

SEP 13 1994

Dr. James S. Fickle, Ph.D.
Sandoz Agro, Inc.
1300 East Touhy Avenue
Des Plaines, IL 60018

Dear Dr. Fickle:

Subject: BARRICADE® P Herbicide
EPA Registration No. 55947-144
Application Dated August 24, 1994, Request To
Amend Registration Update Labeling To
Reflect Current Labeling for Barricade
65kC (55947-43) Labeling

The proposed amendments to the labeling of the
subject pesticide product registration has been reviewed
and found acceptable for registration under the Federal
Insecticide, Fungicide and Rodenticide Act as amended,
provided that you:

1. Delete the phrase "For terrestrial use," from the
wetlands statement under the Environmental Hazards
section of the proposed label, in compliance with
PR Notice 93-8.
2. Revise the first statement under Landscape Ornamentals,
Application Timing and Information which reads:
"Barricade may be applied at any time to established
plants", to read: "Apply Barricade prior to weed seed
germination to the soil surface surrounding established
tolerant ornamentals listed below".
3. Add the following statement after the first two
statements under the Tolerant Ornamental Species heading:
"Best results will result when Barricade is uniformly
applied to the surface of the soil, avoid applying to the
shoots of ornamental that may defeat the effort
to get uniform distribution to the surface of the
soil".
4. Submit one (1) printed copy of your final printed
labeling before you release the product for shipment.

If these conditions are not complied with, the registration

-2-

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.

Sincerely yours,

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

Enclosure



BARRICADE® F Herbicide

ACTIVE INGREDIENT:

Prodiamine: [N³,N³-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine] 2.0%

INERT INGREDIENTS: 98.0%

TOTAL: 100.0%

Guaranteed Fertilizer Analysis:

Nitrogen 32 % (N)
Phosphorus 4 % (P₂O₅)
Potassium 6 % (K₂O)

Nitrogen from: Urea formaldehyde, Urea, Ammonia

ACCEPTED
with COMMENTS
in EPA Letter Dated

SEP 13 1994

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

55947-144

For selective preemergence control of grass and broadleaf weeds in:
• established turf grasses (excluding golf course putting greens) and lawns
• landscape ornamentals (including perennial & wildflower plantings)

~~For selective preemergence control of grass and broadleaf weeds in established turf grasses
(excluding golf course putting greens), lawns and landscape ornamentals.~~

KEEP OUT OF REACH OF CHILDREN

CAUTION

See the following section, Precautionary Statements, Hazards To Humans and Domestic Animals, for additional information.

EPA Reg. No. 55947-144
EPA Est. No. 55947-TX-1

Net Weight: _____

Sandoz Agro, Inc.
1300 E. Touhy Avenue
Des Plaines, IL 60018

BARRICADE® is a Registered Trademark of Sandoz, Ltd.

4g16

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes moderate eye injury (irritation). Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling. Prolonged or frequently repeated skin contact while handling the material may cause allergic reactions in some individuals.

Statements of Practical Treatment

If in eyes: Flush thoroughly with water for several minutes. Get medical attention if irritation persists.

If on skin: Wash with soap and water. Rinse thoroughly. Get medical attention if irritation persists.

If inhaled: Remove victim to fresh air.

Environmental Hazards

This product has low solubility in water. At the limits of solubility, this product is not toxic to fish. However, at concentrations above the level of water solubility, it may be toxic to fish. For terrestrial use, 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 washwaters.

5 of 16

STORAGE AND DISPOSAL

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

STORAGE

Store in original container away from other fertilizer, feed, or food stuffs and separated from other pesticides.

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

Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or; puncture and dispose of in a sanitary landfill or at an incineration facility, or; if allowed by state and local authorities, by burning locally. If burned, stay out of smoke.

Paper and plastic containers: Completely empty container into application equipment. Then dispose of empty container in a sanitary landfill or at an incineration facility, or; if allowed by state and local authorities, by burning locally. If burned, stay out of smoke.

Fiber Drums: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residues into application equipment. Dispose of empty liner in a sanitary landfill or at an incineration facility if allowed by state and local authorities. If the drum cannot be reused, dispose of in a sanitary landfill or by incineration if allowed by state and local authorities.

6 of 16

DIRECTIONS FOR USE

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

BARRICADE F (BARRICADE) is a selective preemergence herbicide that provides residual control of many grass and broadleaf weeds in turf grasses and landscapes. BARRICADE controls susceptible weeds by inhibiting weed seeds germination and root development. For most effective weed control BARRICADE must be incorporated by 0.5 inch of rainfall, irrigation. Incorporation should take place as soon as possible after application and should not be delayed past 14 days from the date of application.

Not for use on plants being grown (1) for sale or other commercial use, (2) for commercial seed production, or (3) for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in ornamental gardens or parks, or on golf courses or lawns and grounds.

Do not graze or feed livestock forage cut from areas treated with BARRICADE.

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

Do not apply aerially.

Do not apply to golf course putting greens.

7 of 16

Application Directions

Apply uniformly through suitable, calibrated commercial application equipment.

ESTABLISHED TURF

BARRICADE is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turf grass and lawns. The species of turf grass determines the maximum amount of material that may be applied during a year.

Most effective weed control in turf grasses will be obtained when BARRICADE is activated by at least 0.5 inch of rainfall or irrigation within 14 days after application and prior to weed germination. See the map below for approximate crabgrass germination dates.

CRABGRASS SEED GERMINATION DATES

Approximate Date

Use Precautions

The following use precautions apply to the use of BARRICADE in turf grasses and lawns:

Application of BARRICADE may thin emerged annual bluegrass and newly over-seeded grasses.

Do not apply to OVERSEEDED TURF for 60 days after seeding or until after the second mowing, whichever is longer. Injury to desirable seedlings is likely if BARRICADE is applied before seedling secondary roots are in the second inch of soil, not thatch plus soil.

Do not apply to newly set sod until the following year.

Application of BARRICADE to turf stressed by drought, low fertility, or pest damage may result in turf injury.

Disturbing the herbicide barrier with cultural practices such as disking may result in reduced weed control.

Do not apply BARRICADE to putting greens or areas where dichondra, colonial bentgrass, velvet bentgrass or annual bluegrass (Poa annua) are desirable species.

Maximum Annual Rates

BARRICADE should not be applied above a maximum annual rate of 75 lb/A.

Turf Species and Rates

For season long control BARRICADE may be applied as a single application, or if needed followed by a second application for increased length of control. The length of time of residual weed control provided by BARRICADE is related to the rate applied. Use the higher rate within the listed range for longer control. Longer control is desirable in areas where crabgrass germinates between January 1 and April 20 (See Crabgrass Seed Germination Date Map).

Select maximum use rate based on turf grass species. All applications must be made prior to germination of the target weed seeds. BARRICADE will not control established weeds. ~~The rates listed in the table below are for weed control of approximately 2-6 months.~~

Turf Species and Rates Table:

MAXIMUM RATE / CALENDAR YEAR of BARRICADE by Turf Grass Species ¹⁾		
Turf Species:	lb BARRICADE / A	lb a.i./A
Bermudagrass ²⁾ Bahia grass Centipedegrass Seashore Paspalum Tall Fescue (including turf-type) Zoysia	75	1.5
Buffalograss Kentucky Bluegrass Perennial Ryegrass	50	1.0
Creeping Red Fescue St. Augustinegrass	37	0.75
Creeping Bentgrass	33	0.65

¹⁾ These are the maximum rate per calendar year by species limitations. Consult your distributor or Sandoz representative for specific rate recommendations.

²⁾ May be used on newly sprigged or plugged Bermudagrass at rates not to exceed 26 lb/A. Newly sprigged or plugged Bermudagrass stolon rooting may be temporarily retarded. Suppression only of Foxtail, Goosegrass and Rescuegrass due to reduced product rates used in sprigging situations.

- ~~Do not apply more than 37.5 lb of BARRICADE per application.~~
- Do not apply more than 75 lb of BARRICADE per calendar year.
- ~~If making more than one application, do not apply more than 37.5 lb of BARRICADE within any 60-day period.~~
- Use higher rates of BARRICADE to achieve higher levels of fertility and weed control for each turf type.

Weeds Controlled

) When used at the recommended rates (see Turf Species and Rates Table) BARRICADE will control:

Barnyardgrass
Bluegrass, Annual (Poa annual)
Crabgrass (large, smooth)
Foxtails, Annual
Goosegrass¹
Johnsongrass (from seed)
Rescuegrass¹
Signalgrass, Broadleaf

Carpetweed
Chickweed, Common
Henbit
Knotweed
Lambsquarter, Common
Figweed
Purslane, Common
Shepherd's-purse²
Spurge, Prostrate
Woodsorrel, Yellow (from seed)

) Do not exceed the maximum annual application rates recommended for the turf species. All applications must be made prior to germination of weed seeds. BARRICADE will not control established weeds.

1. In many areas a single application of 33 to 75 lb/A BARRICADE will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, make an initial application of 33 to 50 lb/A followed after 60 to 90 days by a second application of 42 to 26 lb/A for season long goosegrass control. Do not exceed the maximum rate for turf grass species listed in the Maximum Annual Rate Table above.
- ~~1. In many areas a single application of 33 to 37 lbs/Acre of BARRICADE will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, apply an initial treatment of 37 lbs/Acre followed after 60 days with a second treatment of 12 to 37 lbs/Acre for season long goosegrass control.~~
2. Winter weeds are best controlled by applications made prior to germination: late summer, fall or winter timings.
3. Suppression only.

11/4/16

Overseeding/Reseeding

BARRICADE will inhibit the germination of turf species if overseeded/reseeded too soon after application. The interval between application and overseeding/reseeding is dependent on the application rate, soil temperature, and soil moisture. A shorter interval is possible if growing conditions are warm and wet, while a longer interval is needed if conditions are cool and dry.

Use the Overseeding/Reseeding Intervals Table below as a guide when choosing the appropriate overseeding/reseeding interval for each situation.

Overseeding/Reseeding Intervals Table:

BARRICADE Rate (lb/A)	Overseeding/Reseeding Interval (months) Based Upon Seeding Method and Predominant Soil Conditions for the Season			
	Broadcast Seeding		Drill Seeding	
	Wet and Warm	Cool and Dry	Wet and Warm	Cool and Dry
26	4	6	3	4
50	8	12	6	8
75	12	18	9	12

12 of 16

LANDSCAPE ORNAMENTALS (including Perennial and Wildflower Plantings)

BARRICADE may be applied for residual preemergence weed control in ornamentals.

Use Rates

Apply BARRICADE at 33 to 75 lb/A in fall and/or spring. Use the higher rate of application for longer control periods. Sequential or single applications are allowed so long as the total amount of product applied does not exceed the maximum annual application rate of 75 lb/A.

Application Timing and Information

BARRICADE may be applied at any time to established plants. Delay application to allow soil to settle around new transplants and water thoroughly before applying BARRICADE. Apply BARRICADE after cuttings form roots and become established.

BARRICADE is a preemergence herbicide and will not control emerged weeds. Most effective weed control in ornamentals will be obtained when BARRICADE is activated by at least 0.5 in of rainfall or irrigation, or with shallow (1 to 2 in) mechanical incorporation, before weed seeds germinate. Acceptable control will be obtained when BARRICADE is activated within 14 days after application.

Best weed control is obtained when BARRICADE is applied to soil free of clods, weeds, and debris such as leaves and mulch. Prior to application of BARRICADE, control existing vegetation by hand weeding, cultivation or the use of an appropriate postemergence herbicide.

Tolerant Ornamental Species

BARRICADE will not harm most ornamental trees, shrubs and flowers. The species listed below are tolerant to BARRICADE. BARRICADE may be applied over the top of these species without injury.

~~BARRICADE is recommended for use on landscape ornamentals. Do not apply more than 37 lb/A in any 60 day interval, and do not exceed the maximum rate per calendar year of 75 lb/A.~~

~~BARRICADE Herbicide will not harm most established ornamental trees, shrubs and flowers. The following species have shown tolerance to BARRICADE:~~

Scientific name	Common name
Acer palmatum	Japanese Maple
A. platanoides	Norway Maple
Actinidia chinensis	Kiwi*
Agapanthus africanus	Lily-of-the-Nile
Arctostaphylos densiflora	Vine Hill Manzanita
Arctotheca calendula	Cape Weed
Aucuba japonica	Japanese Aucuba
Barberis gladwynensis	Barberry
B. julianae	Wintergreen Barberry
B. mentorensis	Mentor Barberry
B. thunbergii	Japanese Barberry
B. verruculosa	Warty Barberry
Buxus microphylla	Japanese Boxwood
Callistemon viminalis	Weeping Bottlebrush
Calluna vulgaris	Scotch Heather
Carpobrotus edulis	Hottentot Fig (Ice Plant)
Cassia artemisoides	Feathery Cassia
Ceanothus rigidus	Wild Lilac
Chamaecyparis pisifera	False Cypress
Cleyera japonica	Cleyera
Citrus spp.	Citrus species*
Cornus florida	Flowering Dogwood
C. stolonifera	American Dogwood
Cortaderia selloana	Pampas Grass
Cotoneaster apiculatus	Cranberry Cotoneaster
C. buxifolius	Cotoneaster
C. dammeri	Bearberry Cotoneaster
C. microphyllus	Rockspray Cotoneaster
Crataegus spp.	Hawthorne*
Cupressus sempervirens	Italian Cypress
Delasperma alba	White Trailing Ice Plant
Dodonea viscosa	Hop Bush
Elaeagnus pungens	Silverberry
Euonymus fortunei	Wintercreeper
E. japonica	Evergreen Euonymus
E. kiautschovica	Spreading Euonymus
Fatsia japonica	Japanese Aralia
Forsythia intermedia	Border Forsythia
F. viridissima	Greenstem Forsythia
Gardenia jasminoides	Gardenia, Cape-Jasmine
Hedera helix	English Ivy
Hibiscus rosa-sinensis	Chinese Hibiscus
Ilex cornuta	Chinese Holly

Scientific name	Common name
I. crenata	Japanese Holly
I. opaca	American Holly
I. pernyi	Holly
Jasminium nudiflorum	Winter Jasmine
Juniperus chinensis	Chinese Juniper
J. conferta	Shore Juniper
J. horizontalis	Creeping Juniper
Juglans sp.	Walnut*
Justicia brandegeana	Shrimp Plant
Lagerstromia indica	Crepe Myrtle
Ligustrum amurense	Amur Privet
L. japonicum	Japanese Privet
L. lucidum	Glossy Privet
Liriope muscari	Big Blue Lily Turf
Lonicera japonica	Japanese Honeysuckle
L. tatarica	Tatarian Honeysuckle
Maleophora luteola	Ice Plant
Malus sp.	Crabapple*
Nandina domestica	Heavenly Bamboo
Olea europa	Olive*
Ophiopogon japonicus	Mondo Grass
Osteospermum fruticosum	Trailing African Daisy
Oxydendrum arboreum	Sourwood
Persea americana	Avocado*
Photinia fraseri	Frasier's Photinia
Picea abies	Norway Spruce
Pieris japonica	Lily-of-the-Valley Shrub
Pinus brutia	Calabrian Pine
P. canariensis	Canary Island Pine
P. halepensis	Aleppo Pine
P. nigra	Austrian Black Pine
P. radiata	Monterey Pine
P. thunbergiana	Japanese Black Pine
P. strobus	Eastern White Pine
P. sylvestris	Scotch Pine
Pistachio sp.	Pistachio*
Pittosporum rhombifolium	Queensland Pittosporum
P. tobira	Japanese Pittosporum
Podocarpus macrophyllus	Japanese Yew
Prunus laurocerasus	English Laurel
Prunus sp.	Almond, Apricot, Nectarine, Peach, Plum and Prune*
Pyracantha coccinea	Firethorn

Scientific name	Common name
P. fortuneana	Firethorn
P. koidzumii	Firethorn
Pyrus sp.	Bradford Pear sp.
Quercus rubra	Red Oak
Raphiolepis indica	Indian Hawthorne
Rhododendron	'Coral Bells'
(including Azalea)	'Formosa'
	'Hino-crimson'
	'PJM'
	'Roseum Elegans'
Rosa banksia	Lady Bank's Rose
Rosmarinus officinalis	Rosemary
Santolina virens	
Sedum album	Stonecrop
Syzygium paniculatum	Japanese Boxcherry
Taxus cuspidata	Japanese Yew
T. media	Yew
Thuja occidentalis	American Arborvitae
Trachelospermum asiaticum	Star Jasmine
Tsuga canadensis	Canada Hemlock
Viburnum japonicum	Japanese Viburnum
V. odoratissimum	Sweet Viburnum
V. plicatum	Japanese Snowball
V. rigidum	Canary Island Viburnum
V. tinus	Laurustinus
V. trilobium	Cranberry Bush
V. wrightii	
Vinca minor	Dwarf Periwinkle
Vitis sp.	Grape*
Weigela florida	Old Fashioned Weigela
Yucca aloifolia	Spanish Bayonet
Y. filamentosa	Yucca, Adam's Needle

*Ornamental species only. Do not use on food producing trees or vines.

**LIMITATION OF WARRANTY
AND LIMITATION OF LIABILITY**

NOTICE: Read this Limitation of Warranty and Limitation of 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.

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 weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Sandoz or seller. All such risks shall be assumed by buyer or user.

Sandoz 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, under normal use conditions, subject to the risks described above. **SANDOZ MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.** In no event shall Sandoz or seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product.

Sandoz and seller offer this product, and buyer and user accept it, subject to the foregoing limitations of warranty and limitation of liability, which may not be modified by any oral or written agreement.