



42750-68

1/30/2003

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	U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505C) 401 "M" St., S.W. Washington, D.C. 20460		EPA Reg. Number: 42750-68	Date of Issuance: JAN 30 2003
	NOTICE OF PESTICIDE: <input checked="" type="checkbox"/> Registration <input type="checkbox"/> Reregistration (under FIFRA, as amended)		Term of Issuance: Conditional	
			Name of Pesticide Product: Bushwhacker	
Name and Address of Registrant (include ZIP Code): Albaugh, Inc. 121 NE 18 th Street Ankeny, IA 50021				
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. This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you: <ol style="list-style-type: none"> 1. Submit and/or cite all data required for registration/reregistration of your product when the Agency requires all registrants of similar products to submit data. 2. Add the phrase "EPA Registration No. 42750-68" to your label before you release the product for shipment. 3. Submit one (1) copy of your final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of final printed labeling. 4. Submit the results of the storage stability study to EPA upon completion. 				
Signature of Approving Official: 			Date: JAN 30 2003	

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If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Joanne I. Miller
Product Manager (23)
Herbicide Branch
Registration Division (7505C)

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BUSHWHACKER™

ACTIVE INGREDIENT(S):

3,6-dichloromethoxybenzoic acid.....	12.18%
2-Ethylhexyl Ester of 2,4-Dichlorophenoxyacetic Acid.....	24.28%

INERT INGREDIENTS:

.....	63.54%
TOTAL	100.00%

Equivalent to:

12.18% Dicamba Acid, 1.09 lbs./gal
 16.10% 2,4-D Acid or 1.45 lbs./gal
 Isomer specific by AOAC Method 6.D01-5 (12th Ed.)

**KEEP OUT OF REACH OF CHILDREN
 DANGER/PELIGRO**

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 you in detail.)

**PRECAUTIONARY STATEMENTS
 HAZARDS TO HUMANS AND DOMESTIC ANIMALS
 DANGER**

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Do not get in eyes or on clothing. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

FIRST AID

IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice

IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- Have a person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious or convulsing person.

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for further treatment advice.

HOT LINE 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 1-800-424-9300 for emergency medical treatment information.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

SEE INSIDE PANEL FOR ADDITIONAL PRECAUTIONS AND DIRECTIONS FOR USE

EPA REG. NO. 42750-AI
 EPA EST. NO.

NET CONTENTS:

ALBAUGH, INC.
 121 NE 18TH STREET
 ANKENY, IA 50021

**ACCEPTED
 with COMMENTS
 In EPA Letter Dated:
 JAN 30 2003**

**Under the Federal Insecticide,
 Fungicide, and Rodenticide Act,
 as amended, for the pesticide
 registered under EPA Reg. No.
 42750-06**

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PERSONAL PROTECTIVE EQUIPMENT

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

Applicators and other handlers must wear:

- Long-Sleeved shirt and long pants
- Chemical resistant gloves Category C, such as butyl rubber ≥ 14 mils, or nitrile rubber ≥ 14 mils, or neoprene rubber ≥ 14 mils or viton ≥ 14 mils
- Shoes plus socks
- Protective Eyewear
- Chemical-resistant apron when cleaning equipment, mixing or loading

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be re-used until it has been cleaned.

If this container contains over 1 gallon and less than 5 gallons, mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.

If this container contains 5 gallons or more in capacity, do not open pour. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Engineering Control Statements

When handlers use enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. 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 apply when weather conditions favor drift from target area. Spray equipment used in applying this product should be thoroughly cleaned before using for any other purpose. Use repeated flushing with soap and warm water or suitable chemical cleaner. It is best to use a separate sprayer for application of insecticides and fungicides. Do not contaminate water by cleaning of equipment or disposing of equipment washwaters or rinsate.

Groundwater Contamination: Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

Endangered Species Concerns:

The use of any pesticide in a manner that may kill or otherwise harm and endangered species or adversely modify their habitat is a violation of federal law.

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.

Unless otherwise directed in supplemented labeling, all applicable directions, restrictions, precautions and Conditions of Sale and Warranty are to be followed. This labeling must be in the user's possession during application.

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.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of **48 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 Category C, such as butyl rubber \geq 14 mils, or nitrile rubber \geq 14 mils, or neoprene rubber \geq 14 mils or viton \geq 14 mils
- Shoes plus socks
- Protective Eyewear

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 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.

USE REQUIREMENTS FOR PASTURES, PERENNIAL GRASSLANDS, RANGELAND, FALLOW LAND AND NONCROP AREAS: Do not enter treated areas until spray has dried. For early entry to treated areas, wear eye protection, chemical-resistant gloves Category C, such as butyl rubber \geq 14 mils, or nitrile rubber \geq 14 mils, or neoprene rubber \geq 14 mils or viton \geq 14 mils, long-sleeved shirt, long pants, shoes and socks.

TURF USE REQUIREMENTS: Do not allow persons (other than applicator) or pets on treated area during application. Do not enter treated areas until spray has dried. NOTE: For application to turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes, follow **AGRICULTURAL USE REQUIREMENTS** on this label.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Do not store under conditions that might adversely affect the container or its ability to function properly.

Pesticide Storage: Do not store below temperature of 32⁰ F or above 100⁰ F. Store in original container in a well-ventilated area separately from fertilizer, feed, and foodstuffs. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength.

Pesticide Disposal: Pesticide wastes are toxic. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Plastic/Metal Containers: Triple rinse (or equivalent) and add rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Returnable-Refillable Container (Drum/Bulk/Mini-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 named at the time of purchase of this product in a bulk container. This container may only be refilled with this herbicide. 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 transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact ChemTrec at 1-800-424-9300 or Albaugh, Inc. at 515-964-9444. If not returned to the point of purchase or to the designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

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In Case of Spill: In case of large-scale spillage regarding this product, call ChemTrec 800-424-9300.
Steps to be taken in case material is released or spilled:
Dike and contain the spill with inert material (sand, earth, etc) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing, and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

I. GENERAL INFORMATION

BUSHWHACKER™ herbicide is a postemergence herbicide for controlling a wide spectrum of annual, biennial, and perennial broadleaf weeds and brush in pastures, rangeland, and grass (hay, silage); sorghum; wheat; conservation reserve program land; postharvest, fallow, crop stubble, set-aside acres; general farmstead areas; certain noncrop areas; and for forest management..

Mode of Action

BUSHWHACKER™ contains two active ingredients uniquely formulated to be used alone or tank mixed with other listed products as well as liquid fertilizer solutions. **BUSHWHACKER™** is readily absorbed by plants through shoot and root uptake, translocates throughout the plant's system, and accumulates in areas of active growth. **BUSHWHACKER™** interferes with the plant's growth hormones (auxins) resulting in death of many broadleaf weeds.

For best results, thoroughly clean sprayer equipment (tank, lines and nozzles) immediately after use by flushing system with water and heavy duty detergent such as **Wipeout** or other suitable cleaner.

II. APPLICATION INSTRUCTIONS

Apply **BUSHWHACKER™** at the rates and growth stages listed in **Tables 1 and 2** as follows unless instructed differently by section on "Food/Feed Crop Specific Information" or "Non-Food/Feed Use (Land not Harvested, Grazed or Foraged)-Specific Information." **BUSHWHACKER™** may be applied using water or sprayable fluid fertilizer as a carrier. Sprayable fluid fertilizer may be used as the carrier in preplant or pre-emergence use for all crops listed on this label. Postemergence uses with sprayable fluid fertilizer may be made on pasture, hayland, or wheat crops only. The most effective application rate and timing varies based on the target weed species (refer to **Table 1**). In mixed populations of weeds the correct rate is determined by the weed species requiring the highest rate. Delaying application permits weeds to exceed the maximum size and will prevent adequate control. For certain specified applications liquid fertilizer or oil may replace part or all of the water as diluent. If dry flowable (DF), wettable powder (WP) or flowable (F) tank mix products are to be used, these should generally be added to the spray tank first. Refer to the mixing directions on the labels of the tank mix products.

Irrigation:

In irrigated areas, it may be necessary to irrigate before treatment to ensure active weed growth.

Chemigation Prohibition

Do not apply this product through any type of irrigation system.

Spray Coverage:

Weeds must be thoroughly covered with spray. Dense leaf canopies shelter smaller weeds and prevent adequate spray coverage.

Sensitive Crop Precautions:

BUSHWHACKER™ may cause injury to desirable trees and plants, particularly beans, cotton, flowers, fruit trees, grapes, ornamentals, peas, potatoes, soybeans, sunflowers, tobacco, tomatoes and other broadleaf plants when contacting their roots, stems or foliage. At high temperatures (about 85 degrees or higher), vapors from this product may cause injury to the aforementioned susceptible crops. These plants are most sensitive to **BUSHWHACKER™** during their development or growing stage. Do not treat areas where either possible downward movement into the soil or surface washing may cause contact of **BUSHWHACKER™** with the roots of desirable trees and shrubs.

Drift Reduction Information:

The following information may be helpful in reducing possible spray drift from ground or aerial applications. Avoid making applications when spray particle may be carried by air currents to areas where sensitive crops and plants are growing. Do not spray near sensitive plants if the wind is gusty or in excess of 5 mph and moving in the direction of nearby sensitive crops or if a temperature inversion exists. Always determine the direction and distance of possible spray drift prior to application. Leave an adequate buffer zone between area to be treated and sensitive plants. Coarse sprays are less likely to drift out of the target area than fine sprays. Properly maintain and calibrate all

spray equipment. The use of agriculturally accepted drift retardants are acceptable and advised. Avoid applications within the vicinity of susceptible plants when at all possible. Do not apply in greenhouses.

AERIAL APPLICATION METHODS AND EQUIPMENT

Water Volume: Use 3-10 gallons of water per acre. Use the higher spray volume when treating dense or tall vegetation.

Application Equipment: Select nozzles designed to produce minimal amounts of fine spray particles. Make applications at the lowest stage height to reduce the exposure of spray droplets to evaporation and wind. The applicator must follow the most restrictive use cautions to avoid drift hazards, including those found in the this labeling as well as applicable state and local regulations and ordinances.

SPRAY DRIFT MANAGEMENT

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 is responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
 - o Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory.

AERIAL DRIFT REDUCTION ADVISORY

[This section is advisory in nature and does not supersede the mandatory label requirements.]

INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest 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.
 - o Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from 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.

BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

APPLICATION HEIGHT

Applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe 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 aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.)

WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 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

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud 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 identified 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.

SENSITIVE AREAS

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

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Table 2. Application Rate and Timing – Biennial and Perennial Weeds.

(The addition of liquid fertilizer (28-0-0.32-0-0) at ½ the GPA of the spray solution has proven to give increase suppression or control on certain species of weeds)

Weeds Controlled	Rate Per Acre (according to weed growth stage)					
	1.5 pints	1.5 pints	1.5 pints	1.75 pints	2.75 pints	3.5-5.25 pints
Bindweed, Field	-	-	-	-	-	actively growing
Bittercress	-	2-3"	-	-	-	-
Buckeye species ¹	-	-	-	-	full leaf	-
Bullnettle ²	-	-	-	flower	-	-
Chircory	-	-	-	-	early bolting	-
Clove, Bur	-	-	Pre-flower	-	-	-
Dandelion, Common	-	rosette	-	bolting	-	-
Dewberry, Southern ¹	-	-	-	-	-	spring or fall
Dock, Curly	-	-	prior to bolting	-	after bolting	-
Elderberry ²	-	-	-	-	-	actively growing
Goldenrod, Missouri	-	-	-	3-15"	flower	-
Groundsel, Texas	-	rosette	post-bolting	-	-	-
Honeysuckle, Hairy	-	-	-	-	spring or fall	-
Horsenettle, Carolina ¹	-	-	-	-	-	flower or berry
y, Poison	-	-	-	after bloom	-	-
Knapweed, Black ²	-	-	-	-	-	actively growing
, Russian ²	-	-	-	-	-	actively growing
, Spotted	-	-	-	-	-	actively growing
Marshelder	-	-	-	<12"	12"/prebloom	-
Mesquite ³	-	-	-	-	-	45-90 days after budbreak
Milkweed, Antelopehorn ²	-	-	-	pre-flower	-	Flower
Nightshade, Silverleaf ¹	-	-	-	full flower	-	-
, Black ¹	-	-	-	full flower	-	actively growing
Persimmon, Eastern ³	-	-	-	-	-	actively growing
Prickly, Lettuce	-	-	-	rosette	-	actively growing
Rabbitbrush ²	-	-	-	-	-	-
Ragwort, Tansy	-	-	-	rosette	-	actively growing
radvine ²	-	-	-	-	-	actively growing
Sagebrush, Fringed ²	-	-	-	-	-	actively growing
Smartweed	-	-	-	-	-	-
Sorrel, Red	-	-	Rosette	bolting	flower	actively growing
Sowthistle ²	-	-	-	-	-	actively growing
Spurge, Leafy ²	-	-	-	-	-	full leaf
Tallow Tree, Chinese ⁴	-	-	-	-	-	-
Thistle, Bull	-	-	Rosette	bolting	-	actively growing
, Canada ²	-	-	-	-	-	-
, Musk	-	-	-	rosette/bolting	-	-
, Piumeless	-	-	Rosette	bolting	-	-
Vetch, Hairy	-	1-4"	4-8"	8" full flower	-	-
Yankeeeweed	-	-	-	10-18"	-	Rosette
Yellow Starthistle ¹	-	-	-	-	-	-

¹ May require repeat applications

² Recommended rate will provide top growth suppression only

³ For improved root kill or woody species such as mesquite and eastern persimmon spray 3.5 pints of per acre BUSHWHACKER™ each year for 3 consecutive years.

⁴ Under dense populations, a second application may be needed the following growing season.

For increased control of weeds such as blackberry and dewberry, BUSHWHACKER™ may be tank mixed with Ally® herbicide (0.1-0.2 ounces per acre), if labeled for the use site.

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Ground Application (Banding)

When applying **BUSHWHACKER™** herbicide by banding, determine the amount of herbicide and water volume needed using the following formula:

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \frac{\text{Broadcast rate}}{\text{per acre}} = \frac{\text{Banding herbicide}}{\text{rate per acre}}$$

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \frac{\text{Broadcast rate}}{\text{volume per acre}} = \frac{\text{Banding water}}{\text{volume per acre}}$$

Ground Application (Broadcast)

Water volume: Use 10-25 gallons of spray solution per broadcast acre for optimal performance. Use the higher spray volume when treating dense or tall vegetation.

Application Equipment: Select nozzle design to produce minimal amounts of fine spray particles. Spray nozzles as close to the weeds as is practical for good weed coverage.

Spot or Small Area Application

JSHWHACKER™ may be applied to individual clumps or small areas of undesirable vegetation using handgun or similar types of application equipment. Apply diluted sprays to allow complete wetting (up to runoff) of foliage and stems. For knapsack or other small capacity sprayers, prepare a solution of **BUSHWHACKER™** in water according to **Table 3** (assuming that the spot treatment rate equates to 40 gallons per acre on the broadcast basis.) Adding a surfactant (0.5% by volume) can help improve control.

Do not make spot treatments in addition to broadcast or band treatments.

Application equipment: Select nozzles designed to produce minimal amounts of fine spray particles. Spray with nozzles as close to the weeds as is practical for good weed coverage.

Table 3. – Knapsack Sprayer Dilution Instructions

Sprayer Capacity (gallons of water)	Amount of BUSHWHACKER™ to add to the spray tank
1 gallon	1 fluid ounce*
3 gallons	3 fluid ounces
5 gallons	5 fluid ounces

* 1 fluid ounce = 2 tablespoons

III. Additives

To improve burndown of emerged weeds, surfactants and/or low use rates of liquid fertilizers (28-0-0; 32-0-0), or crop oil concentrate may be used with **BUSHWHACKER™** herbicide or **BUSHWHACKER™** tank mixes applied after the weeds have emerged. Crop oil concentrate is for non-food/feed crop uses only. Do not apply tank mixes that include Ammonium Sulfate or Crop Oil Concentrate to any food/feed crop use listed on this label. For food/feed crop use, do not use liquid fertilizers that contain Ammonium Sulfate (AMS) as a source of nitrogen as tolerances in commodities derived from the crop may contain residues that exceed established tolerances.

Oil Concentrate

A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria:

- be non-phytotoxic
- contain only EPA-exempt ingredients
- provide good mixing quality in the jar test, and
- be successful in local experience

The exact composition of suitable products will vary; however, vegetable oil and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, see **Compatibility Test for Mix Components**.

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Adjuvants containing crop oil concentrates may be used for preplant, pre-emergence and between cropping applications. Do not use crop oil concentrate for postemergence applications in food/feed crops (i.e. sorghum, grass (hay or silage), pastures, rangeland, and wheat.)

Nitrogen Source

- **Sprayable liquid fertilizers:** Use ½ GPA of sprayable liquid fertilizers (28-0-0; 32-0-0) per acre. Do not use brass or aluminum nozzles when spraying fertilizers.

Non-ionic Surfactant

The standard label recommendation is 2-4 pints of an 80% active non-ionic spray surfactant per 100 gallons of water. (Rate will vary with the size and condition of weeds to be controlled. Use lowest rate per 100 gallons when weeds are small and actively growing. As weeds increase in size and or become hardened off, the rate of non-ionic surfactant will have to be increased to give optimum coverage and control.)

Table 4. Additive Rate Per Acre.

Additive ¹	Rate BUSHWHACKER™ Per Acre
Non-ionic Surfactant	2-4 pints per 100 gallons ²
Sprayable Liquid Fertilizers (28-0-0; 32-0-0)	½ GPA of spray solution
Crop Oil Concentrate	1 quart

See manufacturer's label for specific rate recommendations.

² Use lowest rate per 100 gallons when weeds are small and actively growing. As weeds increase in size and or become hardened off, the rate of non-ionic surfactant will have to be increased to give optimum coverage and control.

IV. General Tank Mixing Information

Tank Mix Partners/Components

The following products may be tank mixed with BUSHWHACKER™ according to the specific tank mixing instructions in this label and respective product labels.

- Aim™ (carfentrazone-ethyl)
- Ally® (metsulfuron-methyl)
- Amber® (triasulfuron)
- Asulox® (asulam)
- Atrazine
- Banvel® (dicamba)
- Basagran® (bentazon)
- Bronate® (bromoxynil + MCPA)
- Buctril® (bromoxynil)
- Canvas® (thifensulfuron-methyl + tribenuron-methyl + metsulfuron-methyl)
- Clarity® (dicamba)
- Curtail™ (clopyralid + 2,4-D)
- Cyclone® (paraquat)
- Dakota® (fenoxaprop-p-ethyl + MCPA)
- Distinct® (diflufenzopyr + dicamba)
- Evik® (ametryn)
- Express® (tribenuron-methyl)
- Fallowmaster® (glyphosate + dicamba)
- Finesse® (chlorsulfuron + metsulfuron-methyl)
- Glean® (chlorsulfuron)
- Gramoxone® Extra (paraquat)
- Harmony® Extra (thifensulfuron-methyl + tribenuron-methyl)
- Karmex® (diuron)

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- Kerb® (pronamide)
- Laddok® S-12 (bentazon + atrazine)
- Landmaster® (glyphosate + 2,4-D)
- MCPA
- Paramount® (quinclorac)
- Peak® (prosulfuron)
- Permit® (halosulfuron-methyl)
- Rave™ (dicamba + triasulfuron)
- Roundup® Ultra (glyphosate)
- Sencor® (metribuzin)
- Sinbar® (terbacil)
- Stinger™ (clopyralid)
- Tiller® (fenoxaprop-p-ethyl + 2,4-D + MCPA)
- Tordon™ (picloram)
- Touchdown® (glyphosate)
- 2,4-D

See "VI. Food/Feed Crop Specific Information" section for more information for more details. Read and follow the applicable **Restrictions and Limitations** and **Directions for Use** on all products involved in tank mixing. The most restrictive labeling applies to tank mixes. Physical incompatibility, reduced weed control, or crop injury may result from mixing **BUSHWHACKER™** with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers.

Compatibility Test for Mix Components

Before mixing components, always perform a compatibility jar test.

For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes adjust accordingly. Only use water from the intended source at the source temperature.

Add components in the sequence indicated in the **Mixing Order** using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per acre.

Always cap the jar and invert 10 cycles between component additions.

When the components have all been added to the jar, let the solution stand for 15 minutes. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is still incompatible, do not mix the ingredients in the same tank.

Mixing Order

If an inductor is used, rinse it thoroughly after each component has been added. Maintain constant agitation during application.

1. **Water** Begin by agitating a thoroughly clean sprayer tank half full of clean water.
2. **Agitation.** Maintain constant agitation throughout mixing and application.
3. **Products in PVA bags.** Place any product contained in water-soluble bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
4. **Water-dispersible products** (such as dry flowables, wettable powders, suspension concentrates, and suspo-emulsions)
5. **Water-soluble products (such as BUSHWHACKER™).**
6. **Emulsifiable concentrates** (such as oil concentrate, when applicable).
7. **Water-soluble additives** (such as liquid fertilizers (28-0-0; 32-0-0), when applicable).*
8. **Remaining quantity of water.**

* If sprayable fluid fertilizer is used as the carrier.

Always perform the **Compatibility Test** before mixing into the spray tank. Also, when using a sprayable fluid fertilizer as the carrier, any product contained in PVA bags must first be completely dissolved in water before the contents can be added to the fertilizer mix.

V. Restrictions and Limitations

- **Maximum seasonal use rate:** Refer to Table 5.
- **Preharvest Interval (PHI):** Refer to "Food/Feed Crop Specific Information"
- **Restricted entry Interval (REI):** 48 Hours
- **Crop Rotational Restrictions:**
- The interval between application and planting rotational crop is given below. Always exclude counting days when the ground is frozen. Planting at intervals less than specified below may result in crop injury. Moisture is essential for the degradation of this herbicide in soil.
- **Planting/replanting restrictions for BUSHWHACKER™ applications of 6 pints per acre or less:** No rotational cropping restrictions apply at 120 days or more following application. Additionally, for annual crop uses in this label including sorghum, follow the preplant use directions under "VI. Food/Feed Crop Specific Information." For barley, oat, wheat, and other grass seedlings, the interval between application and planting is 10 days per pint per acre.
- **Planting/replanting restrictions for applications of more than 6 pints and up to 8 pints of BUSHWHACKER™ per acre:** Corn, sorghum, cotton (east of the Rocky Mountains) and all other crops grown in areas with 30" or more of annual rain fall may be planted 120 days or more after application. Barley, oat, wheat and other grass seedlings may be planted, if the interval from application to planting is 10 days per pint per acre east of the Mississippi River and 15 days per pint per acre west of the Mississippi River. For all other crops in areas with less than 30" of annual rainfall, the interval between application and planting is 180 days or more.
- **Arid (dry) conditions:** it is extremely important that the addition of a suitable Nonionic Surfactant, Oil, or sprayable fertilizer be used when applying BUSHWHACKER™. Higher rates of BUSHWHACKER™ may be needed to control susceptible weeds in this environment.
- **Rainfast Period:** Rainfall or irrigation occurring within 4 hours after postemergence applications may reduce effectiveness of BUSHWHACKER™.
- **Stress:** Do not apply to crops under stress such as stress due to lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures, as unsatisfactory control may result.
- Do not apply to crops that show injury (leaf phytotoxicity or plant stunting) produced by any other prior herbicide applications, because this injury may be enhanced or prolonged.
- Do not apply this product through any type of irrigation equipment. Do not contaminate irrigation ditches or water used for domestic purposes.
- This product cannot be used to formulate or reformulate another pesticide product.

Table 5. Crop Specific Restrictions and Limitations.

Crop	Maximum Rate Per Acre Per Application	Maximum Rate Per Acre Per Season	Livestock Grazing or Feeding ¹	Aircraft Application
Between Crop Applications	6 pints	8 pints	Yes	Yes
Pasture, Hay, Silage	4 pints	8 pints	Yes	Yes
Sorghum	1 pints	1 pints	Yes	Yes
Wheat	2 pints	3.33 pints	Yes	Yes

¹ Refer to "Food/Feed Crop Specific Information" for grazing and feeding restrictions.

VI. Food/Feed Crop Specific Information

Pastures, Rangeland and Grass (Hay, Silage)

BUSHWHACKER™ is recommended for use for pasture (including pasture grown for hay), rangeland, grass grown for hay or silage, between crop applications/fallow systems, Conservation Reserve Programs, and general farmstead (non-cropland only).

Refer to Tables 1 and 2 for rate selection based on targeted weed or brush species. Some weed species will require tank mixes for adequate control.

Rates above 4 pints of BUSHWHACKER™ per acre are for spot treatments only.

Retreatments may be made as needed; however, do not exceed a total of 8 pints of BUSHWHACKER™ per treated acre during a growing season.

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Uses described in this section also pertain to small grains (such as barley, corn, forage sorghum, oats, rye, sudangrass, or wheat) grown for pasture, hay, and silage only. Newly seeded areas including small grains grown for pasture or hay, may be injured if rates of **BUSHWHACKER™** are greater than 2 pints per acre are applied.

In newly established hybrid Bermudagrass, Pangolagrass, and stargrasses (*Cynodon* spp.) use 1.75 to 3.5 pints of **BUSHWHACKER™** per acre to control or suppress weeds after planting vegetative propagules (stolens) of hybrid bermudagrasses. In addition to the weeds listed in **Tables 1 and 2**, this rate of **BUSHWHACKER™** will control or suppress annual sedges, broadleaf signalgrass, crabgrass, and goosegrass. Best results will be obtained if **BUSHWHACKER™** is applied at the germinating stage of weeds. Under favorable conditions, this is usually 7-10 days after planting these grasses. Reduced control can be expected if weeds are allowed to reach 1" in height before application or if germination of weeds occurs 10 days after application.

Do not use on bentgrass, susceptible grass pastures (such as carpetgrass, buffalograss, or St. Augustine grass), lezpedeza, wild winter peas, vetch, clover, and alfalfa pastures as injury will occur.

When perennial weeds are reaching maturity, mowing and allowing some regrowth will enhance control. Difficult to control weeds may require a repeat application.

For pasture renovations, wait 3 weeks per quart (2 pints) of **BUSHWHACKER™** used per acre before interseeding or injury may occur.

If grasses are grown for seed or for seed-down purposes, do not apply after grass reaches joint stage.

Grazing and Feeding Non-Lactating Animals: There is no waiting period between treatment and grazing for non-lactating animals. Do not permit meat animals being finished for slaughter to graze treated fields within 30 days of slaughter.

Grazing and Feeding Lactating Animals: Do not graze lactating dairy animals within 7 days of treatment.

Dry hay and Silage: Treated grasses may be harvested for dry hay or silage but do not harvest within 37 days of treatment.

Pasture and Rangeland Tank Mixes

BUSHWHACKER™ may be applied in tank mixes with one or more of the following herbicides:

Ally®
Amber®

Banvel®
Clarity®

Rave™

Sorghum

Rates and Timings

Apply 1 pint of **BUSHWHACKER™** per acre to sorghum in the 3-5 leaf stage (4"-8" tall.) For best performance apply when weeds are small (less than 3" tall).

Applications of **BUSHWHACKER™** to sorghum during periods of rapid growth may result in temporary leaning of plants or rolling leaves. These effects are usually outgrown within 10-14 days. Sorghum growing under conditions of stress such as high moisture, low fertility, and abnormal temperature may be more sensitive to applications of **BUSHWHACKER™**. **Do not use surfactants or oils with postemergence applications of BUSHWHACKER™ on sorghum crops.** Do not use **BUSHWHACKER™** if the potential for sorghum injury is not acceptable.

If sorghum is grown for pasture, hay or silage, refer to "**Pastures, Rangeland and Grass (Hay, Silage)**" under "**VI. Food/Feed Crop Specific Information**" for livestock grazing and feeding restrictions.

Do not apply **BUSHWHACKER™** to sorghum grown for seed production.

Make no more than one postemergence application per growing season.

Sorghum Tank Mixes

BUSHWHACKER™ may be applied in tank mixes with one or more of the following herbicides:

Atrazine
Basagran®
Buctril®

Laddock® S-12
Paramount®

Peak®
Permit®

Wheat

(Fall and Spring-seeded)

If small grains are grown for pasture or hay only, refer to **Pastures, Rangeland and Grass (Hay, Silage)**. Do not graze or harvest for livestock feed prior to crop maturity.

Do not use **BUSHWHACKER™** in wheat underseeded with legumes.

EARLY SEASON APPLICATION:

Apply 1.5 pints of **BUSHWHACKER™** per acre to wheat unless using one of the wheat specific programs below.

Early season applications to spring-seeded wheat must be made after tillering and before wheat reaches the 6-leaf stage.

Early season applications to fall-seeded wheat must be made after tillering and prior to the jointing stage. Care should be taken in staging early developing wheat varieties such as TAM 107, Madison, or Wakefield to be certain that the application occurs prior to the jointing stage.

SPECIFIC USE PROGRAMS FOR FALL-SEEDED WHEAT ONLY:

Up to 1.33 pints of **BUSHWHACKER™** per acre may be applied on fall-seeded wheat after the wheat begins to tiller for suppression of perennial weeds, such as field bindweed. Applications may be made in the fall following a frost but before a killing freeze. Periods of extended stress such as cold and wet weather may enhance the possibility of crop injury. For fall applications only, do not use if the potential for crop injury is not acceptable.

PREHARVEST APPLICATIONS:

BUSHWHACKER™ can be used to control weeds that may interfere with harvest of wheat. Apply up to 2 pints of **BUSHWHACKER™** per acre as a broadcast or spot treatment to annual broadleaf weeds when wheat is in the hard dough stage and the green color is gone from the nodes (joints) of the stem. Best results will be obtained if application can be made when weeds are actively growing but before weeds canopy. A waiting interval of 7 days is required before harvest. Do not use preharvest-treated wheat for seed unless a germination test is performed on the seed with an acceptable result of 95% germination or better. For control of additional broadleaf weeds or grasses, **BUSHWHACKER™** may be tank mixed with other herbicides such as **Ally** or **Roundup® Ultra** that are registered for preharvest use in wheat.

Preharvest use of **BUSHWHACKER™** is not registered for use in California.

Wheat Tank Mixes

Table 6

Tank Mix Partner	Rate Per Acre
Aim™	0.3 ounce
Ally ^{®1}	0.05-0.1 ounce
Amber ^{®1}	0.14-0.28 ounce
Bronate [®]	0.75-1.5 pints
Buctril [®]	1-1.5 pints
Canvas ^{®1}	0.2-0.4 ounce
Curtail™	2-2.67 pints
Dakota ^{®2}	16 fluid ounces
Express ^{®1}	0.083-0.167 ounce
Finesse ^{®1}	0.167-0.33 ounce
Glean ^{®1}	0.167 ounce
Harmony [®] Extra ¹	0.167-0.33 ounce
Karmex ^{®3}	0.5-1.5 pounds
2, 4-D amine	4-20 fluid ounces ⁴
Metribuzin ³ (Sencor ^{®1})	0.25-0.375 pounds a.i.
Peak ^{®1}	0.25-0.38 ounce
Stinger™	4-5.33 fluid ounces
Tiller ^{®2}	1-1.7 pints

Do not use low rates of sulfonylurea herbicide, such as Ally®, Amber®, Canvas®, Express®, Finesse®, Glean®, Harmony®, Extra, and Peak® on more mature weeds or on dense vegetative growth.

Do not use as a tank mix treatment with Dakota or Tiller on Durum wheat. Do not tank mix with Tiller if wild oat is the target weed.

Tank mixes with Karmex and metribuzin are for use in **fall-seeded wheat only**.

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• **BUSHWHACKER™** contains 0.18 pounds acid equivalent of 2,4-D per pint. When tank mixing with 2,4-D do not exceed a combined total of 1.0 pound acid equivalent per acre of 2,4-D and do not exceed 0.5 pounds acid equivalent of 2,4-D unless purity to wheat is acceptable.

Between Crop Applications/Fallow Systems, Conservation Reserve Programs, and General Farmstead

These uses are considered Food/Feed Crops when harvested, grazed or foraged. Consult section on "General Tank Mixing Information" for adjuvant restrictions and section on "Additives" for specific use directions.

VII. Non-Food/Feed Use (Land not Harvested, Grazed or Foraged)-Specific Information.

Between Crop Applications

PREPLANT DIRECTIONS (POSTHARVEST, FALLOW, CROP STUBBLE, SET-ASIDE) FOR BROADLEAF WEED CONTROL

BUSHWHACKER™ can be applied postharvest in the fall, spring, or summer during the fallow period or to crop stubble/set-aside acres. Apply to weeds after crop harvest (postharvest) and before a killing frost or in the fallow cropland or crop stubble the following spring or summer.

See "V. Restrictions and Limitations" for the recommended interval between application and planting to prevent crop injury.

Rates and Timings:

Apply 1.5-6 pints of **BUSHWHACKER™** per acre. Refer to Table 1 to determine use rates for specific targeted weed species. Retreatments may be made as needed; however, do not exceed a total of 8 pints of **BUSHWHACKER™** per treated acre during a growing season. For best performance, apply **BUSHWHACKER™** when annual weeds are less than 6" tall, when biennial weeds are in the rosette stage and to perennial weed regrowth in late summer or fall following a mowing or tillage treatment. The most effective control of upright perennial broadleaf weeds such as Canada thistle and Jerusalem artichoke occurs if **BUSHWHACKER™** is applied when the majority of weeds have at least 4-6" of regrowth or for weeds such as field bindweed and hedge bindweed that are in or beyond the full bloom stage. The addition of liquid fertilizers (28-0-0,32-0-0) at ½ GPA has shown to increase efficacy.

Avoid disturbing treated areas following application. Treatments may not kill weeds that develop from seed or underground plant parts such as rhizomes or bulblets, after the effective period for **BUSHWHACKER™**. For seedling control, a follow-up program or other cultural practices could be instituted.

Between Crop Tank Mixes:

In tank mixes with one or more of the following herbicides, apply 1.5-1.75 pints of **BUSHWHACKER™** per acre for control of annual weeds, or 1.75-7.25 pints of **BUSHWHACKER™** per acre for control of biennial and perennial weeds

- Aim™
- Aily®
- Amber®
- Atrazine
- Curtail™
- Cyclone®
- Distinct®
- Fallowmaster®
- Finesse®
- Glyphosate
- Gramoxone® Extra
- Kerb®
- Landmaster® BW
- Paramount®
- Sencor®
- Tordon™ 22K
- Touchdown™
- 2,4-D

FOREST MANAGEMENT

Do not apply under drip line of desirable trees or adjacent to desirable vegetation.

Forest Site Preparation

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Budbreak Spray: For control of alder, susceptible broadleaf weeds, and susceptible woody plants before planting forest seedlings, apply up to 3 quarts per acre in a minimum of 10 gallons spray mixture per acre. Apply as an oil spray (see "Mixing Instructions") after alder buds break, but before foliage is 1/4 full size. A water spray including 2 to 4 quarts per acre of diesel oil, fuel oil, stove oil, or crop oil concentrate may also be used.

Foliage Spray: To control alder and susceptible woody plants before planting forest seedlings, apply up to 3 quarts per acre in a minimum of 10 gallons spray mixture per acre. If desired, apply as a water spray including up to 1 quart of diesel oil, fuel oil, stove oil, or crop oil concentrate per gallon of water (see "Mixing Instructions"). For best results, apply after alder foliage has reached full size.

Conifer Release: Some Conifers are more susceptible to BUSHWHACKER™ than others. Prior to application, consult your local Forestry agency about use pattern and history of use. To control alder, susceptible broadleaf weeds, and susceptible woody plants in young conifer stands, apply up to 3.25 pints per acre in a minimum of 10 gallons spray mixture per acre. This spring foliage treatment should be applied as a water spray when 3/4 of the brush foliage has full size leaves and before new conifer growth reaches 2 inches in length. Such stages usually occur between early May and mid-June, but application timing should be based on growth stages of brush and conifers. Application may cause leader deformation and other conifer injury, but trees should overcome it during the next growing season.

To control tanoak, madrone, ceanothus, canyon live oak, and manzanita, and to release Douglas fir, hemlock, Sitka spruce or grand fir, apply up to 5 pints per acre in a minimum of 10 gallons spray mixture per acre. This spring foliage treatment should be applied as a water spray including, if desired, up to 1 quart of diesel oil, fuel oil, stove oil, or crop oil concentrate per gallon of water (see "Mixing Instructions"). Make application before new growth on Douglas fir is 2 inches long. To release ponderosa pine from the same species, treat before new pine growth begins in the spring. Addition of oil or oil concentrate may cause unacceptable injury to pines. For dormant applications in late winter or early spring for control of susceptible woody species such as alder, willow, poplars, cherry, vine maple, ceanothus, tanoak, madrone, and manzanita, apply up to 5 pints per acre in a minimum of 10 gallons spray mixture per acre. This dormant treatment should be applied in diesel oil, fuel oil, stove oil, or other suitable diluent such as water plus crop oil concentrate (see "Mixing Instructions"). Do not use in plantations where pine and larch are among the desired crop species.

To control **hazel brush** in the Lake states, apply up to 3.25 pints per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray when new shoot growth of hazel is complete (usually mid-July).

After conifer species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir cease growth and harden off and brush is still actively growing in late summer, apply up to 4.75 pints per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray to control certain competing hardwoods such as alder, aspen, birch, hazel and willow. However, if possible injury cannot be tolerated, do not use since this treatment may cause conifer injury.

Forest Roadsides: To control susceptible broadleaf weeds and woody plants on forest roadsides, apply 1.75 to 5 pints per acre in a minimum of 10 gallons spray mixture per acre. Apply as a water spray and, if desired, include up to 3 quarts per acre of diesel oil, fuel oil, stove oil, or crop oil concentrate (see "Mixing Instructions"). Apply when sufficient foliage is present for absorption.

ROADSIDES; MEDIANS; HIGHWAY, RAILROAD, UTILITY AND PIPELINE RIGHTS-OF-WAY; VACANT LOTS; AROUND UTILITY INSTALLATIONS, TRANSFORMERS, PUMP HOUSES, AND BUILDINGS; STORAGE AREAS; FENCES; GUARDRAILS; LUMBER YARDS; INDUSTRIAL SITES; AIRPORTS; TANK FARMS; FARMSTEADS; AND SIMILAR NONCROP AREAS

Do not apply under drip line of desirable trees or adjacent to desirable vegetation.

For control of many broadleaf weeds and small woody plants, apply 1 to 3.25 pints per acre. Use the high rate for woody plants. Applications may be as broadcast sprays, small area sprays or spot treatments. For small areas or spot spraying, use 3 fluid ounces per gallon of water and spray weeds to runoff. Regardless of the method of application, use adequate spray volume for full coverage of weeds. Preferred application timing is in the early spring when sufficient weeds have emerged, and when weeds are small and actively growing, but before weeds are too mature. Summer applications to older, drought-stressed weeds are less effective. However, weeds are more susceptible again in the fall when cooler, wetter conditions support active growth before a killing frost. For fall treatment of mature weeds or perennial weed regrowth, use up to 1.5 pints per acre. Several seasons of spring plus fall treatments may be necessary to control certain perennials. Use of oil sprays or the addition of spray adjuvants improves weed control, but also increases the risk of damage to desirable ground covers.

Plant Response: Bent grass, other warm season or southern grasses, alfalfa, clover, or other legumes may be killed or injured. Do not apply when grass is in boot to milk stage, or after heading begins, if grass production is desired. Do not apply to newly seeded areas until grass is well established. Reseeding is not recommended for at least 30 days following application.

Conservation Reserve Programs and General Farmstead

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BUSHWHACKER™ is recommended for use for Conservation Reserve Programs, general farmstead (non-cropland only) weed and brush control, or use in State Recognized Noxious Weed areas (non-cropland areas).

Refer to **Tables 1 and 2** for rate selection based on targeted weed or brush species. Some weed species will require tank mixes for adequate control.

Rates above 4 pints of **BUSHWHACKER™** per acre are for spot treatments only.

Retreatments may be made as needed; however, do not exceed a total of 8 pints of **BUSHWHACKER™** per treated acre during a growing season.

Farmstead and Fence-row Treatment Application Instructions

BUSHWHACKER™ may be applied using water or oil and water emulsions in spot application to control undesirable vegetation using handgun or similar types of application equipment. In addition to weed species listed in **Tables 1 and 2**, these treatments may be used to control or suppress woody plant species listed in **Table 7**.

To prepare soil and water emulsions, mix in the order and proportions indicated below.

The solution should remain milky colored without an oily layer on top when under agitation. If an oily layer forms, increase the amount of emulsifier or change to a more effective emulsifier.

Do not exceed 40 gallons of spray solution per treated acre per application. One gallon of **BUSHWHACKER™** in forty gallons of spray solution contains 1.09 pounds acid equivalent of dicamba and 1.45 pounds acid equivalent of 2,4-D. Spray plants to wet. Do not allow this spray mix to contact desirable vegetation.

To control brush, briars, and weeds along fence-rows surrounding pasture and ranch lands, and fallow fields, use a tank mix of 2.5% **BUSHWHACKER™**, 87.5% water, 10% diesel oil, and sufficient emulsifier (to mix the diesel and emulsifier). The diesel oil in this tank mix will damage or kill desirable grasses and should not be used in pastures or where damage to desirable species cannot be tolerated.

- 1). Water: Begin by agitating a thoroughly clean sprayer tank with the desired quantity of clean water. Maintain constant agitation during complete mixing procedure.
- 2). Emulsifier: Add 0.5% volume to volume of water.
- 3). **BUSHWHACKER™**: add 2.5 gallons per 100 gallons of total intended solution.
- 4). Diesel Oil: Add 10 gallons per 100 gallons of total intended solution.

Maintain constant agitation during application. Under good agitation, the spray solution should be milky white with no oil layer on top. If oil layer forms, increase the amount of emulsifier or change to a more effective emulsifier.

FOR SPRAYING FOLIAR APPLICATIONS:

1. Spray when leaves have reached full size but have not hardened due to drought or maturity.
2. Spray individual plants to wet with handgun.
3. For larger stems (up to 3" in diameter) and hard to control species, direct spray stream to base of stems to wet the stem at soil surface in addition to wetting the foliage.
4. Do not apply under drip line of desirable trees or adjacent to desirable vegetation.

FOR DORMANT BASAL APPLICATIONS:

1. Increase diesel oil content to 15% or 15 gallons of diesel oil per 100 gallons of total solution.
2. Spray in late winter and early spring before plants break dormancy.
3. Spray the bottom 24" of the target stem to wet on all sides.
4. For larger stems (up to 3" in diameter) and hard to kill species direct the spray solution to the base of target stems to wet the soil at the stem/soil junction in addition to wetting the stem.
5. Do not apply under drip line of desirable trees or adjacent to desirable vegetation.

FOR CUT SURFACE TREATMENTS:

Apply **BUSHWHACKER™** in an undiluted state as a cut surface treatment to control unwanted trees and prevent sprouts of cut trees.

- **Frill or Girdle Treatments:** Make a continuous cut or a series of overlapping cuts using an axe to girdle tree trunk. Spray or paint the cut surface with **BUSHWHACKER™**.
- **Stump Treatments:** Spray or paint freshly cut surface with **BUSHWHACKER™**. The cambium layer (the area adjacent to the bark) should be thoroughly wet. Treat stumps within 6 hours after cutting.

Table 7. The following list of trees and vines can be controlled on farmsteads and fencerows as foliar, basal, or cut surface treatments:

Alder	Kudzu
Ash	Locust, Black
Aspen	Maple
Basswood	Mesquite
Beech	Oak
Blackberry	Oak, Poison
Blackgum	Olive, Russian
Cedar	Persimmon, Eastern
Cherry	Pine
Chinquapin	Plum, Sand (Wild Plum)
Cottonwood	Poplar
Creosotebush	Rabbitbrush
Dewberry	Redcedar, Eastern
Dogwood	Rose, McCartney
Elm	Rose, Multiflora
Grape	Sagebrush, Fringe
Greenbriar	Sassafras
Hawthorn (Thornapple)	Spruce
Hemlock	Sumac
Hickory	Sweetgum
Honeylocust	Sycamore
Jonesyuckle	Tarbrush
Hornbeam	Willow
Huckleberry	Witchhazel
Huisache	Yaupon
Ivy, Poison	Yucca

Weeds listed in this label:

Common Name	Scientific Name
ANNUALS	
Beebalm, Spotted	<i>Monarda punctata</i>
Broomweed, Common	<i>Gutierrezia dracunculoides</i>
Buckwheat, Wild	<i>Polygonum convulvulus</i>
Buffalobur	<i>Solanum rostratum</i>
Burdock	<i>Arctium spp.</i>
Buttercup, Corn	<i>Ranunculus arvensis</i>
Chickweed, Common	<i>Stellaria media</i>
Cockle, Corn	<i>Agrostemma githago</i>
Cocklebur, Common	<i>Xanthium strumarium</i>
Coreopsis, Plains	<i>Coreopsis tinctoria</i>
Croton, Woolly	<i>Croton capitatus</i>
Devilsclaw,	<i>proboscidea louisianica</i>
Dogfennel (Cypressweed)	<i>Eupatorium capillifolium</i>
Eveningprimrose, Cutleaf	<i>Oenothera lacinata</i>
Flax	<i>Linum catharticum</i>
Fleabane, Annual	<i>Erigeron annuus</i>
Flixweed	<i>Descurainia sophia</i>
Henbit	<i>Lamium amplexicaule</i>
Knotweed, Prostrate	<i>Polygonum aviculare</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Lettuce, Prickly	<i>Lactuca scariola</i>
Mallow, Common	<i>Malva neglecta</i>
Morningglory, Ivyleaf	<i>Ipomea hederacea</i>
Tail	<i>Ipomea purpurea</i>
Mustard, Annual	<i>Brassica spp.</i>
Tansy	<i>Descurainia pinnata</i>
Pennycress, Field	<i>Thlaspi arvense</i>
Pepperweed, Virginia	<i>Lepidium virginicum</i>
Pigweed, Prostrate,	<i>Amaranthus blitoides</i>

Common Name	Scientific Name
Redroot,	<i>Amaranthus retroflexus</i>
Smooth,	<i>Amaranthus hybridus</i>
Tumble	<i>Amaranthus albus</i>
Poorjoe	<i>Diodia teres</i>
Purslane, Common	<i>Portulaca oleracea</i>
Ragweed, Common,	<i>Ambrosia artemisiifolia</i>
Lance-leaf,	<i>Ambrosia bidentata</i>
Western	<i>Ambrosia psilostachya</i>
Sedge	<i>Cyperus compressus</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
Sneezeweed, Bitter	<i>Helenium amurum</i>
Sunflower, Common (wild)	<i>Helianthus annuus</i>
Thistle, Russian	<i>Salsola iberica</i>

Common Name	Scientific Name
BIENNALS AND PERENNIALS	
Bindweed, field	<i>Convolvulus arvensis</i>
Bittercress	<i>Cardamine spp.</i>
Buckeye	<i>Aesculus spp.</i>
Bullnettle	<i>Cnidoscopus stimulosus</i>
Chicory	<i>Cichorium intybus</i>
Clover, Hop	<i>Trifolium aureum</i>
Dandelion	<i>Taraxacum officinale</i>
Dock, Curly	<i>Rumex crispus</i>
Elderberry	<i>Sambucus canadensis</i>
Goldenrod, Missouri	<i>Solidago missouriensis</i>
Goldenweed, Common	<i>Isocoma corymbifolia</i>
Groundset	<i>Senecio vulgaris</i>
Honeysuckle, Hairy	<i>Lonicera</i>
Horsenettle	<i>Solanum carolinense</i>
Ivy, Poison	<i>Rhus radicans</i>
Knapweed, Black	<i>Centaurea nigra</i>
Russian	<i>Centaurea repens</i>
Spotted	<i>Centaurea maculosa</i>
Marshelder	<i>Inula annua</i>
lesquite	<i>Prosopis juliflora</i>
Milkweed, Antelopehorn	<i>Asclepias</i>
Nightshade, Silverleaf	<i>Solanum elaeagnifolium</i>
Black	<i>Solanum nigrum</i>
Persimmon, Eastern	<i>Diospyros virginiana</i>
Rabbitbrush	<i>Chrysanthemus pulchellus</i>
Ragwort, Tansy	<i>Senecio jacobina</i>
Redvine	<i>Brunnichia ovata</i>
Sagebrush, Fringed	<i>Artemisia frigida</i>
Smartweed, Swamp	<i>Polygonum coccineum</i>
Sorrel, Red (Sheep Sorrel)	<i>Rumex acetosella</i>
Sowthistle, Perennial	<i>Sonchus arvensis</i>
Spurge, Leafy	<i>Euphorbia esula</i>
Starthistle, Yellow	<i>Centaurea solstitialis</i>
Tallow Tree, Chinese	<i>Sapium sebiferum</i>
Thistle, Bull	<i>Cirsium vulgare</i>
Canada	<i>Cirsium arvense</i>
Musk	<i>Carduus nutans</i>
Plumeless	<i>Carduus acanthoides</i>
Vetch	<i>Vicia spp.</i>
Yankee weed	<i>Eupatorium compositifolium</i>

Food/Feed Crop Uses

This product can be used on the following:

- Conservation Reserve Program Land
- Fallow Systems (Between Crop Application)
- General Farmstead

Grain Sorghum

Grass (Hay or Silage)

Pastures

Rangeland

Wheat

Look inside for complete **Restrictions and Limitations** and **Application Instructions**

- These crops are considered Food/Feed crops only when harvested, grazed, or foraged. Otherwise, they are considered non-Food/Feed uses.

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The **DIRECTIONS FOR USE** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions or presence of other materials. All such risks shall be assumed by the Buyer.

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