4 fl oz	12.8 fl oz
5 gallons	2 pints	4 pints
10 gallons	4 pints	8 pints
25 gallons	10 pints	20 pints
100 gallons	5 gallons	10 gallons

For best results, uniformly cover the foliage of the vegetation to be controlled with the spray solution.

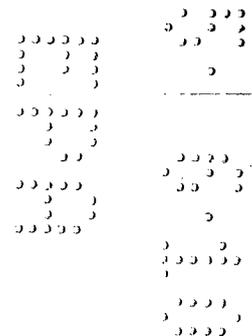
**IMPORTANT: DO NOT** over apply causing runoff from the treated foliage. Avoid direct application and drift to the foliage, thin bark and rooting zone of desired plant species as injury may occur. Eventhough the herbicide is directed to clumps and spots within an acre and not broadcast, **DO NOT** exceed 2 gallons of **OneStep XL** per acre.

**SITE PREPARATION TREATMENTS**  
**OneStep XL** may be used at a rate of 1 gallon of product per acre to control labeled grasses, broadleaf weeds, vines and brambles, and woody brush and trees on forest sites in advance of regeneration for the following conifer crop species:

- Loblolly Pine (*Pinus taeda*)
- Shortleaf Pine (*Pinus echinata*)
- Loblolly X Pitch Hybrid
- Virginia Pine (*Pinus virginiana*)
- Longleaf Pine (*Pinus palustris*)
- Slash Pine (*Pinus elliottii*)

Within 4 to 6 weeks of treatment, herbaceous weeds including grasses and woody vegetation will be controlled and may provide fuel to facilitate a site preparation burn, if desired, to enhance control of conifers or other species tolerant to the herbicide.

Apply 1 gallon of **OneStep® XL herbicide** per acre in 5 to 30 gallons total spray solution for helicopter applications or 5 to 60 gallons total spray solution for mechanical ground spray and backpack applications. Use higher spray volumes when controlling particularly dense or multi-layered canopies of hardwood stands, or difficult to control species.



# WEEDS CONTROLLED

When applied as recommended, **OneStep® XL herbicide** will control, partially control or suppress most woody brush, trees and herbaceous weeds, some of which are listed below. Degree of control and residual efficacy are species dependent. **OneStep XL** may be used only in accordance with the instructions, restrictions, and recommendations on this label.

## GRASSES

The species of annual and perennial grasses controlled by **OneStep XL** include the following:

- |   |   |  |
|---|---|--|
| Annual bluegrass ( <i>Poa annua</i> )                   | Fescue ( <i>Festuca</i> spp.)                   | Quackgrass ( <i>Agropyron repens</i> )           |
| Bahiagrass ( <i>Paspalum notatum</i> )                  | Foxtail ( <i>Setaria</i> spp.)                  | Reed canarygrass ( <i>Phalaris arundinacea</i> ) |
| Barnyardgrass ( <i>Echinochloa crus-galli</i> )         | Giant reed ( <i>Arundo donax</i> )              | Saltgrass ( <i>Distichlis stricta</i> )          |
| Beardgrass ( <i>Andropogon</i> spp.)                    | Goosegrass ( <i>Eleusine indica</i> )           | Sand dropseed ( <i>Sporobolus cryptandrus</i> )  |
| Bermudagrass ( <i>Cynodon dactylon</i> )                | Guineagrass ( <i>Panicum maximum</i> )          | Sandbur ( <i>Cenchrus</i> spp.)                  |
| Big bluestem ( <i>Andropogon gerardii</i> )             | Italian ryegrass ( <i>Lolium multiflorum</i> )  | Smooth brome ( <i>Bromus inermis</i> )           |
| Broadleaf signalgrass ( <i>Brachiaria platyphylla</i> ) | Itchgrass ( <i>Rottboellia exaltata</i> )       | Sprangletop ( <i>Leptochloa</i> spp.)            |
| Canada bluegrass ( <i>Poa compressa</i> )               | Johnsongrass ( <i>Sorghum halepense</i> )       | Timothy ( <i>Phleum pratense</i> )               |
| Cattail ( <i>Typha</i> spp.)                            | Junglerice ( <i>Echinochloa colonum</i> )       | Torpedograss ( <i>Panicum repens</i> )           |
| Cheat ( <i>Bromus secalinus</i> )                       | Kentucky bluegrass ( <i>Poa pratensis</i> )     | Vaseygrass ( <i>Paspalum urvillei</i> )          |
| Cogongrass ( <i>Imperata cylindrica</i> )               | Lovegrass ( <i>Eragrostis</i> spp.)             | Wild barley ( <i>Hordeum</i> spp.)               |
| Crabgrass ( <i>Digitaria</i> spp.)                      | Orchardgrass ( <i>Dactylis glomerata</i> )      | Wild oats ( <i>Avena fatua</i> )                 |
| Crowfootgrass ( <i>Dactyloctenium aegyptium</i> )       | <i>Panicum</i> spp.                             | Wirestem muhly ( <i>Muhlenbergia frondosa</i> )  |
| Dallisgrass ( <i>Paspalum dilatatum</i> )               | Paragrass ( <i>Brachiaria mutica</i> )          | Witchgrass ( <i>Panicum capillare</i> )          |
| Downy brome ( <i>Bromus tectorum</i> )                  | Phragmites ( <i>Phragmites australis</i> )      | Woolly cupgrass ( <i>Eriochloa villosa</i> )     |
| Fall panicum ( <i>Panicum dichotomiflorum</i> )         | Prairie cordgrass ( <i>Spartina pectinata</i> ) |  |
| Feathertop ( <i>Pennisetum villosum</i> )               | Prairie threeawn ( <i>Aristida oligantha</i> )  |  |

## BROADLEAF WEEDS

The species of annual and perennial broadleaf weeds controlled by **OneStep XL** include the following:

- |  |  |   |
|--|--|---|
| Arrowwood ( <i>Pluchea sericea</i> )               | Gray rabbitbrush ( <i>Chrysothamnus nauseosus</i> )      | Rocket, London ( <i>Sisymbrium irio</i> )               |
| Broom snakeweed ( <i>Gutierrezia sarothrae</i> )   | Henbit ( <i>Lamium alexicaule</i> )                      | Rush skeletonweed ( <i>Chondrilla juncea</i> )          |
| Bull thistle ( <i>Cirsium vulgare</i> )            | Hoary vervain ( <i>Verbena stricta</i> )                 | Russian knapweed ( <i>Centaurea repens</i> )            |
| Burclover ( <i>Medicago</i> spp.)                  | Horseweed ( <i>Conyza canadensis</i> )                   | Russian thistle ( <i>Salsola kali</i> )                 |
| Burdock ( <i>Arctium</i> spp.)                     | Indian mustard ( <i>Brassica juncea</i> )                | Saltbush ( <i>Atriplex</i> spp.)                        |
| Camphorweed ( <i>Heterotheca subaxillaris</i> )    | Japanese bamboo/knotweed ( <i>Polygonum cuspidatum</i> ) | Shepherdspurse ( <i>Capsella bursa-pastoris</i> )       |
| Canada thistle ( <i>Cirsium arvense</i> )          | Knotweed, prostrate ( <i>Polygonum aviculare</i> )       | Silverleaf nightshade ( <i>Solanum elaeagnifolium</i> ) |
| Carolina geranium ( <i>Geranium carolinianum</i> ) | Kochia ( <i>Kochia scoparia</i> )                        | Smartweed ( <i>Polygonum</i> spp.)                      |
| Carpetweed ( <i>Mullugo verticillata</i> )         | Lambsquarters ( <i>Chenopodium album</i> )               | Sorrell ( <i>Rumex</i> spp.)                            |
| Chickweed, mouseear ( <i>Cerastium vulgatum</i> )  | Little mallow ( <i>Malva parviflora</i> )                | Sowthistle ( <i>Sonchus</i> spp.)                       |
| Clover ( <i>Trifolium</i> spp.)                    | Milkweed ( <i>Asclepias</i> spp.)                        | Spurge, annual ( <i>Euphorbia</i> spp.)                 |
| Cocklebur ( <i>Xanthium strumarium</i> )           | Miner's lettuce ( <i>Montia perfoliata</i> )             | Stinging nettle ( <i>Urtica dioica</i> )                |
| Common chickweed ( <i>Stellaria media</i> )        | Mullein ( <i>Verbascum</i> spp.)                         | Sunflower ( <i>Helianthus</i> spp.)                     |
| Common ragweed ( <i>Ambrosia artemisiifolia</i> )  | Nettleleaf goosefoot ( <i>Chenopodium murale</i> )       | Sweet clover ( <i>Mellilotus</i> spp.)                  |
| Cudweed ( <i>Gnaphalium</i> spp.)                  | Oxeye daisy ( <i>Chrysanthemum leucanthemum</i> )        | Tansymustard ( <i>Descurainia pinnata</i> )             |
| Dandelion ( <i>Taraxacum officinale</i> )          | Pepperweed ( <i>Lepidium</i> spp.)                       | Texas thistle ( <i>Cirsium texanum</i> )                |
| Desert camelthorn ( <i>Alhagi pseudalhagi</i> )    | Pigweed ( <i>Amaranthus</i> spp.)                        | Velvetleaf ( <i>Abutilon theophrasti</i> )              |
| Diffuse knapweed ( <i>Centaurea diffusa</i> )      | Plantain ( <i>Plantago</i> spp.)                         | Western ragweed ( <i>Ambrosia psilostachya</i> )        |
| Dock ( <i>Rumex</i> spp.)                          | Pokeweed ( <i>Phytolacca americana</i> )                 | Wild carrot ( <i>Daucus carota</i> )                    |
| Dogfennel ( <i>Eupatorium capillifolium</i> )      | Primrose ( <i>Oenothera kunthiana</i> )                  | Wild lettuce ( <i>Lactuca</i> spp.)                     |
| Fiddleneck ( <i>Amsinckia intermedia</i> )         | Puncturevine ( <i>Tribulus terrestris</i> )              | Wild parsnip ( <i>Pastinaca sativa</i> )                |
| Filaree ( <i>Erodium</i> spp.)                     | Purple loosestrife ( <i>Lythrum salicaria</i> )          | Wild turnip ( <i>Brassica campestris</i> )              |
| Fleabane ( <i>Erigeron</i> spp.)                   | Purslane ( <i>Portulaca</i> spp.)                        | Woollyleaf bursage ( <i>Ambrosia grayi</i> )            |
| Giant ragweed ( <i>Ambrosia trifida</i> )          | Pusley, Florida ( <i>Richardia scabra</i> )              | Yellow starthistle ( <i>Centaurea solstitialis</i> )    |
| Goldenrod ( <i>Solidago</i> spp.)                  |  | Yellow woodsorrel ( <i>Oxalis stricta</i> )             |

## VINES AND BRAMBLES

The species of vines and brambles controlled by **OneStep XL** include the following:

- |  |   |   |
|--|---|---|
| Field bindweed ( <i>Convolvulus arvensis</i> ) | Redvine ( <i>Brunnichia cirrhosa</i> )                  | Wild rose ( <i>Rosa</i> spp.)                         |
| Hedge bindweed ( <i>Calystegia sequim)</i>     | Trumpet creeper ( <i>Campsis radicans</i> )             | including: Multiflora rose ( <i>Rosa multiflora</i> ) |
| Honeysuckle ( <i>Lonicera</i> spp.)            | Virginia creeper ( <i>Parthenocissus quinquefolia</i> ) | Macartney rose ( <i>Rosa bracteata</i> )              |
| Morningglory ( <i>Ipomoea</i> spp.)            | Wild buckwheat ( <i>Polygonum convolvulus</i> )         |   |
| Poison ivy ( <i>Rhus radicans</i> )            | Wild grape ( <i>Vitis</i> spp.)                         |   |

# WEEDS CONTROLLED (continued)

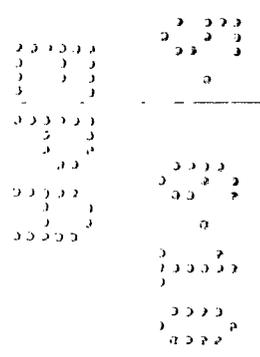
## WOODY BRUSH AND TREES

Alder (*Alnus* spp.)  
 American beech (*Fagus grandifolia*)  
 Ash (*Fraxinus* spp.)  
 Aspen (*Populus* spp.)  
 Autumn olive (*Elaeagnus umbellata*)  
 Bald cypress (*Taxodium distichum*)  
 Bigleaf maple (*Acer macrophyllum*)  
 Birch (*Betula* spp.)  
 Black oak (*Quercus kelloggii*)  
 Blackgum (*Nyssa sylvatica*)<sup>1</sup>  
 Boxelder (*Acer negundo*)  
 Brazilian peppertree (*Schinus terebinthifolius*)  
 Ceanothis (*Ceanothis* spp.)  
 Cherry (*Prunus* spp.)<sup>1</sup>  
 Chinaberry (*Melia azedarach*)  
 Chinese tallow-tree (*Sapium sebiferum*)  
 Chinquapin (*Castanopsis chrysophylla*)  
 Cottonwood (*Populus trichocarpa* and  
*Populus deltoides*)

Cypress (*Taxodium* spp.)  
 Dogwood (*Cornus* spp.)  
 Eucalyptus (*Eucalyptus* spp.)  
 Hawthorn (*Crataegus* spp.)  
 Hickory (*Carya* spp.)<sup>1</sup>  
 Huckleberry (*Gaylussacia* spp.)  
 Lyonia spp.  
 Including: Fetterbush (*Lyonia lucida*)  
 Staggerbush (*Lyonia mariana*)  
 Madrone (*Arbutus menziesii*)  
 Maple (*Acer* spp.)  
 Melaleuca (*Melaleuca quinquenervia*)  
 Mulberry (*Morus* spp.)<sup>2</sup>  
 Oak (*Quercus* spp.)  
 Persimmon (*Diospyros virginiana*)<sup>1</sup>  
 Poison oak (*Rhus diversiloba*)  
 Popcorn-tree (*Sapium sebiferum*)  
 Poplar (*Populus* spp.)  
 Privet (*Ligustrum vulgare*)

Red alder (*Alnus rubra*)  
 Red maple (*Acer rubrum*)  
 Saltcedar (*Tamarix pentandra*)  
 Sassafras (*Sassafras albidum*)  
 Sourwood (*Oxydendrum arboreum*)<sup>1</sup>  
 Sumac (*Rhus* spp.)  
 Sweetgum (*Liquidambar styraciflua*)  
 Sycamore (*Platanus occidentalis*)  
 Tanoak (*Lithocarpus densiflorus*)  
 Titi (*Cyrilla racemiflora*)  
 Tree of heaven (*Ailanthus altissima*)  
 Vaccinium spp.  
 Including: Blueberry (*Vaccinium* spp.)  
 Sparkleberry (*Vaccinium arboreum*)  
 Willow (*Salix* spp.)  
 Yellow-poplar (*Liriodendron tulipifera*)

<sup>1</sup> Best control with applications prior to formation of fall leaf color.  
<sup>2</sup> The degree of control may be species dependent.



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