

29 JAN 1993

Ms. Donna M. Hillebold  
Sandoz Agro, Inc.  
1300 East Touhy Avenue  
Des Plaines, IL 60018

Dear Ms. Hillebold:

Subject: BARRICADE® 65WG Herbicide  
EPA Registration No. 55947-43  
Application Dated January 13, 1993 To Amend  
Labeling to Reflect When To Apply to Over-  
seeded Turf, Directions Associated with  
the Maximum Rate Table, and Editorial Changes

The proposed amendments referred to above, submitted in connection with registration under section 3 of the Federal Insecticide, Fungicide and Rodenticide Act as amended are acceptable provided that you:

1. Revise the second statement that describes when injury to desirable seedlings is likely to read:  
"Injury to desirable seedlings is likely if BARRICADE 65WG is applied before their secondary roots are in the second inch of soil (not thatch plus soil)".
2. Revise the statements under the heading "Maximum Annual Rates" to read:  
"BARRICADE 65WG is recommended for use on the turf grass species listed in the following Table. Do not apply more than 1.15 lbs./A, or the maximum yearly rate, whichever is less, in any 60 day interval, and do not exceed the maximum rate per calendar year as given in the following Table:"

Revise the title of the Table to read: "Maximum Rates Per Calendar Year of BARRICADE 65WG for Turf Grass Species"

3. Submit five (5) printed copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA,

**BEST AVAILABLE COPY**

20/21

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 (H-7505C)

enclosure

E.wilson:Diskette No.NC3:01-28-93

**CONTAINER LABEL**

**BARRICADE® 65WG Herbicide**

**ACTIVE INGREDIENT:**

Prodiamine [N<sup>3</sup>,N<sup>3</sup>-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine] ..... 65.0%

INERT INGREDIENTS: ..... 35.0%

TOTAL ..... 100.0%

BARRICADE® 65WG for selective preemergence control of grass and broadleaf weeds in established turf grasses and landscape ornamentals.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

See side panel for additional Precautionary Statements.

ACCEPTED  
with COMMENTS  
EPA Letter Dated:

29 JAN 1993

Net Weight:

EPA Reg. No. 55947-43  
EPA Est. No.

55947-43

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

40921

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

**CAUTION**

Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Prolonged or frequently repeated skin contact, while mixing or handling the concentrated material, may cause allergic reactions in some individuals. During mixing and loading of concentrate material wear chemical resistant gloves. Wash non-disposable gloves thoroughly with soap and water before removing.

**STATEMENT OF PRACTICAL TREATMENT**

If on skin: Wash with soap and water. Rinse thoroughly.

If inhaled: Remove to clear air.

If in eyes: Flush thoroughly with water for several minutes. Contact a physician if irritation persists.

**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 washwaters.

**DIRECTIONS FOR USE**

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

Refer to the DIRECTIONS FOR USE booklet attached to this container for use directions and additional precautionary statements. Apply this product only as directed in the attached label booklet. For additional copies of the DIRECTIONS FOR USE booklet, write the manufacturer.

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

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

Do not apply aerially.

### 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 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.

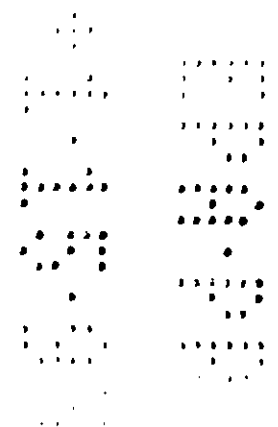
#### CONTAINER DISPOSAL

Paper bags and boxes: Completely empty container into application equipment. Then dispose of empty bag or box 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.

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.



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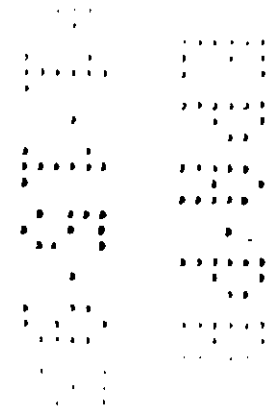
**LIMITATION OF WARRANTY  
AND LIMITATION OF LIABILITY**

**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, that may not be modified by any oral or written agreement.



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**DIRECTIONS FOR USE BOOKLET**

**BARRICADE® 65WG Herbicide**

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INERT INGREDIENTS: ..... 35.0%

Total ..... 100.0%

For selective preemergence control of grass and broadleaf weeds in established turf grasses and landscape ornamentals.

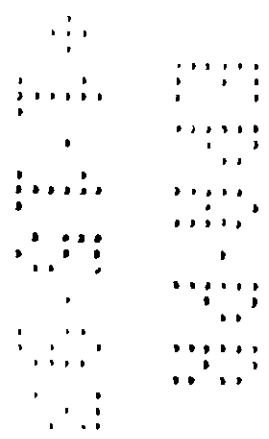
**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

See side panel for additional Precautionary Statements.

EPA Reg. No. 55947-43  
EPA Est. No.

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



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**STATEMENT OF PRATICAL TREATMENT**

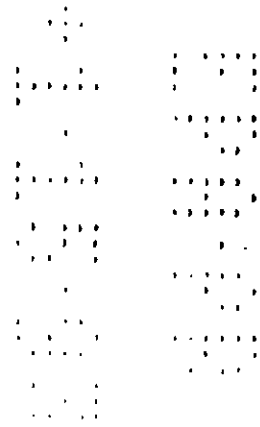
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### DIRECTIONS FOR USE

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

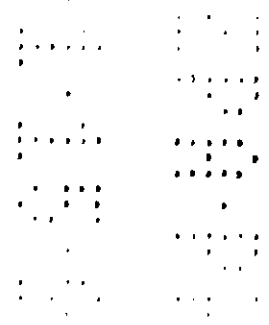
**BARRICADE 65WG** is a selective preemergence herbicide that provides residual control of many grass and broadleaf weeds in turf grasses and landscapes. **BARRICADE 65WG** controls susceptible weeds by inhibiting weed seeds germination and root development. For most effective weed control **BARRICADE 65WG** must be incorporated by 1/2 inch of rainfall, irrigation or shallow mechanical incorporation. Incorporation should take place as soon as possible after application and should not be delayed past 14 days from the date of application.

All applicable directions, restrictions, and precautions on the labels of EPA registered tank mix partners are to be followed.

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

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

Do not apply aerially.



**Mixing and Application**

Apply BARRICADE 65WG in a minimum of 20 gallons of carrier per treated acre (1/2 gallon / 1000 ft<sup>2</sup>) 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.

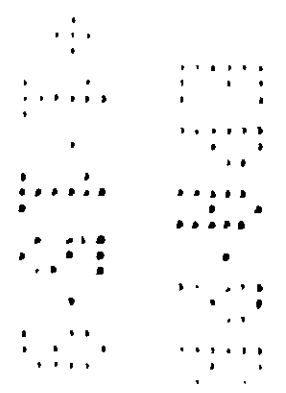
A spray colorant may be used to modify the color of BARRICADE 65WG to improve application accuracy by minimizing swath skips and overlaps.

Thorough mixing of BARRICADE 65WG in the spray tank is essential for uniform application. Fill the spray tank half full with clean water. Start agitation and check to ensure it is working properly, then add BARRICADE 65WG herbicide directly into the tank.

Add the rest of the water to obtain the final spray volume. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well mixed spray suspension.

) Thoroughly clean the sprayer after use by flushing the system with water containing a detergent. Do not allow spray suspension to dry in the tank.

BARRICADE 65WG may be mixed with certain other EPA registered herbicides to provide a broader spectrum of control or to control emerged weeds. See **Mixing Order** in this section and the **ESTABLISHED TURF** section for specific recommendations.



### Mixing Order for Tank Mixtures

When mixing BARRICADE 65WG with other components (carrier and pesticide products) add the products to the spray tank in the following order:

- 1 - Water dispersible granules (WG formulations) and wettable powders (WP formulations). Wettable powders should be premixed with a small amount of water to form a slurry before addition; water dispersible granules can be added directly during filling. Allow the product to disperse completely before other products are added.
- 2 - Flowable liquids (FL or SC).
- 3 - Emulsifiable concentrates (EC).
- 4 - Surfactants approved for application to turf or landscapes. Check surfactant label before use.

### 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 (see following table).

Amount of Component to Add to One Pint of Spray Carrier  
(Assuming Volume is 25 Gallons per Acre)

<u>COMPONENT FORMULATIONS</u>	<u>-----RATE PER-----</u> <u>ACRE</u>	<u>1000 Ft<sup>2</sup></u>	<u>LEVEL</u> <u>TEASPOONS</u>
Dry	1.0 lb	0.4 oz	1.5
Liquid	1.0 pt	0.4 oz	0.5

If components do not ball-up or form flakes, sludge, gels, oily films or layers, or other precipitates, then the tested spray mix is compatible. Incompatibility in any of the above forms will usually occur within 5 minutes after mixing.

If components are incompatible, the use of a compatibility agent is recommended. Rerun the above compatibility test with commercially available compatibility agents until a suitable compatibility agent is identified.

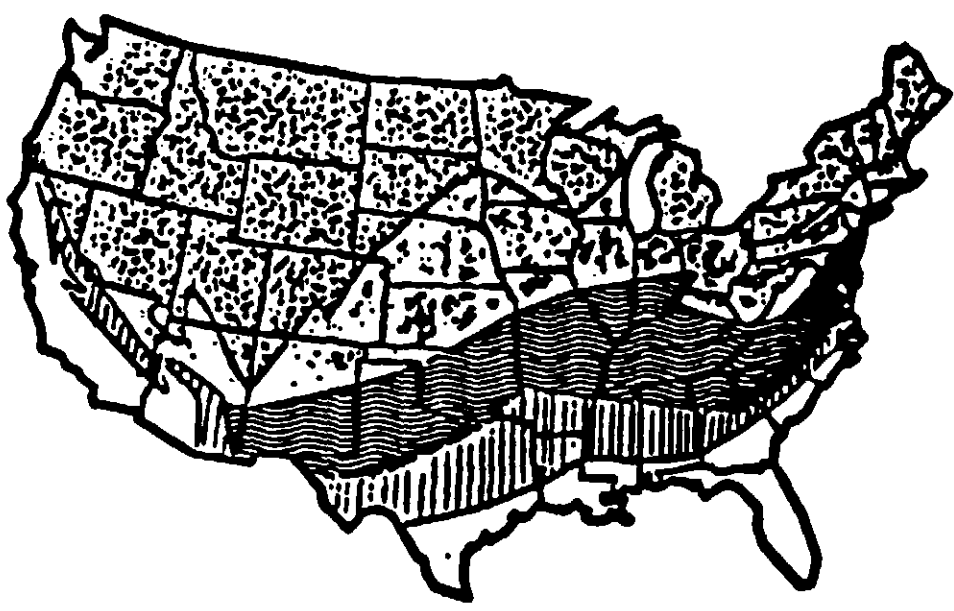
**ESTABLISHED TURF**






BARRICADE 65WG is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established grass turf. The species of turf grass determines the maximum amount of this product that may be applied during a year.

Most effective weed control in turf grasses will be obtained when BARRICADE 65WG is activated by at least 1/2 inch of rainfall or irrigation within 14 days after application and prior to weed seed germination. See the map below for approximate crabgrass seed germination dates.

**CRABGRASS SEED GERMINATION DATES**

Approximate Date



-  After May 30
-  After May 10
-  After April 20
-  After March 20
-  January 1 to March 20

Foxtails (yellow, green) tend to germinate before crabgrass; therefore, if targeting foxtails apply BARRICADE 65WG three (3) weeks before the corresponding crabgrass germination date.

### USE PRECAUTIONS

The following use precautions apply to the use of BARRICADE 65WG in turf grasses:

Application of BARRICADE 65WG may thin emerged annual bluegrass and newly over-seeded grasses.

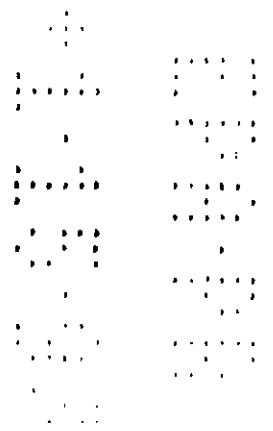
Do not apply to FALL OVERSEEDED TURF for 60 days after seeding or until after the second mowing, whichever is longer. Injury to desirable seedlings is likely if BARRICADE 65WG is applied before seedling secondary root systems are actively exploring the second inch of soil, not thatch plus soil.

Do not apply to SPRING SEEDED TURF or newly set sod until the following year.

Application of BARRICADE 65WG to turf stressed by drought, low fertility, or pest damage may result in turf injury.

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

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



## Rates and Timings

BARRICADE 65WG may be applied as a single application or as a sequential application to control weeds germinating throughout the year. All applications must be made prior to germination of the target weeds.

Maximum use rate selection should be based on turf species. The length of time of residual weed control provided by BARRICADE 65WG is related to the rate applied.

## Maximum Annual Rates

BARRICADE 65WG is recommended for use on the following turf grass species. The total amount of BARRICADE 65WG applied during one year must not exceed the amounts listed.

Maximum rate per calendar year of BARRICADE 65WG

Turf Species	Lbs/A	Oz/1000 Ft <sup>2</sup>
Bermudagrass Centipedegrass Seashore Paspalum Tall Fescue Zoysia	2.30	0.83
Perennial Bluegrass Perennial Ryegrass	1.50	0.55
Creeping Red Fescue St. Augustinegrass	1.15	0.40
Creeping Bentgrass (min. 1/2 inch height)	1.00	0.37
Bermudagrass (newly sprigged or plugged)	0.80	0.30

- Do not apply more than 1.15 lbs./A of BARRICADE 65WG or the maximum yearly rate listed above per application, whichever is less.
- Do not apply more than 1.15 lbs./A of BARRICADE 65WG in any 60 day interval.

**Weeds Controlled**

The following table lists use rates recommended for control of indicated weeds for approximately 2-6 months.

Use the higher rate within the listed range for longer control in areas with extended germination periods (see Crabgrass Seed Germination Date Map, page 6).

**Application Rates and Weeds Controlled**

Rate of BARRICADE 65WG Lbs./A	Oz./1000 Ft <sup>2</sup>	Weeds Controlled
0.50-1.15	0.18-0.40	Crabgrass (large, smooth)
0.75-1.15	0.28-0.40	Annual Bluegrass Common Chickweed Prostrate Spurge
1.15-1.50 <sup>2</sup>	0.40-0.55	Annual Foxtails Shepardspurse <sup>1</sup> Henbit Knotweed
1.50-2.30 <sup>2</sup>	0.55-0.83	Goosegrass <sup>3</sup> Rescuegrass <sup>4</sup>

Do not exceed the maximum annual application rates recommended for the turf species. All applications must be made prior to germination of the target weeds.

1. Fall application.
2. Weeds requiring rates greater than 1.15 lbs./A will require a sequential application (see Rates and Timings).
3. For the best control of goosegrass make a sequential application of 1.15 lbs./A followed after 60 days with 0.38 to 1.15 lbs./A of product.
4. Suppression only.

**Overseeding / Reseeding**

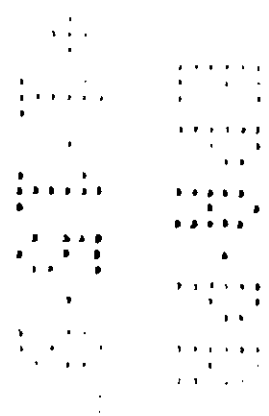
BARRICADE 65WG will inhibit the germination of turf species if overseeded too soon after application. Wait 4-6 months per 0.75 pound of BARRICADE 65WG applied when grass seed is to be broadcasted over the turf surface. This overseeding interval can be shortened to 3-4 months per 0.75 pound when grass seed is drilled directly into the soil. The interval between application and overseeding / reseeding is dependent on the application rate, soil temperature, and soil moisture. A shorter period is required if growing conditions are warm and wet, while a longer interval is needed if conditions are cool and dry.

**Turf Tank Mixes**

BARRICADE 65WG may be tank mixed with other registered turf herbicides. Tank mixes are for use only in states where the tank mix product and application site are registered.

Consult the label(s) of the individual tank mix product(s) for use, rate recommendations, application timing, weeds controlled, turf grass safety and specific precautions and/or restrictions.

Before mixing tank mix partners in the spray tank it is advisable to test compatibility by mixing the products in a small container. See the **Compatibility Test** section under **Mixing and Application**.





**LANDSCAPE ORNAMENTALS**

BARRICADE 65WG Herbicide will not harm most nearby established ornamental trees, shrubs and flowers. The following species have shown tolerance to BARRICADE 65WG:

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	
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
Cornus florida	Flowering Dogwood
C. stolonifera	American Dogwood
Cortaderia selloana	Pampas Grass
Cotoneaster apiculatus	Cranberry Cotoneaster
C. buxifolius	
C. dammeri	Bearberry Cotoneaster
C. microphyllus	Rockspray Cotoneaster
Cupressus sempervirens	Italian Cypress
Delasperma alba	White Trailing Ice Plant
Dodonea viscosa	Hop Bush
Elaeagnus pungens	Silverberry
Euonymus fortunei	Wintercreeper

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

Scientific name

Common name

Scientific name	Common name
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
I. crenata	Japanese Holly
I. opaca	American Holly
I. pernyi	
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

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Scientific name

Common name

Scientific name	Common name
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	Mock Orange
Podocarpus macrophyllus	Japanese Yew
Prunus laurocerasus	English Laurel
Prunus sp.	Almond, Apricot, Nectarine, Peach, Plum and Prune*
Pyracantha coccinea	Firethorn
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 banksiae	Lady Bank's Rose
Rosmarinus officinalis	Rosemary
Rumohra adiantiformis	Leatherleaf Fern
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

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Scientific name

Common name

-----	-----
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

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