

241-273

8/5/2011

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Registration
Number:

241-273

Date of Issuance:

AUG 5 2011

NOTICE OF PESTICIDE:

- Registration
- Reregistration

(under FIFRA, as amended)

Term of Issuance: Unconditional

Name of Pesticide Product:

Arsenal Railroad Herbicide

Name and Address of Registrant (include ZIP Code):

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

EPA received a label amendment request submitted on August 5, 2011. EPA grants this request under the authority of section 3(c)(5) of the Federal Insecticide, Fungicide and Rodenticide Act, as amended. With this accepted labeling, all requirements set forth in the Reregistration Eligibility Decision (RED) for **Imazapyr** have been satisfied. Therefore, EPA reregisters the product listed above. This action is taken under the authority of section 4(g)(2)(c) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. Reregistration under this section does not eliminate the need for continual reassessment of pesticides. EPA may require submission of data at any time to maintain the registration of your product.

Submit one (1) copy of final printed labeling. Amended labeling will supersede all previously accepted labels. A copy of your label stamped "Accepted" is enclosed for your records. Products shipped after twelve (12) months from the date of this Notice or the next printing of your label, whichever occurs first, must bear the new revised label.

If you have any questions regarding this Notice, please contact Mindy Ondish at (703)605-0723 or at ondish.mindy@epa.gov.

Signature of Approving Official:

Kable Bo Davis
Product Manager 25
Herbicide Branch
Registration Division (7505P)

Date:

AUG 5 2011

2099



Active Ingredient:

isopropylamine salt of imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)* 27.65%

Other Ingredients: 72.35%

Total: 100.00%

*Equivalent to 22.55% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 2 pounds acid per gallon.

EPA Reg. No. 241-273

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN
CAUTION/PRECAUCIÓN**

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.)

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

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

ACCEPTED

AUG 5 2011

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 241-273

Net Contents:

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

BASF
The Chemical Company

FIRST AID

If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after first 5 minutes; then continue rinsing. • Call a poison control center or doctor for treatment advice.

HOTLINE NUMBER

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 and Domestic Animals

CAUTION. Harmful if absorbed through skin or inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are barrier laminate, butyl rubber, or polyethylene. If you want more options, follow the instructions for **Category A** on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (except for pilots)

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them.

Engineering Controls

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands with plenty of soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This product is toxic to plants. Drift and runoff may be hazardous to plants in water adjacent to treated areas.

DO NOT apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwater or rinsate. See **Directions For Use** for additional precautions and requirements.

Physical and Chemical Hazards

Mix, store, and apply spray solutions of **Arsenal® Railroad herbicide** only in stainless steel, fiberglass, plastic, or plastic-lined steel containers.

DO NOT mix, store, or apply **Arsenal Railroad** or spray solutions of **Arsenal Railroad** 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.

Arsenal Railroad must be used only in accordance with directions on the leaflet label attached to the container. Keep containers closed to avoid spills and contamination.

Restrictions

- **DO NOT** use on food or feed crops.
- **DO NOT** treat irrigation ditches, or water used for crop irrigation, or for domestic purposes. Keep from contact with fertilizers, insecticides, fungicides and seeds.
- **DO NOT** use on lawns, walks, driveways, or tennis courts.
- **DO NOT** side-trim desirable vegetation with this product. Prevent drift of spray to desirable plants.
- **DO NOT** apply or drain or flush equipment on or near desirable trees or other 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.

- Clean application equipment after using this product by thoroughly flushing with water.
- **DO NOT** enter or allow others to enter treated areas until sprays have dried.
- **DO NOT USE** in California.

Product Information

Arsenal® Railroad herbicide is an aqueous solution containing surfactant to be mixed in water and applied as a spray for control of most annual and perennial grass and broadleaf weeds on noncropland areas.

Arsenal Railroad may be applied either preemergence or postemergence to the weeds; however, postemergence application is the method of choice in most situations, particularly for control of perennials. For maximum activity, weeds should be growing vigorously at the time of post-emergence application. The preemergence activity of **Arsenal Railroad** will provide residual control of new germination of most weed species following a postemergence application.

Arsenal Railroad is readily absorbed through leaves, stems, and roots and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground storage organs, thus preventing regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two weeks after application. Complete kill of plants may not occur for several weeks.

Arsenal Railroad may be used postemergence for control of most annual and perennial grass and broadleaf weeds on noncropland areas such as railroad, utility, pipeline and highway rights-of-way, utility plant sites, petroleum tank farms, pumping installations, fence rows, storage areas and nonirrigation ditchbanks. **Arsenal Railroad** may be used for the establishment and maintenance of wildlife openings and for the release of unimproved Bermudagrass (see **FOR CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED BERMUDAGRASS AND BAHIA GRASS** section).

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.

STORAGE AND DISPOSAL

Pesticide Storage

DO NOT store below 10° F. **DO NOT** contaminate water, food or feed by storage or disposal.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on-site or at an approved waste disposal facility.

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STORAGE AND DISPOSAL (continued)

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable Container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

(continued)

STORAGE AND DISPOSAL (continued)

Container Handling (continued)

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. 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, if available, or dispose of container in compliance with state and local regulations.

In Case of Emergency

In case of large-scale spillage regarding this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

SPRAY DRIFT REQUIREMENTS

Aerial Applications

- Applicators are required to use a coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet. Applicators are required to use a very coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet. Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- Applicators are required to use upwind swath displacement.
- The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
- Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

Ground Boom Applications

- Applicators are required to use a nozzle height below 4 feet above the ground or plant canopy and coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.
- Applications with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

APPLICATION EQUIPMENT AND TECHNIQUES

Arsenal® Railroad herbicide may be applied with the following application equipment:

Aerial. Fixed-wing and helicopter.

Boom. Conventional boom mounted, manifold mounted, and off-center nozzles.

Low-volume handheld spray equipment. Backpack, knapsack and other pump-up type pressure sprayers and backpack mist blowers used to direct application to weed foliage.

High-volume spray equipment. High pressure hand-guns and vehicle-mounted high-volume directed spray equipment.

AERIAL EQUIPMENT

Uniformly apply the specified amount of **Arsenal Railroad** with properly calibrated aerial equipment in 5 to 30 gallons of water per acre. All precautions must be taken to minimize or eliminate spray drift. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a **Microfoil™ boom, Thru-Valve™ boom**, or raindrop nozzles, must be used. Except when applying with a **Microfoil boom**, a drift control agent may be added at the recommended label rate. A foam-reducing agent may be added at the recommended label rate, if needed.

IMPORTANT: DO NOT make applications by fixed-wing aircraft unless appropriate buffer zones can be maintained to ensure that drift does not occur off the target area. Thoroughly clean application 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.

BOOM EQUIPMENT

Mix the specified amount of **Arsenal Railroad** in 10 to 60 gallons of water per acre in the spray tank with the agitator running. A foam-reducing agent may be added at the recommended label rate, if needed. If desired, a spray pattern indicator may be added at the recommended label rate. Check for even distribution in spray pattern.

LOW-VOLUME HANDHELD SPRAY EQUIPMENT

Thoroughly mix a 1/2 to 1 percent solution of **Arsenal Railroad** in water. To determine the proper percent solution of **Arsenal Railroad** to use, see the **WEEDS CONTROLLED** section of this label and the following **PERCENT SOLUTION RATE GUIDE**. The table calculations are based on an approximate delivery volume of 50 to 75 gallons per acre.

PERCENT SOLUTION RATE GUIDE

Arsenal Railroad RATE PER ACRE	TO MIX
2 to 3 pints	1/2%
3 to 4 pints	3/4%
4 to 6 pints	1%

For best results, uniformly cover the foliage of the vegetation to be controlled with the spray solution. **DO NOT** overapply and cause runoff from the treated foliage.

To mix the spray solution, add the volume of **Arsenal® Railroad herbicide** indicated in the **SPRAY SOLUTION MIXING GUIDE** table to the desired amount of water.

SPRAY SOLUTION MIXING GUIDE

SOLUTION VOLUME	AMOUNT OF Arsenal Railroad TO USE (fluid volume)		
	1/2%	3/4%	1%
1 gallon	2/3 oz	1 oz	1-1/3 oz
5 gallons	3-1/3 oz	5 oz	6-1/2 oz
10 gallons	6-2/3 oz	10 oz	13 oz
25 gallons	1 pint	1-1/2 pints	2 pints

2 tablespoons = 1 fluid ounce

IMPORTANT: DO NOT exceed specified dosage rate per acre. **DO NOT** side-trim desirable vegetation with this product.

HIGH-VOLUME SPRAY EQUIPMENT

Arsenal Railroad may be applied using high-volume spray equipment. For best results, apply **Arsenal Railroad** using the least amount of water practical to obtain uniform coverage of the vegetation foliage. Using excessive spray volumes which cause runoff from the plant foliage may result in reduced performance. When using spray volumes greater than 60 gallons per acre, additional nonionic surfactant must then be added at the rate of 1 quart per 100 gallons of spray solution to provide optimum wetting and/or contact activity. A foam-reducing agent may be added at the recommended label rate, if needed. If desired, a spray pattern indicator may be added at the recommended label rate.

To mix the spray solution, determine the proper **Arsenal Railroad** pints per acre rate from the **WEEDS CONTROLLED** section of this label and mix according to the following table.

SPRAY SOLUTION MIXING GUIDE

SPRAY VOLUME (GAL/ACRE)	PINTS Arsenal Railroad TO MIX PER 100 GALLONS WATER			
	3 PTS/ACRE	4 PTS/ACRE	5 PTS/ACRE	6 PTS/ACRE
50	6	8	10	12
100	3	4	5	6
150	2	2-3/4	3-1/4	4

IMPORTANT: DO NOT exceed specified dosage rate per acre. **DO NOT** side-trim desirable vegetation with this product.

FOR CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

For use on unimproved Bermudagrass and Bahiagrass turf such as roadsides, utility rights-of-way and other noncrop-land industrial sites. The application of **Arsenal Railroad** on established common and coastal Bermudagrass and Bahiagrass provides control of labeled broadleaf and grass weeds. Competition from these weeds is eliminated, releasing the Bermudagrass and Bahiagrass. Treatment of Bermudagrass with **Arsenal Railroad** results in a compacted growth habit and seed-head inhibition. Uniformly apply with properly calibrated ground equipment using at least 10 gallons of water per acre with a spray pressure of 20 to 50 psi.

DOSAGE RATES AND TIMING

EARLY SPRING - DORMANT:

Apply **Arsenal Railroad** at 6 to 12 fl ozs per acre for Bermudagrass, and 4 to 8 fl ozs per acre for Bahiagrass when the grass is still dormant and has not initiated new growth.

SPRING - UP TO 25% GREENUP:

Apply **Arsenal Railroad** at 6 to 8 fl ozs per acre for Bermudagrass and 4 to 8 fl ozs per acre for Bahiagrass after the grass has initiated greenup but has not exceeded 25% greenup.

WEEDS CONTROLLED

Bedstraw (<i>Galium</i> spp.)	Little barley (<i>Hordeum pusillum</i>)
Bishopweed (<i>Ptilimnium capillaceum</i>)	Seedling Johnsongrass (<i>Sorghum halepense</i>)
Buttercup (<i>Ranunculus parviflorus</i>)	Wild carrot (<i>Daucus carota</i>)
Carolina geranium (<i>Geranium carolinianum</i>)	White clover (<i>Trifolium repens</i>)
Fescue (<i>Festuca</i> spp.)	Yellow woodsorrel (<i>Oxalis stricta</i>)
Foxtail (<i>Setaria</i> spp.)	

DO NOT APPLY to grass during its first growing season. **DO NOT APPLY** to grass that is under stress from drought, disease insects, or other causes.

Temporary yellowing of grass may occur when treatment is made after growth commences.

DO NOT add a surfactant.

FOR CONTROL OF UNDESIRABLE WEEDS UNDER PAVED SURFACES

Arsenal Railroad can be used under asphalt, pond liners and other paved areas, **ONLY** in industrial sites or where the pavement has a suitable barrier along the perimeter that prevents encroachment of roots of desirable plants. **Arsenal Railroad** should be used only where the area to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by scalping with a grader blade to a depth sufficient to ensure their complete removal.

APPLICATION DIRECTIONS

Applications should be made to the soil surface only when final grade is established. **DO NOT** move soil following **Arsenal® Railroad herbicide** application.

Uniformly apply **Arsenal Railroad** to the area to be surfaced, including the shoulder areas at a rate of 6 pints per acre.

Apply **Arsenal Railroad** in sufficient water (at least 100 gal. per acre) to ensure thorough and uniform wetting of the soil surface. Add the specified amount of **Arsenal Railroad** to clean water in the spray tank during the filling operation. Agitate before spraying.

For Herbicide Activation

On moist subsoil: Apply **Arsenal Railroad** after final grading and immediately before laying asphalt or liner surface. Apply uniformly, using a at least 100 gallons of water per acre.

If moisture is not present: Incorporation of **Arsenal Railroad** is needed for herbicide activation.

Arsenal Railroad can be incorporated into the soil to a depth of 4 to 6 inches using a rototiller or disc. Rainfall or irrigation of 1 inch will also provide uniform incorporation. **DO NOT** allow treated soil to wash or move into untreated areas.

IMPORTANT

Paving should follow **Arsenal Railroad** applications as soon as possible. **DO NOT** apply where the chemical may contact the roots of desirable trees or other plants.

The product is not directed for use under pavement on residential properties such as driveways or parking lots, nor is it directed for use in recreational areas such as under bike or jogging paths, golf cart paths, or tennis courts, or where landscape plantings could be anticipated.

Injury or death of desirable plants may result if this product is applied where roots are present or where they may extend into the treated area. Roots of trees and shrubs may extend a considerable distance beyond the branch extremities or drip line.

WEEDS CONTROLLED

Arsenal Railroad will provide postemergence control with residual control of the following target vegetation species at the rates listed. Residual control refers to control of newly germinating seedlings in both annuals and perennials. In general, annual weeds may be controlled by preemergence or postemergence applications of **Arsenal Railroad**; whereas, for established biennials and perennials, apply **Arsenal Railroad** postemergence. **Arsenal Railroad** must be used only in accordance with directions on this label and the leaflet label.

GRASSES

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 2 to 3 pints per acre¹		
Annual bluegrass	(<i>Poa annua</i>)	A
Broadleaf signalgrass	(<i>Brachiaria platyphylla</i>)	A
Canada bluegrass	(<i>Poa compressa</i>)	P
Downy brome	(<i>Bromus tectorum</i>)	A
Fescue	(<i>Festuca</i> spp.)	A/P
Foxtail	(<i>Setaria</i> spp.)	A
Italian ryegrass	(<i>Lolium multiflorum</i>)	A
Johnsongrass	(<i>Sorghum halepense</i>)	P
Kentucky bluegrass	(<i>Poa pratensis</i>)	P
Lovegrass	(<i>Eragrostis</i> spp.)	A/P
Orchardgrass	(<i>Dactylis glomerata</i>)	P
Paragrass	(<i>Brachiaria mutica</i>)	P
Quackgrass	(<i>Agropyron repens</i>)	P
Sandbur	(<i>Cenchrus</i> spp.)	A
Sand dropseed	(<i>Sporobolus cryptandrus</i>)	P
Smooth brome	(<i>Bromus inermis</i>)	P
Vaseygrass	(<i>Paspalum urvillei</i>)	P
Wild oats	(<i>Avena fatua</i>)	A
Witchgrass	(<i>Panicum capillare</i>)	A
Apply 3 to 4 pints per acre¹		
Beardgrass	(<i>Andropogon</i> spp.)	P
Cheat	(<i>Bromus secalinus</i>)	A
Crabgrass	(<i>Digitaria</i> spp.)	A
Fall panicum	(<i>Panicum dichotomiflorum</i>)	A
Goosegrass	(<i>Eleusine indica</i>)	A
Prairie threeawn	(<i>Aristida oligantha</i>)	P
Reed canarygrass	(<i>Phalaris arundinacea</i>)	P
Torpedograss	(<i>Panicum repens</i>)	P
Wild barley	(<i>Hordeum</i> spp.)	A
Apply 4 to 6 pints per acre¹		
Bahiagrass	(<i>Paspalum notatum</i>)	P
Bermudagrass	(<i>Cynodon dactylon</i>)	P
Big bluestem	(<i>Andropogon gerardii</i>)	P
Cattail	(<i>Typha</i> spp.)	P
Cogongrass	(<i>Imperata cylindrica</i>)	P
Dallisgrass	(<i>Paspalum dilatatum</i>)	P
Feathertop	(<i>Pennisetum villosum</i>)	P
Guineagrass	(<i>Panicum maximum</i>)	P
Phragmites	(<i>Phragmites australis</i>)	P
Prairie cordgrass	(<i>Spartina pectinata</i>)	P
Saltgrass	(<i>Distichlis stricta</i>)	P
Timothy	(<i>Phleum pratense</i>)	P
Wirestem muhly	(<i>Muhlenbergia frondosa</i>)	P

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WEEDS CONTROLLED (continued)

BROADLEAF WEEDS

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 2 to 3 pints per acre¹		
Burdock	(<i>Arctium</i> spp.)	B
Camphorweed	(<i>Heterotheca subaxillaris</i>)	P
Carpetweed	(<i>Mollugo verticillata</i>)	A
Carolina geranium	(<i>Geranium carolinianum</i>)	A
Clover	(<i>Trifolium</i> spp.)	A/P
Common chickweed	(<i>Stellaria media</i>)	A
Common ragweed	(<i>Ambrosia artemisiifolia</i>)	A
Dandelion	(<i>Taraxacum officinale</i>)	P
Dogfennel	(<i>Eupatorium capillifolium</i>)	A
Filaree	(<i>Erodium</i> spp.)	A
Fleabane	(<i>Erigeron</i> spp.)	A
Hoary vervain	(<i>Verbena stricta</i>)	P
Horseweed	(<i>Conyza canadensis</i>)	A
Indian mustard	(<i>Brassica juncea</i>)	A
Lambsquarters	(<i>Chenopodium album</i>)	A
Lespedeza	(<i>Lespedeza</i> spp.)	P
Miners lettuce	(<i>Montia perfoliata</i>)	A
Mullein	(<i>Verbascum</i> spp.)	B
Nettleleaf goosefoot	(<i>Chenopodium murale</i>)	A
Oxeye daisy	(<i>Chrysanthemum leucanthemum</i>)	P
Pepperweed	(<i>Lepidium</i> spp.)	A
Pigweed	(<i>Amaranthus</i> spp.)	A
Plantain	(<i>Plantago</i> spp.)	P
Puncturevine	(<i>Tribulus terrestris</i>)	A
Russian thistle	(<i>Salsola kali</i>)	A
Smartweed	(<i>Polygonum</i> spp.)	A/P
Sorrell	(<i>Rumex</i> spp.)	P
Sunflower	(<i>Helianthus</i> spp.)	A
Sweet clover	(<i>Mellilotus</i> spp.)	A/B
Tansymustard	(<i>Descurainia pinnata</i>)	A
Western ragweed	(<i>Ambrosia psilostachya</i>)	P
Wild carrot	(<i>Daucus carota</i>)	B
Wild lettuce	(<i>Lactuca</i> spp.)	A/B
Wild parsnip	(<i>Pastinaca sativa</i>)	B
Wild turnip	(<i>Brassica campestris</i>)	B
Woollyleaf bursage	(<i>Franseria tomentosa</i>)	P
Yellow woodsorrel	(<i>Oxalis stricta</i>)	P
Apply 3 to 4 pints per acre¹		
Broom snakeweed ³	(<i>Gutierrezia sarothrae</i>)	P
Bull thistle	(<i>Cirsium vulgare</i>)	B
Cocklebur	(<i>Xanthium strumarium</i>)	A
Desert camelthorn	(<i>Alhagi pseudalhagi</i>)	P
Diffuse knapweed	(<i>Centaurea diffusa</i>)	A
Dock	(<i>Rumex</i> spp.)	P
Goldenrod	(<i>Solidago</i> spp.)	P
Pokeweed	(<i>Phytolacca americana</i>)	A
Purple loosestrife ³	(<i>Lythrum salicaria</i>)	P
Purslane	(<i>Portulaca</i> spp.)	A
Rush skeletonweed ³	(<i>Chondrilla juncea</i>)	B
Saltbush	(<i>Atriplex</i> spp.)	A
Stinging nettle ³	(<i>Urtica dioica</i>)	P
Yellow starthistle	(<i>Centaurea solstitialis</i>)	A
Apply 4 to 6 pints per acre¹		
Arrowwood	(<i>Pluchea sericea</i>)	A
Canada thistle	(<i>Cirsium arvense</i>)	P
Giant ragweed	(<i>Ambrosia trifida</i>)	A
Japanese bamboo	(<i>Polygonum cuspidatum</i>)	P
Little mallow	(<i>Malva parviflora</i>)	B
Milkweed	(<i>Asclepias</i> spp.)	P
Primrose	(<i>Oenothera kunthiana</i>)	P
Russian knapweed	(<i>Centaurea repens</i>)	P
Silverleaf nightshade	(<i>Solanum elaeagnifolium</i>)	P
Sowthistle	(<i>Sonchus</i> spp.)	A
Texas thistle	(<i>Cirsium texanum</i>)	P

WEEDS CONTROLLED (continued)

VINES AND BRAMBLES

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 1 pint per acre		
Field bindweed	(<i>Convolvulus arvensis</i>)	P
Hedge bindweed	(<i>Calystegia sepium</i>)	A
Apply 2 to 3 pints per acre¹		
Wild buckwheat	(<i>Polygonum convolvulus</i>)	P
Apply 3 to 4 pints per acre¹		
Greenbriar	(<i>Smilax</i> spp.)	P
Honeysuckle	(<i>Lonicera</i> spp.)	P
Morningglory	(<i>Ipomoea</i> spp.)	A/P
Poison ivy	(<i>Rhus radicans</i>)	P
Redvine	(<i>Brunnichia cirrhosa</i>)	P
Wild rose	(<i>Rosa</i> spp.)	P
Including:		
Multiflora rose	(<i>Rosa multiflora</i>)	P
Macartney rose	(<i>Rosa bracteata</i>)	P
Apply 4 to 6 pints per acre¹		
Blackberry ⁴	(<i>Rubus</i> spp.)	P
Dewberry ⁴	(<i>Rubus</i> spp.)	P
Kudzu ⁵	(<i>Pueraria lobata</i>)	P
Trumpet creeper	(<i>Campsis radicans</i>)	P
Virginia creeper	(<i>Parthenocissus quinquefolia</i>)	P
Wild grape	(<i>Vitis</i> spp.)	P

BRUSH SPECIES

COMMON NAME	SPECIES	GROWTH HABIT ²
Apply 4 to 6 pints per acre¹		
American beech	(<i>Fagus grandifolia</i>)	P
Ash	(<i>Fraxinus</i> spp.)	P
Bald cypress	(<i>Taxodium distichum</i>)	P
Bigleaf maple	(<i>Acer macrophyllum</i>)	P
Blackgum	(<i>Nyssa sylvatica</i>)	P
Boxelder	(<i>Acer negundo</i>)	P
Cherry	(<i>Prunus</i> spp.)	P
Chinaberry	(<i>Melia azedarach</i>)	P
Chinese tallow-tree	(<i>Sapium sebiferum</i>)	P
Dogwood	(<i>Cornus</i> spp.)	P
Hawthorn	(<i>Crataegus</i> spp.)	P
Hickory	(<i>Carya</i> spp.)	P
Maple	(<i>Acer</i> spp.)	P
Mulberry	(<i>Morus</i> spp.)	P
Oak	(<i>Quercus</i> spp.)	P
Persimmon	(<i>Diospyros virginiana</i>)	P
Poplar	(<i>Populus</i> spp.)	P
Privet	(<i>Ligustrum vulgare</i>)	P
Russian olive	(<i>Elaeagnus angustifolia</i>)	P
Red alder	(<i>Alnus rubra</i>)	P
Red maple	(<i>Acer rubrum</i>)	P
Rubber rabbitbrush	(<i>Chrysothamnus nauseosus</i>)	P
Saltcedar	(<i>Tamarix ramosissima</i>)	P
Sassafras	(<i>Sassafras albidum</i>)	P
Sourwood	(<i>Oxydendrum arboreum</i>)	P
Sumac	(<i>Rhus</i> spp.)	P
Sweetgum	(<i>Liquidambar styraciflua</i>)	P
Willow	(<i>Salix</i> spp.)	P
Yellow poplar	(<i>Liriodendron tulipifera</i>)	P

¹ Use higher rates where heavy or well-established infestations occur.

² Growth Habit. A = Annual, B = Biennial, P = Perennial

³ For best results early postemergence applications are required.

⁴ The degree of control is species dependent. Some *Rubus* species may not be completely controlled.

⁵ Use a minimum of 75 GPA. Control of established stands may require repeat applications.

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