

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

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

NOV 4 2008

Ms. Betty Brame Product Registration Syngenta Crop Protection, Inc. P.O. Box 18300 Greensboro, NC 27419

SUBJECT:

Application for Pesticide Notification (PRN 98-10)

Request General Label Change

EPA Reg. No. 100-834

Application Dated September 9, 2008

#### Dear Registrant:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 09/09/08 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" received but not reviewed and will be placed in our records.

<u>Please note</u> that the Agency has issued a Pesticide Registration Notice (PR) 2007-4: Labeling Revisions Required by the Final Rule "Pesticide Management and Disposal; Standards for Pesticide Containers and Containment Statements." All labeling must be updated by August 17, 2009.

If you have any questions, please call me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

Linda Arrington

Notifications & Minor Formulations Team Leader

Registration Division (7505P)

Office of Pesticide Programs

Please read instructions on reverse before completing form. **OPP Identifier Number United States** Registration Amendment **€EPA Environmental Protection Agency** Washington, DC 20460 Other Application for Pesticide - Section I Company/Product Number EPA Product Manager Proposed Classification Joanne Miller Company/Product (Name) PM# None Barricade 65WG Herbicide Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), Name and Address of Applicant (Include ZIP Code) my product is similar or identical frameway Syngenta Crop Protection, Inc. P. O. Box 18300 EPA Reg. No. Greensboro, NC 27419 NGV 04 2308 Check if this is a new address Product Name Section - II Amendment - Explain below. Final printed labels in response to Agency letter dated "Me Too" Application. Resubmission in response to Agency letter dated \_ X Notification - Explain below. Other - Explain below. Explanation: Use additional page(s) if necessary. (For Section I and Section II.). This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA. Per PR Notice 98-10, Syngenta Crop Protection, Inc. is providing a Notification and three copies of the Barricade 65WG label indicating an additional package size. We plan to produce an 80 lb. package size in 2008 and have added that size to our current label. In the three enclosed copies of the label we have highlighted the 80 lb. net weight size and also in the Storage and Disposal section we have added the container disposal language for Fiber drums with liners. These are the only changes made to this label. Section - III Material This Product Will Be Packaged In: Child-Resistant Packaging Unit Packaging Water Soluble Packaging Type of Container Yes Metal Yes\* Yes No No Х No Plastic Glass \*Certification must If "Yes" No. per No. per Paper be submitted Unit Packaging wgt. Container Unit Packaging wgt. container Other (Specify) Location of Net Contents Information Size(s) Retail Container Location of Label Directions x Label Container 3 lbs., 10 lbs., 80 lbs. On Labeling accompanying product Manner in Which Label is Affixed to Product Lithograph x Other Pressure Sensitive Paper glued Stenciled Section - IV Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application;) Title Telephone No. (Include Area Code) Name 6606 336-632-7466 Betty Brame Regulatory Specialist

Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. Signature Title

Date Application Received ಀಀಁಁೕ(Stamped)

2.

Typed Name

Grame

Regulatory Specialist

5. Date -

**Betty Brame** 

September 9, 2008

Syngenta Crop Protection, Inc. P.O. Box 18300 Greensboro, NC 27419-8300 www.syngenta.com



#### FEDERAL EXPRESS

September 9, 2008

Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U.S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202

Attention: Ms. Joanne I. Miller - PM 23

Dear Ms. Miller:

SUBJECT: BARRICADE® 65WG HERBICIDE

**EPA REG. NO. 100-834** 

NOTIFICATION OF AN ADDITIONAL PACK SIZE

Per PR Notice 98-10, Syngenta Crop Protection, Inc. is providing a Notification and three copies of the Barricade 65WG label indicating an additional package size. We plan to produce an 80 lb. package size in 2008 and have added that size to our current label. In the three enclosed copies of the label we have highlighted the 80 lb. net weight size and also in the Storage and Disposal section we have added the container disposal language for Fiber drums with liners. These are the only changes made to this label.

To complete this notification, EPA Form 8570-1 is also enclosed. If you have any questions, please contact me at 336-632-7466.

Respectfully submitted,

Getty Brame

Betty Brame

Regulatory Specialist

**Enclosures** 

cc: F. Pearson

## Loose Pack and Water Soluble Master Label Barricade 65WG

## NOTIFICATION

NOV 04 2008

Barricade® 65WG

Herbicide

 Active Ingredient:
 65.0%

 Prodiamine\*:
 65.0%

 Other Ingredients:
 35.0%

 Total:
 100.0%

\*CAS No. 29091-21-2

For preemergence control of grass and broadleaf weeds in:

- Established turfgrasses (excluding golf course putting greens), lawns and sod nurseries
- Container, field-grown and landscape ornamentals
- Conifer and hardwood seedling nurseries
- Established perennials and wildflower plantings
- Non-crop areas, including plantings on managed rights-of-way for transportation systems and utilities (including, roadways, roadsides, railways and equipment yards)
- Facilities including substations, tank farms, pumping stations, parking and storage areas, and ungrazed fence rows
- Christmas tree farms

#### KEEP OUT OF REACH OF CHILDREN.

#### **CAUTION**

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-834 EPA Est.

3 lbs.

5 lbs.

10 lbs.

20 lbs.

40 lbs.

80 lbs.

Net Weight



	FIRST AID		
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
lf on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
In inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
If swallowed	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>		
Have the produc	t container or label with you when calling a poison control center or		
doctor, or going for treatment.			
	HOT LINE NUMBER		
For 24-Hou	ur Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident)		

## PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals

## **CAUTION**

Call 1-800-888-8372

Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## Personal Protective Equipment (PPE)

#### WPS USES:

Applicators and other handlers (other than mixers and loaders) who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) - in general, agricultural-plant uses are covered, must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as butyl rubber >14 mils, or neoprene rubber >14 mils, or nitrile rubber >14 mils
- Shoes plus socks

Mixers and Loaders must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as butyl rubber >14 mils, or neoprene rubber >14 mils, or nitrile rubber >14 mils
- Shoes plus socks

#### **NON-WPS USES:**

Mixers and loaders who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) - in general, only agricultural-plant uses are covered by the WPS, must wear:

Waterproof gloves

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.

#### **Engineering Controls Statements**

When handlers use closed systems or enclosed cabs 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. Then wash thoroughly and put on clean clothing.
- After handling this product, immediately wash the outside of gloves before removing them, then remove gloves and all other PPE. Immediately wash thoroughly and change into clean clothing.

#### **Environmental Hazards**

This product has low solubility in water. At the limit of solubility, this product is not toxic to fish. However, at concentrations substantially above the level of water solubility, it may be toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment wash water.

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitations of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

#### 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.

#### 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 12 hours.

Exception: If the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves, such as butyl rubber >14 mils, or neoprene rubber >14 mils, or nitrile rubber >14 mils
- Shoes plus socks

#### **Water Soluble Packets**

This box contains Barricade 65WG in 0.5 lb. water soluble packets. These packets are designed to be dropped, unopened, into the spray tank.

Do not remove water soluble packets from container except for immediate use. Reseal the outer container after use.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

#### Storage

Store in original container away from fertilizer, feed, or food stuffs.

#### **Pesticide Disposal**

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

## **Container Disposal**

**Paper bags and boxes**: Completely empty container into application equipment. Then dispose of empty bag or box in a sanitary landfill or incinerate; or, if allowed by state and local authorities, burn locally. Stay out of smoke from burning container.

**Plastic jugs**: Triple rinse (or equivalent) and dispose of container in a sanitary landfill or incinerate, or if allowed by state and local authorities, burn locally. Stay out of smoke from burning containers.

Fiber drums with liners: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner.

#### **Container Disposal for Water Soluble Packets:**

Do not reuse outer container. Dispose of empty box in a sanitary landfill or incinerate; or if allowed by state and local authorities, burn locally; Stay out of smoke from burning container.

For minor spills, leaks, or other accidental contamination, follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.



#### **GENERAL INFORMATION**

#### WHERE TO USE

Barricade 65WG is a preemergence herbicide that provides residual control of many grass and broadleaf weeds in:

- Established turf grasses (excluding golf course putting greens), lawns and sod nurseries
- Container, field grown and landscape ornamentals
- Conifer and hardwood seedling nurseries
- Established perennials and wildflower plantings
- Non-crop areas, including plantings on managed rights-of-way for transportation systems and utilities (including roadways, roadsides, railways and equipment yards)
- Facilities including substations, tank farms, pumping stations, parking and storage areas, and ungrazed fence rows
- Christmas tree farms

#### **HOW BARRICADE 65WG WORKS**

Barricade 65WG controls susceptible weeds by preventing growth and development of newly germinated weed seeds. Weed control is most effective when Barricade 65WG is activated by at least 0.5 inch of rainfall or irrigation or shallow incorporation (1 to 2 inches) before weed seeds germinate and within 14 days following application.

#### **USE PRECAUTIONS**

Do not graze or feed livestock forage cut from areas treated with Barricade 65WG

Do not apply Barricade 65WG to plants that will be consumed for food use.

Follow all applicable directions, restrictions, and precautions on the labels of EPA registered tank mix partners.

Do not blend Barricade 65WG onto dry fertilizer or any other granular material.

**Chemigation**: Do not apply this product through any type of irrigation system unless instructed otherwise in this label.

Do not apply aerially.

Do not apply to golf course putting greens.



## NEW PLANTINGS, REPLANTING AND ROTATIONAL PLANTINGS

Nursery, landscape, or non-crop land areas treated with Barricade 65WG should be rotated only to ornamental species listed on this label for 1 year following application unless the following test has shown species safety:

Before planting a species not listed on this label, it is recommended that several test strips of an indicator plant such as wheat, sorghum or corn be sown into the treated area. If the indicator plants germinate and grow normally to a height of 12 inches with normal root development, it is safe to plant.

In areas disturbed by new plantings or replanting of labeled species, it may be necessary to retreat exposed soil to maintain satisfactory weed control.

#### MIXING AND APPLICATION PROCEDURES

## MIXING (For loose pack)

Barricade 65WG must be mixed thoroughly in the spray tank to ensure uniform application. Follow these steps:

- 1. Fill the spray tank ¼ full with clean water or fluid fertilizer only.
- 2. Start agitation and check to ensure it is working properly.
- 3. Add Barricade 65WG directly into the tank.
- 4. Add the rest of the carrier to obtain the final spray volume.
- 5. A spray colorant may be used with Barricade 65WG to mark areas as they are treated. This will improve application accuracy by minimizing swath skips and overlaps.
- 6. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well-mixed spray suspension.
- 7. Do not allow spray suspension to dry in the tank. Thoroughly clean the sprayer after use by flushing the system with water containing a detergent. Refer to **Pesticide Disposal** section of this label for waste disposal.

## MIXING (For water soluble packets)

Barricade 65WG must be mixed thoroughly in the spray tank to ensure uniform application. Follow these steps:

- 1. Settling of product can occur during shipment. Wearing chemical-resistant gloves, "fluff" product like a pillow to improve distribution of product and help speed dissolving process.
- 2. Fill the spray tank ¼ full with clean water only.
- 3. Start agitation and check to insure it is working properly.
- 4. Add water soluble packets of Barricade 65WG and any other tank mix partners that are packaged in water soluble bags directly into the tank.

- 5. Allow packets to dissolve completely before adding any fertilizer additives and the rest of the water to obtain the final spray volume.
- 6. If liquid fertilizer is the primary carrier, dissolve Barricade 65WG packets in a separate mixing vat at a minimum of one quart clean water to each pound of Barricade 65WG. Dissolve packets completely in vat before adding to spray tank.
- 7. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well-mixed spray suspension.
- 8. A spray colorant may be used with Barricade 65WG to mark areas as they are treated. This will improve application accuracy by minimizing swath skips and overlaps.
- 9. Thoroughly clean the sprayer after use by flushing the system with water containing a detergent.
- 10. Refer to **Pesticide Disposal** section of this label for waste disposal. Do not allow spray suspension to dry in the tank.

#### **TANK MIXING BARRICADE 65WG**

Barricade 65WG may be tank mixed with certain other EPA-registered herbicides to provide a broader spectrum of weed control or to control emerged weeds. Refer to the specific directions for use for tank mix partners, and consult the label(s) of the individual tank mix partner(s) for use rate, application timing, weeds controlled, and specific precautions and/or restrictions. Tank mixes are permitted only in states where the tank mix partner(s) are registered for the application site and the turf and ornamental species listed. When using Barricade 65WG in a tank mixture with other pesticides, observe the most restrictive label limitations and precautions on the labels of the products used.

Before tank mixing with other pesticides not named on this label, compatibility must be tested. See the **Compatibility Test** section.

#### **COMPATIBILITY TEST**

Before mixing Barricade 65WG with other pesticides in the spray tank, test the compatibility by mixing all components (carrier and pesticide products) in a small container in proportionate quantities. For example, a 1-quart jar would be 1/100 the volume of a 25 gal./A spray rate. At 1 lb./A the Barricade 65WG rate would be proportional to 4.5 g per quart. Add approximately 1.5 teaspoons to a quart of water. Calculate amounts for other products based on rate per acre. An approximate volume would be 1.5 teaspoons for each pound per acre of a dry formulation and 0.5 teaspoons for each pint per acre of a liquid formulation. (See following table).

# Amount of Component to Add to One Quart Jar of Spray Carrier (Assuming Carrier Volume of 25 gals./A)

	Rate Per		
Component Formulations	Acre	1,000 Sq. Ft.	Level Teaspoons
Barricade 65WG	1.0 lb.	0.4 oz.	1.5
Dry Tank Mix Partners	1.0 lb.	0.4 oz.	1.5
Liquid Tank Mix Partners	1.0 pt.	0.4 oz.	0.5

If components do not ball up or form flakes, sludge, gels, oily films or layers then the mixture is compatible. Incompatibility will usually occur within 5 minutes after mixing. If the components are not compatible, a compatibility agent must be added to the tank mixture. Rerun the test to determine if the mixture is suitable after addition of the compatibility agent. If components are still not compatible, do not tank mix.

## MIXING ORDER FOR TANK MIXTURES

**Notes:** 1) When mixing Barricade 65WG with other components (carrier and partner pesticide products), allow products to completely dissolve between steps. This is key when tank-mixing with ester formulations. 2) Maintain agitation throughout mixing and application of the mixture.

Add the products to the spray tank in the following order:

- 1. Add products packaged in water-soluble bags first. Agitate the tank mixture. Allow the water-soluble bags to completely dissolve and the product to disperse before adding any other tank-mix partner.
- 2. Then add water dispersible granules (WDG or WG formulations) and wettable powders (WP formulations). Add wettable powders to the tank as agitation continues. Allow the product to disperse completely before other products are added.
- 3. Add spray adjuvants and spray markers. Read the adjuvant's label first and use only those adjuvants approved for application to turf and ornamentals.
- 4. Add flowable liquids (FL) or suspension concentrates (SC).
- 5. Add emulsifiable concentrates (EC) last.

#### **APPLICATION**

Apply Barricade 65WG in a minimum of 20 gals./A (0.5 gal/1,000 sq. ft.) of carrier (water and/or fluid fertilizer) using a calibrated, low-pressure sprayer with 50-mesh or coarser screens. A broadcast boom or hand-held wand designed for herbicide or insecticide application will provide the best results. Select nozzle pressure and gallonage to provide complete coverage.

#### **SPECIFIC USE DIRECTIONS**

#### **ESTABLISHED TURF**

Barricade 65WG is a preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds listed on this label in established turfgrasses including:

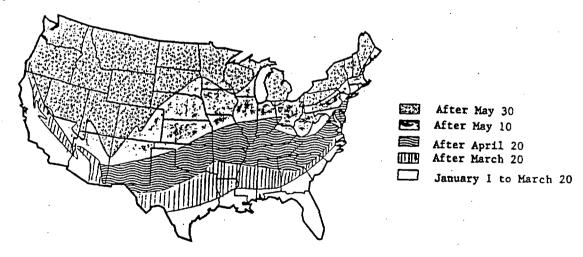
- · Golf courses excluding putting greens
- Lawns
- Sod nurseries

The maximum amount of Barricade 65WG that may be applied per year is given for each turfgrass species in the **Annual Use Rates – Turfgrass**" section of this label.

For optimum weed control, Barricade 65WG should be activated by at least 0.5 inch of rainfall or irrigation before weed seeds germinate and within 14 days following application. See the map below for approximate crabgrass seed germination dates.

#### CRABGRASS SEED GERMINATION DATES

## **Approximate Date**



## **Use Precautions - Turfgrass**

1. Do not apply Barricade 65WG to areas where dichondra, colonial bentgrass, velvet bentgrass or annual bluegrass (*Poa annua*) are desirable species.



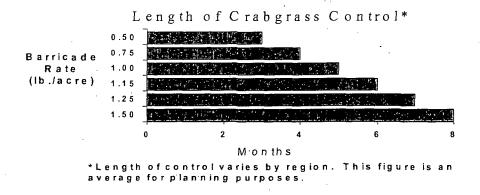
- 2. Do not harvest treated sod within 90 days of application. To avoid turfgrass injury, do not apply to newly set sod until the sod has rooted and exposed edges have filled in.
- 3. To avoid turfgrass injury do not apply Barricade 65WG to turf stressed by conditions such as drought, low fertility, or pest damage.
- 4. Disturbing the herbicide barrier with cultural practices such as disking may result in reduced weed control.
- 5. Do not apply Barricade 65WG to golf course putting greens.
- 6. If the depth of the creeping bentgrass root system becomes shallow and root tips contact Barricade-treated soil, new root formation may be inhibited. Mowing height can affect the depth of a plant's root system. To avoid this, do not apply Barricade to creeping bentgrass less than 0.5 inch in height.

### **Application Timing and Rate – Turfgrass**

Barricade 65WG may be applied as a single application or in sequential applications to control weeds germinating throughout the year. All applications should be made before target weeds germinate. Barricade 65WG will not control weeds that have already emerged.

The amount of Barricade 65WG to apply is based upon: 1) the length of weed control desired (the higher the application rate, the longer the control; see Figure 1), 2) the turf species, and 3) the amount which is applied to the turf species per calendar year (see Table 1).

Figure 1: Length of Crabgrass Control



## Annual Use Rates - Turfgrass

Barricade 65WG can be applied to the turfgrass species listed in the following table. Do not apply more than the highest rate listed for each species in a calendar year.

Table 1: Maximum Application Rate of Barricade 65WG per Calendar Year for Turfgrass Species<sup>1</sup>

Turf Species	lbs. product/A	oz. product/ 1,000 sq. ft.	Area treated per water soluble packet (sq. ft.)
Bermudagrass <sup>2</sup>	1.0-2.3	0.36 -0.83	22,000-9,600
Bahiagrass			
Centipedegrass			
Kikuyugrass			
Seashore Paspalum			
St: Augustinegrass <sup>3</sup>		·	
Tall Fescue (including turf-type)			
Zoysiagrass			
Buffalograss	0.5-1.50 <sup>1</sup>	0.185-0.55	44,000-14,700
Kentucky Bluegrass			· · · .
Perennial Ryegrass			
Fine Fescue	0.5-1.15 <sup>1</sup>	0.185-0.42	44,000-19,100
Creeping Bentgrass (0.5 inches	0.5-1.00 <sup>1</sup>	0.185-0.37	44,000-22,000
or more in height)4			·

<sup>&</sup>lt;sup>1</sup>Barricade 65WG may be applied more than once a year as long as the total amount applied is not greater than the maximum application rate per calendar year for the turf species. All applications must be made before weed seeds germinate.

<sup>&</sup>lt;sup>2</sup>May be used on newly-sprigged or plugged Bermudagrass at rates not to exceed 0.80 lb./A (0.30 oz./1,000 sq. ft.). Newly-sprigged or plugged Bermudagrass stolon rooting may be temporarily retarded.

<sup>&</sup>lt;sup>3</sup>Use an initial rate of 0.75-1.5 lbs./A (0.28-0.55 oz./1000 sq. ft.) per application. <sup>4</sup>To avoid grass injury, do not apply Barricade 65WG to creeping bentgrass mowed at less than 0.5 inch in height.

## Weeds Controlled (Turf, Ornamentals)

When used as directed in this label Barricade 65WG will control the following weeds:

Barnyardgrass

Bluegrass, Annual (Poa annua)<sup>1</sup>

Carpetweed

Chickweed, Common<sup>2</sup>

Chickweed, Mouseear (from seed)

Crabgrass (Large, Smooth)<sup>3</sup>

Crowfootgrass Cupgrass, Woolly Foxtails, Annual Goosegrass<sup>5</sup>

Henbit<sup>2</sup> Itchgrass

Johnsongrass (from seed)

Junglerice Knotweed<sup>2</sup> Kochia

Lambsquarter, Common

Lovegrass

Panicum, (Texas, Fall, Browntop)

Pigweed

Purslane, Common Pusley, Florida Rescuegrass<sup>4</sup> Shepherd's Purse<sup>2</sup> Signalgrass, Broadleaf

Sprangletop

Spurge, Prostrate

Speedwell, Persian

Witchgrass

Woodsorrel, Yellow (from seed)

In those areas where the ground freezes in the winter, Barricade 65WG can be applied in the fall at rates of 1.0-1.15 lbs./A after the soil temperature falls below 50°F but before the ground freezes. This application will control crabgrass the following spring.

<sup>4</sup>Suppression only.

## When to Apply Barricade 65WG After Overseeding Turf

Injury to desirable seedlings is likely if Barricade 65WG is applied before the secondary roots of seedlings are in the second inch of soil (not thatch plus soil). To reduce the potential to injure overseeded turf, wait 60 days after seeding or until after the second mowing, whichever is longer, before applying Barricade 65WG.

When to Overseed After Application – All States\* Barricade 65WG will inhibit the development of turfgrass species overseeded too soon after application. Follow rates and intervals in the table below for best overseeding/reseeding results.

<sup>&</sup>lt;sup>1</sup>In areas where *Poa annua* is a winter annual, apply Barricade 65WG (see **Table 1**) in August or September to established, non-overseeded turf before *Poa annua* seeds germinate. These timings are approximate. Consult State Extension Service for more specific timing for your area. Also see the section of this label *Poa Annua* Control in Established Bermudagrass Overseeded with Perennial Ryegrass.

<sup>&</sup>lt;sup>2</sup>To control this weed, apply Barricade 65WG in late summer, fall, or winter before weed seeds germinate.

<sup>&</sup>lt;sup>3</sup>Fall Applications for Spring Crabgrass Control in Cool-Season Grasses:

<sup>&</sup>lt;sup>5</sup>In many areas a single application of 1.0-2.3 lbs./A Barricade 65WG will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, the most effective control may be maintained by making a "split application" (i.e., two applications) that does not exceed the maximum application rate per calendar year for the turfgrass species.

\*Note: See exceptions for *Poa annua* Control in Established Bermudagrass Overseeded with Perennial Ryegrass below.

Amount of Barricade 65WG	Interval	(Months) Before Overs	eeding*
lbs. Product/A	North	Transition	South
0.75	4	4	4
1.00	5	4	4
1.15	6	5	5
1.25		6	6
1.50		7	7
1.75			9
2.00			10
2.30			12

# Poa annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass (Arizona, California, Nevada and Texas Only)

Use on golf courses (excluding golf course putting greens), lawns, and sod nurseries when overseeding with perennial ryegrass (minimum seeding rate of 350 lbs./A).

## How Much and When to Apply

Amount to			
Apply	When to Apply	Expected Control	Use Precautions
0.58-1.0 lb./A	6-8 weeks <b>before</b> ryegrass overseeding  Second application: 4-8	1 application for 70% or greater control of <i>Poa annua</i>	Some seedling mortality and temporary reduction in root growth of new seedlings may occur.
	weeks <i>after</i> overseeding or when perennial ryegrass roots are in the second inch of soil	Second application may enhance control	]



# Control of Poa annua in Perennial Ryegrass Overseedings (Alabama, Louisiana, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee Only)

Use this product on golf courses (excluding golf course putting greens) when overseeding with perennial ryegrass only (minimum seeding rate of 350 lbs./A.

## How Much and When to Apply

Amount to Apply	When to Apply	Expected Control	Use Precautions
0.58-1.0 lb./A	8-10 weeks before ryegrass overseeding	70% or greater	<ul> <li>Some seedling mortality and temporary reduction in root growth of new seedlings may occur.</li> <li>To reduce the potential for seedling mortality maintain a moist seedbed with light, frequent irrigation.</li> <li>To maximize seedling establishment, use lower rate and/or the maximum time interval before overseeding. To maximize Poa annua control, use higher rate and shorter time interval before overseeding.</li> </ul>

# CONTAINER, FIELD GROWN, LANDSCAPE ORNAMENTALS (Including Christmas tree farms)

## Application Timing and Information

#### Barricade 65WG:

- 1. Will not control emerged weeds.
- 2. May be applied to newly-transplanted and established ornamentals as broadcast or over-the-top spray.
- 3. Is most effective when applied to soil free of clods, weeds, and debris such as leaves and mulch.
- 4. Is most effective when the product is activated in the soil before weed seeds germinate and within 14 days after application.
- 5. Is activated when the treated area receives at least 0.5 inch of irrigation or rainfall, or shallow (1-2 inches) mechanical incorporation.

#### **Use Precautions:**

To reduce injury potential:

- 1. In the spring when buds are rapidly growing and expanding, over-the-top application of Barricade 65WG may temporarily injure new growth of desirable plants. To reduce the possibility of injury at this time, wait to apply Barricade 65WG over the top of newly emerged vegetation until it has hardened off unless your experience indicates that the ornamental plant will not be injured by the over-the-top application.
- 2. After application, (immediately for deciduous plants), apply overhead irrigation to wash Barricade 65WG from plant surfaces onto soil (watering plants before application may improve the washing process).

## **Application Sites and Instructions**

Site	Application Instructions
Newly-transplanted Container or Field Nursery Stock	<ul> <li>Delay application until soil has settled around transplants.</li> <li>Water transplants thoroughly before application.</li> <li>Apply after cuttings form roots and are established.</li> <li>To avoid inhibition of the tissue union, apply before budding/grafting or after buds/grafts have taken.</li> </ul>
Established Container, Field Nursery Stock, or Landscape Plants	Apply at any time as a broadcast, over-the-top, or directed spray.
Landscape (or Ornamental) Plantings	<ul> <li>Apply as a broadcast, over-the-top, or as a directed spray.</li> <li>Delay application to newly-transplanted ornamentals until soil has settled around transplants.</li> </ul>
Bare Ground Application for Container Placement	<ul> <li>Apply to soil (including mulch, gravel, wood chips, or other permeable base) upon which containerized ornamentals are placed.</li> <li>After Barricade 65WG is applied, perform shallow cultivation or hand weeding only, to avoid disturbing the herbicide barrier.</li> </ul>
In Shadehouses and Uncovered Polyhouses	After Barricade 65WG is applied, uncovered polyhouses must remain open for at least 7 days and ornamentals must receive two irrigations totaling at least ½ inch of water.
Ornamental Bulbs and Perennial Wildflower Plantings	<ul> <li>Barricade 65WG may be applied to bulbs or perennial wildflower species listed in the section, Tolerant Ornamental Species.</li> <li>Apply before or after bulbs emerge but before bulbs bloom and weeds emerge. In wildflowers, a postemergence herbicide labeled for wildflowers may be needed to control weeds that have already emerged.</li> </ul>

# How Much and When to Apply (Container, Field Grown and Landscape Ornamentals)

Amount to Apply (Broadcast)*	When to Apply		Comments/Instructions
1.0-2.3 lbs./A or	In fall or spring before weeds germinate or after weeds are removed	•	Use the higher rate for longer control. Barricade 65WG may be applied more than once per year as long as the total amount of product applied does not
0.37-0.83 oz./1,000 sq. ft.			exceed 2.3 lbs./A per year.

\*Note: For band application calculate amount per acre:

<u>Band width in inches</u> x broadcast rate = amount to apply/acre of field Row width in inches

#### **Equivalent Measurements for Barricade 65WG**

lbs./A	oz./1,000 sq. ft	Approximate Equivalent - Tablespoons/1,000 sq. ft.
1.0	0.37	1
1.5	0.55	1½
2.0	0.74	2
2.3	0.83	21/4

#### Tank Mixtures For Use On Container, Field Grown, and Landscape Ornamentals

Barricade 65WG may be tank mixed with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Barricade 65WG are for use only in states where the tank mix partner(s), application site, and intended use pattern are registered.

Follow the label(s) of the tank-mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before mixing pesticides in the spray tank, test compatibility by mixing the products in a small container first. See the **Compatibility Test** section of this label.

## Tank Mix Partners for Barricade 65WG on Ornamentals

Product	Precautions/Instructions
Goal® (use on conifers only)	Mix with Barricade 65WG for postemergence control of certain broadleaf weeds including malva and filaree.
Gallery®, Princep®, Pennant®	See product labels for weed spectrum and tolerant ornamentals.
Touchdown® Pro (or other glyphosate based products), Reward® and Finale®	<ul> <li>These non-selective tank mix herbicides control most emerged annual broadleaves and grasses.</li> <li>Take extreme care to prevent tank mixtures with these products from contacting the foliage and stems of turfgrass, trees, shrubs, or other desirable vegetation because desirable vegetation may be severely injured or killed. Apply these tank mixtures as a directed spray and use a shield to prevent spray from contacting foliage of desirable plants.</li> <li>Following instructions on the tank mix partner's label, delay irrigation of the treated area to allow time for the herbicide to be absorbed by weed foliage.</li> </ul>

## Tolerant Ornamental Species - Container, Field Grown, and Landscape Ornamentals

Barricade 65WG will not harm most trees, shrubs, vines, and flowers. The species listed below in Table 2 are tolerant to Barricade 65WG. Barricade 65WG is approved for application, except in California, to the species in Table 3. Barricade 65WG may be applied over-the- top of the listed species.

When plants are under stress (such as heat, drought, or frost damage) some cultivars of listed plants may be sensitive to Barricade 65WG.

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Table 2: Tolerant Ornamental Species – Container, Field Grown, and Landscape - All States

Scientific name	Common name	
Abies spp.	Fir species** (Balsam, Fraser, Noble, etc.)	
Acer palmatum	Japanese Maple	
Acer platanoides	Norway Maple***	
Actinidia chinensis	Kiwi*	
Agapanthus africanus	Lily-of-the-Nile (African Lily)	
Arctostaphylos densiflora	Vine Hill Manzanita	
Arctotheca calendula	Cape Weed	
Aucuba japonica	Japanese Aucuba	
Berberis gladwynensis	Barberry	
Berberis julianae	Wintergreen Barberry	
Berberis mentorensis	Mentor Barberry	
Berberis thunbergii	Japanese Barberry	
Berberis verru ulosa	Warty Barberry	
Buxus microphylla	Japanese Boxwood	
Callistemon viminalis	Weeping Bottlebrush	
Calluna vulgaris	Scotch Heather	
Carpobrotus edulis	Hottentot Fig (Ice Plant)	
Cassia artemisioides	Feathery Cassia	
Ceanothus rigidus	Wild Lilac	
Chamaecyparis pisifera	False Cypress	
Cleyera japonica	Cleyera	
Citrus spp.	Citrus species*	
Cirius spp. Cornus florida		
Cornus stolonifera	Flowering Dogwood  American Dogwood	
Cortaderia selloana	Pampas Grass	
· · · · · · · · · · · · · · · · · · ·	Cranberry Cotoneaster	
Cotoneaster apiculatus Cotoneaster buxifolius	Cotoneaster	
Cotoneaster dammeri	Bearberry Cotoneaster	
Cotoneaster microphyllus	Rockspray Cotoneaster	
Crataegus spp.	Hawthorne	
Cupressus sempervirens	Italian Cypress	
Delosperma alba	White Trailing Ice Plant	
Dodonaea viscosa	Hop Bush	
Elaeagnus pungens	Silverberry	
Euonymus fortunei	Wintercreeper	
Euonymus japonica	Japanese Spindle Tree (Evergreen Euonymus)	
Euonymus kiautschovicks	Spreading Euonymus	
Fatsia japonica	Japanese Aralia	
Forsythia intermedia	Border Forsythia	
Forsythia viridissima	Greenstem Forsythia	
Gardenia jasminoides	Gardenia, Cape-Jasmine	
Gladiolus spp.	Gladiolus species**	
Hedera helix	English Ivy	
Hibiscus	Rose of Sharon**	
Hibiscus Rosa-sinensis	Chinese Hibiscus**	
llex cornuta	Chinese Holly**	
llex crenata	Japanese Holly	
llex opaca	American Holly	
llex pernyi	Holly	
icx perifyr	Yaupon Holly	

Scientific name	Common name		
Iris spp.	Iris species**		
Jasminium nudiflorum	Winter Jasmine		
Juniperus chinensis	Chinese Juniper		
Juniperus conferta	Shore Juniper		
Juniperus horizontalis	Creeping Juniper		
Juglans spp.	Walnut*		
Justicia brandegeana	Shrimp Plant		
Lagerstromia indica	Crape Myrtle		
Ligustrum amurense	Amur Privet		
Ligustrum japonicum	Japanese Privet		
Ligustrum lucidum	Glossy Privet (Wax-Leaf)		
Lirope muscari	Big Blue Lillyturf		
Lonicera japonica	Japanese Honeysuckle		
Lonicera tatarica	Tatarian Honeysuckle		
Magnolia spp.	Magnolia species**		
Malephora luteola	Ice Plant		
Malus spp.	Crabapple*		
Nandina domestica	Heavenly Bamboo		
Narcissus spp.	Narcissus species**		
Nerium spp.	Oleander		
Olea europaea	Olive*		
Ophiopogon japonicus	Mondo Grass**		
Osteospermum fruticosum	Trailing African Daisy		
	Sourwood		
Oxydendrum arboreum			
Persea Americana	Avocado*		
Photinia fraseri	Frasier's Photinia (Redtip)		
Picea spp.	Spruce species*** (Colorado Blue, Norway, etc.)		
Pieris japonica	Lily-of-the-Valley Shrub		
Pinus brutia	Calabrian Pine		
Pinus canariensis	Canary Island Pine		
Pinus elliottii	Slash Pine		
Pinus halepensis	Aleppo Pine		
Pinus nigra	Austrian Black Pine		
Pinus palustris	Longleaf Pine		
Pinus radiata	Monterey Pine		
Pinus strobus	Eastern White Pine		
Pinus sylvestris	Scotch Pine		
Pinus taeda	Loblolly Pine		
Pinus thunbergiana	Japanese Black Pine		
Pinus virginiana	Virginia Pine		
Pistacia spp.	Pistachio*		
Pittosporum rhombifolium	Queensland Pittosporum		
Pittosporum tobira	Japanese Pittosporum		
Podocarpus macrophyllus	Japanese Yew		
Prunus laurocerasus	English Laurel		
Prunus spp.	Almond, Apricot, Nectarine, Peach, Plum and Prune*		
Pseudotsuga menziesii	Douglas Fir***		
Pyracantha coccinea	Firethorn Scarlet		
Pyracantha fortuneana	Firethorn		
Pyracantha koidzumii	Firethorn		
Pyrus spp.	Bradford Pear spp.		
Quercus rubra	Oak species		

Scientific name	Common name
Rhaphiolepis indica	Indian Hawthorne
Rhododendron (including Azalea)	'Coral Bells', 'Formosa', 'Hino-crimson', 'PJM',
	'Roseum Elegans'
Rosa banksiae	Lady Bank's Rose
Rosmarinus officinalis	Rosemary*
Rumohra adiantiformis	Leatherleaf Fern
Santolina virens	
Sedum album	Stonecrop
Syzygium paniculatum	Japanese Boxcherry
Taxus cuspidate	Japanese Yew
Taxus media	Yew
Thuja occidentalis	American Arborvitae
Trachelospermum asiaticum	Star Jasmine
Tsuga canadensis	Canada Hemlock
Tulipa spp.	Tulip species
Viburnum japonicum	Japanese Viburnum
Viburnum odoratissimum	Sweet Viburnum
Viburnum plicatum	Japanese Snowball
Viburnum rigidum	Canary Island Viburnum
Viburnum tinus	Laurustinus
Viburnum trilobum	Cranberry Bush
Viburnum wrightii	Leatherleaf Viburnum
Vinca major	Vinca
Vinca minor	Dwarf Periwinkle
Vitis spp.	Grape*
Weigela florida	Old Fashioned Weigela
Yucca aloifolia	Spanish Bayonet
Yucca filamentosa	Yucca, Adam's Needle

<sup>\*</sup>Do not use on food producing trees, vines, or plants.

\*\*Not for use on container grown plants.

\*\*\*Landscape ornamentals only.

Table 3: Tolerant Ornamental Species – Container, Field Grown and Landscape – All States Except CA

Scientific Name	Common Name
Abelia grandiflora	Abelia: Sherwood
Achillea spp.	Yarrow: King Edward
Agapanthus orientalis	
Akebia guinata	Five-Leaf or Chocolate Vine
Allium cernuum	Lady's Leek, Nodding Onion
Anemone hybrida	Japanese Anemone
Aquilegia spp.	Aguilegia: Red and Gold
Artemisia spp.	Wormwood; Silver Mound, Castle
Aster spp.	Aster: Bonny Blue, Purple Dome
Aster X frikartii	
Athyrium filix-femina	Lady Fern; Fern Lady
Begonia spp.	Fibrous Begonia: Hardy Grandis
Bergenia cordifolia	
Boltonia asteroids	Snowbank
Bougainvillea spp.	Bougainvillea
Buddleia davidii	Butterfly-Bush (Dwarf Blue); Royal Red
Callistemon citrinus	Crimson Bottlebrush
Campanula carpatica	Tussock Bellflower; (White Clips)
Campis X tagliabuana	Trumpet Creeper, Trumpet Flower; Madame Galer
Ceratostigma plumbaginoides	Tramper eresper, Tramper Flower, Madaine Galer
Chrysanthemum nipponicum	
Coreopsis spp.	Coreopsis (Calliopsis): Early Sunrise, Moonbeam
Crocosmia spp.	Lucifer Lucifer
Delosperma spp.	Cooperi Pink
Delosperma spp. Delphinium spp.	Larkspur; Blue Elf
Deiprimium spp. Dianthus deltoids	Dianthus, Maiden Pinks 'Zing'
Dianthus delicius Dianthus gratianopolitanus	Cheddar Pink
Echinacea pupurea	Coneflower, Purple; Magnus
Ecrimacea pupurea Forsythia suspensa	Weeping Forsythia
Gaillardia spp.	Gaillardia, Blanket Flower: 'Goblin'
	Galilardia, Biarrket Flower. Gobilit
Gaura spp. Gentiana dahurica	Gentian
Geranium cinereum	Cranesbill Proof
Gypsophila repens	Baby's Breath
Helianthemum spp.	Sunrose  Daviding Artes Cold Stella Da Ora Tondon Lea
Hemerocallis spp.	Daylily: Aztec Gold, Stella De Oro, Tender Love
Heucherella spp.	Coral Bell; Bridget Bloom
Hibiscus spp.	Mallow; Disco Belle White
Hosta plantaginea	Hosta, Plantain Lily (Fragrant)
Hosta sieboldiana	Hosta, 'Searsucker'
Houttuynia cordata var. variegata	- Pill City
Hydrangea macrophylla	Bigleaf Hydrangea
Inula ensifolia	
Iris ensata	Sword-Leaved Iris; Jodlesong
Iris siberica	Siberian Iris; Cabernet
Juniperus davurica	Parsoni
Lagerstromia indica x fauriei	Crape Myrtle; Tuscarora
Lantana montevidensis	Weeping Lantana
Lavender spp.	Lavender; Munstead
Leontopodium alpinum	Edelweiss

Scientific Name	Common Name
Ligustrum sinense	Chinese Privet; Variegata
Lilium spp.	Lily: Jazz
Lirope muscari var. variegata	Lirope, Variegated
Lirope spicata	Lirope, Creeping
Lobelia cardinalis	Cardinal Flower, Indian Pink
Loropetalum chinense	Burgundy
Lythrum spp.	Loosestrife; Modern Pink
Miscanthus sinensis	Yaku Jima**, Silberfeder**
Oenothera missourensis	Evening Primrose
Osmanthus heterophyllus	Osmanthus (False Holly): Gulf Tide
Paeonia suffruticosa	Tree Peony
Pennisetum setaceum	Fountain Grass (Dwarf)**
Perovskia atriplicifolia	
Physostegia virginiana	Dragonhead, False; Vivid
Quercus shumardii	Oak, Shumard's Red
Rhaphiolepis umbellata	Yedda Hawthorne
Rhododendron (including azalea)	'Delaware Valley White', 'Flame Creeper', 'Girard
	Crimson', 'George L. Tabor', Wakeiebisu, White
	Gumpo
Rudbeckia spp.	Black-Eyed Susan: Goldstrum
Saxifraga spp.	Saxifrage; Purple Dome
Scabiosa spp.	Pincushion Flower
Sedum cauticola	Stonecrop; Lidakense
Sedum dasyphyllum	Stonecrop
Sedum spurium	Stonecrop; Dragon's Blood
Spiraea bumalda	Spirea: Anthony Waterer
Syzyglum paniculatum	Australian Brushcherry
Teucrium spp.	Germander
Thalictrum dipterocarpum	Meadow Rue
Veronica spp.	Veronica, Speedwell; Sunny Border
Viburnum suspensum	Arrowood Viburnum

<sup>\*\*</sup>Not for use on container grown plants

## **Vegetation Management**

Barricade 65WG may be applied to soil surfaces for preemergence control of many grass and broadleaf weeds in:

- Non-crop areas, including ornamentals (does not include container or field grown ornamentals), and established perennial and wildflower plantings on or surrounding:
  - Managed rights-of-way for transportation systems and utilities, including roadways, roadsides, railways, and equipment yards
  - Facilities including substations, tank farms, pumping stations, parking and storage areas, and ungrazed fence rows.

## Weeds Controlled - Vegetation Management

## When used as directed in this label Barricade 65WG will control the following weeds:

Barnyardgrass

Bluegrass, Annual (Poa annua)<sup>1</sup>

Carpetweed

Chickweed, Common<sup>1</sup>

Chickweed, Mouseear (from seed)

Crabgrass (Large, Smooth)<sup>3</sup>

Crowfootgrass
Cupgrass, Woolly
Foxtails, Annual
Goosegrass<sup>3</sup>

Henbit<sup>f</sup> Itchgrass

Johnsongrass (from seed)

Junglerice Knotweed<sup>1</sup> Kochia

Lambsquarter, Common

Lovegrass

Panicum, (Texas, Fall, Browntop)

Pigweed

Purslane, Common Pusley, Florida

Rescuegrass<sup>2</sup>
Shepherd's Purse<sup>1</sup>

Signalgrass, Broadleaf Speedwell, Persian

Sprangletop

Spurge, Prostrate

Witchgrass

Woodsorrel, Yellow (from seed)

## **Application Timing and Information – Vegetation Management**

#### Barricade 65WG:

- 1. Provides residual preemergence weed control.
- 2. Will not control emerged weeds.
- 3. May be applied to newly transplanted and established ornamentals as a broadcast or over-the-top spray.
- 4. Is most effective when the product is activated in the soil before weed seeds germinate and within 14 days after application.
- 5. Is activated when the treated area receives at least 0.5 inch of irrigation or rainfall or shallow (1-2 inches) mechanical incorporation.
- 6. Is most effective when applied to soil free of clods, weeds, and debris such as leaves and mulch.

<sup>&</sup>lt;sup>1</sup>To control this weed, apply Barricade 65WG in late summer, fall, or winter before weed seeds germinate.

<sup>&</sup>lt;sup>2</sup>Suppression only.

<sup>&</sup>lt;sup>3</sup>Sequential applications may be made as long as the total amount of product applied does not exceed 2.3 lbs./A per year. To control weeds, all applications must be made before weed seeds germinate.

## **Use Precautions – Vegetation Management**

#### To reduce injury potential

- 1. Direct application of Barricade 65WG to rapidly growing tissue or buds may injure desirable plants. In the spring when buds are rapidly growing and expanding, over-the-top application of Barricade 65WG may temporarily injure new growth of desirable plants. To reduce the possibility of injury at this time, wait to apply Barricade 65WG over the top of newly emerged vegetation until it has hardened off unless your experience indicates that the ornamental plant will not be injured by the over-the-top application.
- 2. After application (immediately for deciduous plants), irrigate the treated area to wash Barricade 65WG from plant surfaces onto soil. Watering plants before application may improve the washing process.

## How Much and When to Apply - Vegetation Management

Amount to Apply (Broadcast)	When to Apply	Comments/Instructions
1.0-2.3 lbs./A or 0.37-0.83 oz./1,000 sq. ft.	In fall and/or spring before weeds germinate or after weeds are removed.	<ul> <li>Use the higher rate for longer control.</li> <li>Barricade 65WG may be applied more than once per year as long as the total amount of product applied does not exceed 2.3 lbs./A per year.</li> </ul>

\*Note: For band application calculate amount per acre:

Band width in inches x broadcast rate = amt. to apply/acre of field Row width in inches

#### **Equivalent Measurements for Barricade 65WG**

lbs./A	oz./1,000 sq. ft	Approximate Equivalent Tablespoons/1,000 sq. ft.
1.0	0.37	1
1.5	0.55	1½
2.0	0.74	2
2.3	0.83	21/4

## Application Sites and Use Precautions - Vegetation Management

Site	Use Precautions
Ornamental Trees, Shrubs, Vines	<ul> <li>Apply as a broadcast, over-the-top, or as a directed spray.</li> <li>Delay applications to newly transplanted ornamentals until soil has settled around transplants.</li> </ul>
Ornamental Bulbs and Perennial Wildflower Plantings	<ul> <li>May be applied to bulbs or perennial wildflower species listed in the section Tolerant Ornamental Species.</li> <li>Apply before or after bulbs emerge but before bulbs bloom and weeds emerge.</li> <li>In wildflowers a postemergence herbicide labeled for wildflowers may be needed to control weeds that have already emerged.</li> </ul>

## **Tank Mixtures – Vegetation Management**

Barricade 65WG may be tank mixed with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Barricade 65WG are for use only in states where the tank mix partner(s), application site and intended use pattern are registered.

Follow the label(s) of the tank mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining tank mix partners in the spray tank test compatibility by mixing the products in a small container. See the **Compatibility Test** section.

## Tank Mixing and Application

## Tank Mix Partners for Barricade 65WG - Vegetation Management

Product	Precautions/Instructions	
Goal® (use on conifers only)	<ul> <li>Mix with Barricade 65WG for postemergence control of certain broadleaf weeds including malva and filaree.</li> </ul>	
Gallery®, Princep®, Pennant®	<ul> <li>See product labels for weed spectrum and tolerant ornamentals.</li> </ul>	
Touchdown® Pro (or other glyphosate-based products) Reward® and Finale®	<ul> <li>These non-selective tank mix herbicides control most emerged annual broadleaves and grasses.</li> <li>Take extreme care to prevent tank mixtures with these partner products from contacting the foliage and stems of turfgrass, trees, shrubs, or other desirable vegetation because desirable vegetation may be severely injured or killed. Apply these tank mixtures as a directed spray and use a shield to prevent spray from contacting foliage of desirable plants.</li> <li>Following instructions on the tank mix partner's label, delay irrigation of the treated area to allow time for the herbicide to be absorbed by weed foliage.</li> </ul>	



## **Tolerant Ornamental Species\* – Vegetation Management**

## \*Not for use on container or field grown ornamentals

Barricade 65WG will not harm most trees, shrubs, vines, and flowers. The species listed below in Table 4 are tolerant to Barricade 65WG. Barricade 65WG is approved for application, except in California, to the species in Table 5. Barricade 65WG may be applied over-the-top of the listed species.

When plants are under stress (such as heat, drought, or frost damage) some cultivars of listed plants may be sensitive to Barricade 65WG.

Table 4: Tolerant Ornamental Species\* – Vegetation Management – All States

Scientific name	Common name
Abies spp.	Fir species (Balsam, Fraser, Noble, etc.)
Acer palmatum	Japanese Maple
Acer platanoides	Norway Maple***
Actinidia chinensis	Kiwi**
Agapanthus africanus	Lily-of-the-Nile (African Lily)
Arctostaphylos densiflora	Vine Hill Manzanita
Arctotheca calendula	Cape Weed
Aucuba japonica	Japanese Aucuba
Berberis gladwynensis	Barberry
Berberis julianae	Wintergreen Barberry
Berberis mentorensis	Mentor Barberry
Berberis thunbergii	Japanese Barberry
Berberis verruculosa	Warty Barberry
Buxus microphylla	Japanese Boxwood
Callistemon viminalis	Weeping Bottlebrush
Calluna vulgaris	Scotch Heather
Carpobrotus edulis	Hottentot Fig (Ice Plant)
Cassia artemisioides	Feathery Cassia
Ceanothus rigidus	Wild Lilac
Chamaecyparis pisifera	False Cypress
Cleyera japonica	Cleyera
Citrus spp.	Citrus species**
Cornus florida	Flowering Dogwood
Cornus stolonifera	American Dogwood
Cortaderia selloana	Pampas Grass
Cotoneaster apiculatus	Cranberry Cotoneaster
Cotoneaster buxifolius	Cotoneaster
Cotoneaster dammeri	Bearberry Cotoneaster
Cotoneaster microphyllus	Rockspray Cotoneaster
Crataegus spp.	Hawthorne
Cupressus sempervirens	Italian Cypress
Delosperma alba	White Trailing Ice Plant
Dodonaea viscosa	Hop Bush
Elaeagnus pungens	Silverberry
Euonymus fortunei	Wintercreeper
Euonymus japonica	Japanese Spindle Tree (Evergreen Euonymus)
Euonymus kiautschovicks	Spreading Euonymus

Scientific name	Common name
Fatsia japonica	Japanese Aralia
Forsythia intermedia	Border Forsythia
Forsythia viridissima	Greenstem Forsythia
Gardenia jasminoides	Gardenia, Cape-Jasmine
Gladiolus spp.	Gladiolus species
Hedera helix	English Ivy
Hibiscus	Rose of Sharon
Hibiscus Rosa-sinensis	Chinese Hibiscus
llex cornuta	Chinese Holly
Ilex crenata	Japanese Holly
llex opaca	American Holly
llex pernyi	Holly
Ilex vomitoria	Yaupon Holly
Iris spp.	Iris species
Jasminium nudiflorum	Winter Jasmine
Juniperus chinensis	Chinese Juniper
Juniperus conferta	Shore Juniper
Juniperus horizontalis	Creeping Juniper
Juglans spp.	Walnut**
Justicia brandegeana	Shrimp Plant
Lagerstromia indica	Crape Myrtle
Ligustrum amurense	Amur Privet
Ligustrum japonicum	Japanese Privet
Ligustrum lucidum	Glossy Privet (Wax-Leaf)
Lirope muscari	Big Blue Lillyturf
Lonicera japonica	Japanese Honeysuckie
Lonicera japonica  Lonicera tatarica	Tatarian Honeysuckle
Magnolia spp.	Magnolia species
Malephora luteola	Ice Plant
Malus spp.	Crabapple**
Nandina domestica	Heavenly Bamboo
Narcissus spp.	Narcissus species
Nerium spp.	Oleander
Olea europaea	Olive**
	Mondo Grass
Ophiopogon japonicus Osteospermum fruticosum	Trailing African Daisy
Oxydendrum arboreum	Sourwood .
Persea americana	Avocado**
Photinia fraseri	Frasier's Photinia (Redtip)
	Spruce species*** (Colorado Blue, Norway, etc.)
Picea spp. Pieris japonica	Lily-of-the-Valley Shrub
Pinus brutia	Calabrian Pine
	Canary Island Pine
Pinus canariensis	
Pinus elliottii	Slash Pine
Pinus halepensis	Aleppo Pine
Pinus nigra	Austrian Black Pine
Pinus palustris	Longleaf Pine
Pinus radiata	Monterey Pine
Pinus strobus	Eastern White Pine
Pinus sylvestris	Scotch Pine
Pinus taeda	Loblolly Pine
Pinus thunbergiana	Japanese Black Pine
Pinus virginiana	Virginia Pine

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<sup>\*</sup>Not for use on container or field grown ornamentals.

\*\*Do not use on food producing trees, vines, or plants.

\*\*\*Landscape ornamentals only.

Table 5: Tolerant Ornamental Species\* - (Vegetation Management) All States Except CA

Scientific name	Common name
Abelia grandiflora	Abelia: Sherwood
Achillea spp.	Yarrow: King Edward
Agapanthus orientalis	
Akebia quinata	Five-Leaf or Chocolate Vine
Allium cernuum	Lady's Leek, Nodding Onion
Anemone hybrida	Japanese Anemone
Aquilegia spp.	Aquilegia: Red and Gold
Artemisia spp.	Wormwood; Silver Mound, Castle
Aster spp.	Aster: Bonny Blue, Purple Dome
Aster X frikartii	
Athyrium filix-femina	Lady Fern, Fern Lady
Begonia spp.	Fibrous Begonia: Hardy Grandis
Bergenia cordifolia	
Boltonia asteroides	Snowbank
Bougainvillea spp.	Bougainvillea
Buddleia davidii	Butterfly-Bush (Dwarf Blue); Royal Red
Callistemon citrinus	Crimson Bottlebrush
Campanula carpatica	Tussock Bellflower; (White Clips)
Campis X tagliabuana	Trumpet Creeper, Trumpet Flower, Madame
	Galen
Ceratostigma plumbaginoides	
Chrysanthemum nipponicum	
Coreopsis spp.	Coreopsis (Calliopsis): Early Sunrise,
	Moonbeam
Crocosmia spp.	Lucifer
Delosperma spp.	Cooperi Pink
Delphinium spp.	Larkspur; Blue Elf
Dianthus deltoides	Dianthus, Maiden Pinks 'Zing'
Dianthus gratianopolitanus	Cheddar Pink
Echinacea pupurea	Coneflower, Purple; Magnus
Forsythia suspensa	Weeping Forsythia
Gaillardia spp.	Gaillardia, Blanket Flower: 'Goblin'
Gaura spp.	
Gentiana dahurica	Gentian
Geranium cinereum	Cranesbill
Gypsophila repens	Baby's Breath
Helianthemum spp	Sunrose
Hemerocallis spp.	Daylily: Aztec Gold, Stella De Oro, Tender
	Love
Heucherella spp.	Coral Bell, Bridget Bloom
Hibiscus spp.	Mallow; Disco Belle White
Hosta plantaginea	Hosta, Plantain Lily (Fragrant)
Hosta sieboldiana	Hosta, 'Searsucker'
Houttuynia cordata var.variegata	(11000)
Hydrangea macrophylla	Bigleaf Hydrangea
Inula ensifolia	- Digital Hydraligou
risi ensata	Sword-Leaved Iris, Jodlesong
Iris erisata Iris siberica	Siberian Iris, Cabernet
Juniperus davurica	Parsoni
Lagerstromia indica x fauriei	Crape Myrtle; Tuscarora
-ayersu umla mulca x launei	Crape Myrtie, Tuscarora

Scientific name	Common name
Lantana montevidensis	Weeping Lantana
Lavender spp.	Lavender; Munstead
Leontopodium alpinum	Edelweiss
Ligustrum sinense	Chinese Privet; Variegata
Lilium spp.	Lily: Jazz
Lirope muscari var. variegata	Lirope, Variegated
Lirope spicata	Lirope, Creeping
Lobelia cardinalis	Cardinal Flower, Indian Pink
Loropetalum chinense	Burgundy
Lythrum spp.	Loosestrife; Modern Pink
Miscanthus sinensis	Yaku Jima, Silberfeder**
Oenothera missourensis	Evening Primrose
Osmanthus heterophyllus	Osmanthus (False Holly): Gulf Tide
Paeonia suffruticosa	Tree Peony
Pennisetum setaceum	Fountain Grass (Dwarf)**
Perovskia atriplicifolia	
Physostegia virginiana	Dragonhead, False; Vivid
Quercus shumardii	Oak, Shumard's Red
Rhaphiolepis umbellata	Yedda Hawthorne
Rhododendron (including azalea)	'Delaware Valley White', 'Flame Creeper',
	'Girard Crimson', 'George L. Tabor',
	Wakeiebisu, White Gumpo
Rudbeckia spp.	Black-Eyed Susan: Goldstrum
Saxifraga spp.	Saxifrage; Purple Dome
Scabiosa spp.	Pincushion Flower
Sedum cauticola	Stonecrop; Lidakense
Sedum dasyphyllum	Stonecrop
Sedum spurium	Stonecrop; Dragon's Blood
Spiraea bumalda	Spirea: Anthony Waterer
Syzyglum paniculatum	Australian Brushcherry
Teucrium spp.	Germander
Thalictrum dipterocarpum	Meadow Rue
Veronica spp.	Veronica, Speedwell; Sunny Border
Viburnum suspensum	Arrowood Viburnum

<sup>\*</sup>Not for use on container or field grown ornamentals.

# CONIFER AND HARDWOOD SEEDLING NURSERIES (NON-ORNAMENTAL, FORESTRY USE ONLY) – VEGETATION MANAGEMENT

#### Barricade 65WG

- 1. Provides residual preemergence weed control in conifer and hardwood seedling nurseries.
- 2. Provides the most effective weed control when the product is activated in the soil by 0.5 inch of irrigation or rainfall before weed seeds germinate and within 14 days after application.
- 3. Should be applied to conifer and hardwood seedling nurseries any time after the soil has settled around newly-transplanted seedlings and liners.

<sup>\*\*</sup>Landscape ornamentals only.

	Applie	cation Rate		
<b></b>		oz./1,000 sq.		Comments/
Site	lbs./A	ft.	Timing	Instructions
Conifer and Hardwood Seedling Nurseries	1.0-2.3	0.37-0.84	Apply in fall or spring before weed seeds germinate or after weeds are removed.	<ul> <li>Use higher rate for longer control.</li> <li>More than one application per year is permitted, but do not apply more than 2.3 lbs/A per year.</li> </ul>
Southern Pine Seedbeds	0.75		Just after seeding and/or a minimum of 3 weeks after most seedlings have shed their seedcoat	<ul> <li>To assist in the establishment of Southern pine seedbeds, apply this product preemergence just after seeding pines.</li> <li>Application after emergence of pine seedlings should not occur until 3 weeks after most seedlings have shed their seedcoat.</li> <li>Mix this product with clean water and broadcast spray at 20 to 40 psi in a minimum of 20 gals. of water per treated area.</li> <li>After application, sprinkler irrigate beds with approximately ½ inch of water.</li> </ul>
Hardwood Seedbeds: Oak (Quercus spp), Sweetgum, Green Ash	0.75-1.5		When seedlings are at least 6 weeks old (from time of 50% germination)	<ul> <li>Use higher rate for longer control and when higher weed pressure is anticipated.</li> <li>The lower rate will provide 2 to 3 months of weed control.</li> <li>Broadcast to beds and apply approximately ½ inch of sprinkler irrigation afterwards.</li> </ul>

## Tank Mixtures - Conifer Seedling Nurseries - Vegetation Management

Barricade 65WG may be tank mixed with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Barricade 65WG are for use only in states where the tank mix partner, application site and intended use pattern are registered.

Follow the label of the tank mix partner for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining the tank mix partner in the spray tank, test compatibility by mixing the products in a small container. See the **Compatibility Test** section.



## Tank Mixing and Application – Vegetation Management

## Tank Mix Partner for Barricade 65WG – Conifer Seedling Nurseries

Product		Precautions/Instructions		
Goal® (use on conifers	•	Mix with Barricade 65WG for postemergence control of		
only)		certain broadleaf weeds including malva and filaree.		

## **VEGETATION MANAGEMENT (NON-CROP AREAS)**

- May be applied to soil surfaces for preemergence control of many grass and broadleaf weeds
- Is most effective when activated by at least 0.5 inch rainfall or irrigation, or shallow incorporation before weed seeds germinate and within 14 days after application.

	Application Rate			Comments/	
Site	lbs./A	oz./1,000 sq. ft.	Timing	Instructions	
Non Crop Areas, including ornamentals, on or surrounding managed rights-of-way for transportation systems and utilities (including roadways, roadsides, railways, and equipment yards)	1.0-2.3	0.36-0.83	Before weed seeds germinate	Use higher rate for longer control. This product may be applied more than once per year but do not apply more than 2.3 lbs./A per year.	
Facilities including substations, tank farms, pumping stations, parking and storage areas, and ungrazed fence rows					

Barricade 65WG may be tank mixed with other registered herbicides to provide a broader spectrum of weed control or to control emerged weeds or brush. Tank mixes with Barricade 65WG are for use only in states where the tank mix partner(s) are registered for the application site.



## Tank-Mix Partners with Barricade 65WG - Vegetation Management

Products	Comments		
Touchdown® Pro (and glyphosate-based products¹), Gramoxone®, Reward®, Predict®, Princep®, Vanquish®, diuron-based products¹, Finale®, Gallery, Garlon®, Goal®, Krovar® I and II, Oust®, Arsenal®, Spike™, and Telar®	<ul> <li>Follow the label(s) of the tank mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions.</li> <li>Do not mix Barricade 65WG with any product whose label prohibits mixing with another pesticide.</li> </ul>		

<sup>&</sup>lt;sup>1</sup>Products with this chemical as the active ingredient and which are labeled for the same use may be used.

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For non-emergency (e.g., current product information), call Syngenta Crop Protection at 1-800-334-9481.

Syngenta Crop Protection, Inc. Greensboro, North Carolina 27409 www.syngenta-us.com

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