
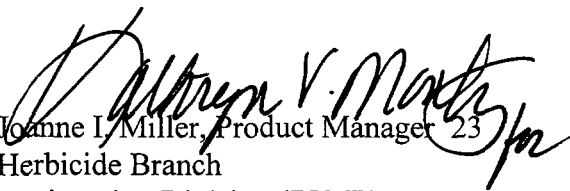


81943-39

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 U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505P) Ariel Rios Building 1200 Pennsylvania Ave., NW Washington, D.C. 20460	EPA Registration Number: 81943-39	Date of Issuance: MAR 19 2010
	Term of Issuance: Conditional	
	Name of Pesticide Product: KnightHawk 4F	
NOTICE OF PESTICIDE: <input checked="" type="checkbox"/> Registration <input type="checkbox"/> Reregistration (under FIFRA, as amended)		
Name and Address of Registrant (include ZIP Code): Phoenix Environmental Care, LLC P.O. Box 370 Valdosta, GA 31603-0370		
Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.		
<p>On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.</p> <p>This product is conditionally registered in accordance with FIFRA sec. 3 (c) (7) (A) provided that you:</p> <ol style="list-style-type: none">1. Submit and/or cite all data required for the registration/ reregistration review of your product when the Agency requires all registrants of similar products to submit data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.2. Make the following label changes:<ol style="list-style-type: none">a. Change the EPA Registration Number To: 81943-39.b. Remove "General" on page 3 header.c. Page 4, Change word "Precautions" to "Restrictions" or "Requirements". Also, make this change on page 6.d. Page 7, footnote 2 replace the word "note" with "not".e. Page 9, under "Use Directions" in first sentence replace "of buds" with the phrase "or buds".f. Page 10, under the Ornamental and Christmas Tree Farms" section, in the "Landscape (or Ornamental) Placement instructions, delete the second sentence and replace with the following: "Delay applications to new transplanted ornamentals until soil has settled around transplants."g. Update "Storage and Disposal" statements per PR Notice 2007-4.		
Signature of Approving Official:  Joanne I. Miller, Product Manager 23 Herbicide Branch Registration Division (7505P)	Date: MAR 19 2010	

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3. Generate one year studies corresponding to guidelines 830.6317 (storage stability) and 830.6320 (corrosion characteristics) and the results submitted to the Agency. It is recommended that the observations should be made at 0, 3, 6, 9 & 12 months of intervals.

4. Submit one (1) copy of the revised final printed label before the product is released for shipment.

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

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

Enclosure

KnightHawk 4F Herbicide

A selective preemergence control of grass and broadleaf weeds in:

- Established turfgrasses (excluding golf course putting greens), lawns, and sod nurseries
- Container, fieldgrown, and landscape ornamentals
- Hardwood seedling nurseries; established perennial and wildflower plantings
- Christmas tree farms

Active Ingredient:

Prodiamine*40.7%

Other Ingredients:59.3%

Total:100.00%

*KnightHawk 4F contains 4 pounds active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
If Swallowed	<ul style="list-style-type: none">• Call poison control center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to do so by the poison control center or doctor.• Do not give anything by mouth to an unconscious person.
If In Eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
If Inhaled	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.• Call a poison control center or doctor for treatment advice.
If on Skin or Clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-875-1724 for emergency medical treatment information.	

Net Content ____ Gallons

Phoenix Environmental Care, LLC
PO Box 370
Valdosta, GA 31603-0370

EPA Reg. No. 81943-39

EPA Est. No. _____

ACCEPTED
with COMMENTS
In EPA Letter Dated:
MAR 19 2010

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

81943-39

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

CAUTION

May be harmful if swallowed, absorbed through skin, or inhaled. Avoid breathing vapor. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

Personal Protective Equipment (PPE)

WPS Uses:

Applicators, mixers, loaders, and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) must wear:

- Long-sleeved shirt
- Long pants
- Shoes plus socks

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 CONTROL 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.

Important: When reduced PPE is worn because a closed system is being used, handlers must be provided with all of the PPE specified above for applicators and other handlers, and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

USER SAFETY REQUIREMENTS

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 remove PPE, 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.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. **READ ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.**

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 (WPS), 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 WPS.

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 WPS, 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 WPS 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 natural rubber >14 mils or neoprene rubber >14 mils or nitrile rubber >14 mils
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements of this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The "WPS" applies when this product is used to produce agricultural plants on farms, forests or nurseries. Applicators and handlers should wear long-sleeved shirt, long pants, chemical resistant gloves, shoes with socks, and protective eyewear. Thoroughly wash face and hands with soap and water after exposure and before eating or smoking. Launder exposed clothing before reuse. Do not allow reentry to treated areas until dust have settled and the turf grass or soil is dry.

GENERAL INFORMATION

WHERE TO USE:

KnightHawk 4F is a selective preemergence herbicide that provides residual control of many grass and broadleaf weeds in:

- Established turfgrasses (excluding golf course putting greens), lawns, and sod nurseries
- Container, field-grown, and landscape ornamentals
- Hardwood seedling nurseries
- Established perennial and wildflower plantings
- Christmas tree farms

HOW KNIGHTHAWK 4F WORKS

KnightHawk 4F controls susceptible weeds by preventing growth and development of newly germinated weeds. Weed control is most effective when KnightHawk 4F is activated by at least 0.5 inch of rainfall or irrigation or shallow incorporation (1-2 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 KnightHawk 4F.
- Follow all applicable directions, restrictions, and precautions on the labels of EPA-registered tank-mix partners.
- Do not blend KnightHawk 4F onto dry fertilizer or any other granular material.
- **Chemigation:** Do not apply KnightHawk 4F through any type of irrigation system unless instructed otherwise in this label.
- Do not apply aerially.
- Do not apply to golf course putting greens.

MIXING AND APPLICATION PROCEDURES

MIXING KNIGHTHAWK 4F ALONE

KnightHawk 4F must be mixed thoroughly in the spray tank to ensure uniform application. Follow these steps:

1. Fill the spray tank $\frac{1}{4}$ full with clean water only.
2. Start agitation and check to ensure it is working properly.
3. For tank mixing instructions, refer to the section **Mixing Order for Tank Mixtures**.
4. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well-mixed spray suspension. If KnightHawk 4F was mixed with fertilizer in the spray tank, the fertilizer may aid resuspension of KnightHawk 4F if agitation is disrupted. However, it is recommended that the entire tank be used before stopping agitation.
5. A spray colorant may be used with KnightHawk 4F to mark areas as they are treated. This will improve application accuracy by minimizing swath skips and overlaps.
6. Thoroughly clean the sprayer after use by flushing the system with water containing a detergent.
7. Refer to the **Pesticide Disposal** section of this label for waste disposal. Do not allow spray suspension to dry in the tank.

TANK MIXING KNIGHTHAWK 4F

KnightHawk 4F 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 refer to 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 list. When using KnightHawk 4F in a tank mixture with other pesticides, follow restrictions and precautions on the labels of the products used.

Before tank mixing pesticides, test compatibility by mixing the products in a small container first. See the **Compatibility Test** section.

COMPATIBILITY TEST

Before mixing KnightHawk 4F with other pesticides in the spray tank, test for compatibility by mixing all components (carrier and pesticide products) in an appropriate container in proportionate quantities. For example, 1 quart would be the $\frac{1}{100}$ the volume of a 25 gallons/Acre spray rate. At 1.0 lb/Acre, the rate would be proportional to 6 mL per quart. Add approximately 1 teaspoon to a quart of water. (See following table.)

**AMOUNT OF COMPONENT TO ADD TO ONE QUART OF SPRAY CARRIER
(ASSUMING CARRIER VOLUME TO 25 GAL/A)**

Component Formulations	Rate Per		Level Teaspoons
	Acre	1,000 sq ft.	
KnightHawk 4F	21.0 oz.	0.5 oz.	1.0
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. Let the mixture stand for 15 minutes. Incompatibility will usually occur within 5 minutes after mixing. If components are not compatible, use a compatibility agent and rerun the test to determine if the mixture is suitable. If the components are still not compatible, do not tank mix.

MIXING ORDER FOR TANK MIXTURES

Notes: When mixing KnightHawk 4F with other components (carrier and partner pesticide products), allow products to completely dissolve between steps. 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 products to disperse before adding any other tank-mix partners.
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 KnightHawk 4F, other flowable liquids (FL) or suspension (SC).
5. Add emulsifiable concentrates (EC) last.

APPLICATION

Apply KnightHawk 4F in a minimum of 20 gals/A (0.5 gals/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 handheld 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

KnightHawk 4F is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turfgrasses including:

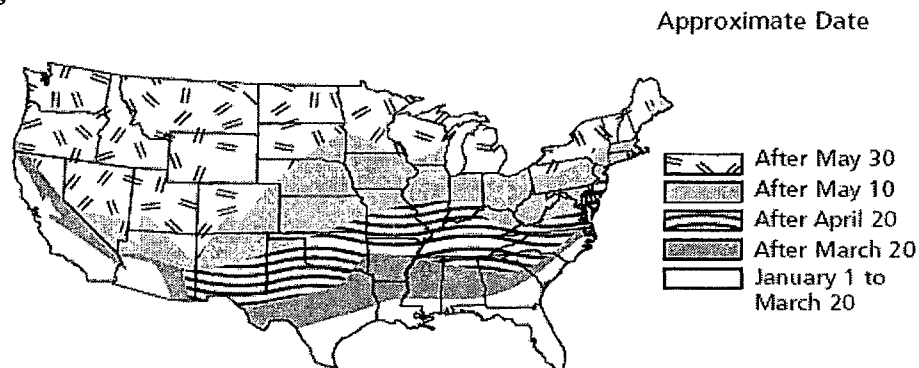
- Golf course **excluding** putting greens
- Lawns
- Sod nurseries

The maximum amount of KnightHawk 4F that may be applied per year is given for each turfgrass species in the **Annual Use Rates** section of this label.

For optimum weed control, KnightHawk 4F 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.

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Crabgrass Seed Germination Dates



Use Precautions - Turfgrass: Golf Courses, Lawns, and Sod Nurseries

1. Do not apply KnightHawk 4F to areas where dichondra, colonial bentgrass, velvet bentgrass, or annual bentgrass (*Poa annua*) are desirable species.
2. Do not cut (harvest) treated sod before 90 days after 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 KnightHawk 4F 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 KnightHawk 4F to golf course putting greens.
6. If you consistently mow creeping bentgrass at a height of less than 0.5 inch, do not apply KnightHawk 4F.

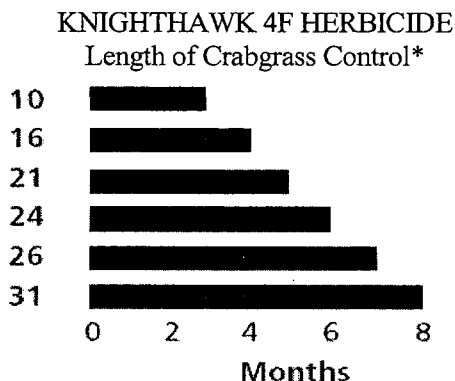
Application Timing and Rate – Turfgrass

KnightHawk 4F may be applied as a single application or in sequential applications to control weeds germinating throughout the year. All applications must be made before target weeds germinate because **KnightHawk 4F will not control weeds that have already emerged.**

The amount of KnightHawk 4F to apply depends upon:

1. the length of residual weed control desired (the higher the application rate, the longer the control),
2. the turf species,
3. the maximum amount which can be applied to the turf species per calendar year.

(See the next 2 tables.)



*Length of control varies by region. This table is an average.

Annual Use Rates - Turfgrass

KnightHawk 4F can be applied to the turfgrass species listed in the following table. **Note:** Do not apply more than the highest rate listed for each species in a calendar year.

Maximum Application rate of KnightHawk 4F per Calendar Year by Turf Species		
Turf Species	Oz. Product/Acre	Oz. Product/1,000 sq. ft.
Bermudagrass ² Bahia grass Centipedegrass Kikuyugrass Seashore Paspalum St. Augustinegrass ³ Tall Fescue (including turf-type) Zoysiagrass	21-48 ¹	0.5-1.1
Buffalograss Kentucky Bentgrass Perennial Ryegrass	10-30 ¹	0.23-0.70
Fine Fescue	10-24 ¹	0.23-0.55
Creeping Bentgrass (0.5 inch or more in height ⁴)	10-21 ¹	0.23-0.48

¹KnightHawk 4F may be applied more than once a year as long as the total amount applied is not greater than the maximum application rate for each turf species. All applications must be made before weed seeds germinate.

²May be used on newly sprigged or plugged bermudagrass at rates note to exceed 17 oz./A (0.39 oz./1,000 sq. ft.). Newly sprigged or plugged bermudagrass stolon rooting may be temporarily inhibited.

³Use an initial rate of 16-32 oz./A per application.

⁴To avoid grass injury, do no apply KnightHawk 4F to creeping bentgrass moved at less than 0.5 inch in height.

Weeds Controlled

When used as directed in this label, KnightHawk 4F will control the following weeds:

Barnyardgrass	Kochia
Bluegrass, Annual (<i>Poa annua</i>) ¹	Lambsquarters, Common
Carpetweed	Lovegrass
Chickweed, Common ²	Panicum, (Texas, Fall, Browntop)
Chickweed, Mouseear (from seed)	Pigweed
Crabgrass (Large, Smooth) ³	Purslane, Common
Crowfootgrass	Pusley, Florida
Cupgrass, Woolly	Rescuegrass ⁴
Foxtails, Annual	Shepherdspurse ²
Goosegrass ⁵	Signalgrass, Broadleaf
Henbit ²	Speedwell, Persian
Itchgrass	Sprangletop
Johnsongrass (from seed)	Spurge, Prostrate
Junglerice	Witchgrass
Knotweed ²	Woodsorrel, Yellow (from seed)

¹In those areas where *Poa annua* is a winter annual, apply KnightHawk 4F (see rate table) 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 (AZ, CA, NV, and TX only).**

²To control this weed, apply KnightHawk 4F in late summer, fall or winter before weeds germinate.

³Fall Applications for Spring Crabgrass Control in Cool-Season Grasses: In those areas where the ground freezes in the winter, KnightHawk 4F can be applied in the fall at rate of 21 -24 oz./A after soil temperatures fall below 50°F, but before the ground freezes. This application will control crabgrass the following spring.

⁴Suppression only.

⁵In many areas a single application of 21-48 oz./A of KnightHawk 4F will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, weed control will be most effective by making an initial application of 21 -26 oz./A followed by a second application 60-90 days later. **NOTE: Do not exceed** the maximum rate for the turf species listed in the **Maximum Application Rates Table.**

WHEN TO APPLY KNIGHTHAWK 4F AFTER OVERSEEDING TURF

Injury to desirable seedlings is likely if KnightHawk 4F 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 seedling or until after the second mowing, whichever is longer, before applying KnightHawk 4F.

WHEN TO OVERSEED AFTER APPLICATION – ALL STATES

KnightHawk 4F 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.

*Note: In AZ, CA, NV, and TX the overseeding interval can be shorter in established bermudagrass that has been overseeded with perennial ryegrass. See the next section, ***Poa Annua* Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only).**

Amount of KnightHawk 4F Oz. Product/A	Interval (Months Before Overseeding)*		
	North	Transition	South
16	4	4	4
21	5	4	4
24	6	5	5
26	---	6	6
31	---	7	7
36	---	---	9
42	---	---	10
48	---	---	12

***Poa Annua* Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only)**

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

HOW MUCH KNIGHTHAWK 4F TO APPLY AND WHEN TO APPLY

Amount to Apply	When to Apply	Expected Control	Use Precautions
12-21 oz./A	6-8 weeks before ryegrass overseeding Second Application: 4-8 weeks after overseeding or when perennial ryegrass roots are in the second inch of soil	1 application for 70% or greater control of <i>Poa annua</i> . Second Application may enhance control.	Some seedling mortality and temporary reduction in root growth of new seedlings may occur. To reduce the potential for seedling mortality maintain a moist seedbed with light, frequent irrigation. Make no more than 2 applications per year for this use, and do not exceed a total of 27 oz./A per year. Do not make a second application if any injury to the ryegrass is observed after the first application. Do not make a second application unless KnightHawk 4F was first applied before overseeding.

*The amount of KnightHawk 4F to apply depends upon: the length of residual control desired (the higher the application rate, the longer the control.) NOTE: The higher the rate, the greater the potential for seedling mortality.

CONTAINER, FIELD-GROWN, AND LANDSCAPE ORNAMENTAL PLANTINGS (INCLUDING CHRISTMAS TREE FARMS)

Application, Timing and Information

KnightHawk 4F:

1. Will not control emerged weeds.
2. May be applied to newly-transplanted and established ornamentals as a broadcast or over-the-top spray.
3. Is most effective when applied to soil free clods, weeds, and debris such as leaves and mulch.
4. Is most effective when KnightHawk 4F 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 to 2 inches) mechanical incorporation.

Use Precautions

To reduce injury potential:

1. Direct application of KnightHawk 4F to rapidly growing tissue of buds may injure desirable plants. In the spring when buds are rapidly growing and expanding, over-the-top application of KnightHawk 4F may injure new growth of desirable plants, however, these effects are temporary. To reduce the possibility of injury at this time, wait to apply KnightHawk 4F 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 apply overhead irrigation to the foliage to wash KnightHawk 4F from plant surfaces onto soil (watering the foliage of plants before application may improve the washing process).

ORNAMENTAL AND CHRISTMAS TREE FARMS - APPLICATION SITES AND INSTRUCTIONS

SITE	APPLICATION INSTRUCTIONS
Newly-transplanted container or Field Nursery Stock	Delay application until soil has settled around transplant. Water transplants thoroughly before application. Apply after cuttings form roots and are established. To avoid inhibition of the tissue union, apply before budding/grafting or after buds/grafts have taken.
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	Apply as a broadcast, over-the-top, or as a directed spray. After KnightHawk 4F is applied, perform shallow cultivation or hand weeding only, to avoid disturbing the herbicide barrier.
Bare Ground Application for Container Placement	Apply to soil (including mulch, gravel, wood chips, or other permeable base), upon which containerized ornamentals are placed. After KnightHawk 4F is applied, perform shallow cultivation or hand weeding only, to avoid disturbing the herbicide barrier.
In Shadehouses and Uncovered Polyhouses	After KnightHawk 4F is applied, uncovered polyhouses must remain open for at least 7 days and ornamentals must receive 2 irrigations totaling at least ½ inch of water before covering.
Ornamental Bulbs and Perennial Wildflower Plantings	KnightHawk 4F may be applied to bulbs or perennial wildflower species listed in the section. 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.

HOW MUCH OF KNIGHTHAWK 4F AND WHEN TO APPLY - ORNAMENTALS

AMOUNT TO APPLY(BROADCAST)*	WHEN TO APPLY	COMMENTS/INSTRUCTIONS
21-48 oz/A or 0.5-1.1 oz/1,000 sq. ft.	In fall or spring before weeds germinate or after weeds are removed.	Use the higher rate for longer control. KnightHawk 4F may be applied more than once per year as long as the total amount of KnightHawk 4F applied does not exceed 48 oz/A per year.

*NOTE: For band application, calculate amount per acre:

$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{broadcast rate} = \text{amount to apply/acre of field}$

EQUIVALENT MEASUREMENTS FOR KNIGHTHAWK 4F

Oz/A	oz/1,000 sq. ft.	approximately equivalent-tablespoons/1,000 sq. ft.
21	0.5	1.0
31	0.7	1.5
42	1.0	2.0
48	1.1	2.25

TANK MIXTURES FOR USE ON ORNAMENTS

KnightHawk 4F 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. Tanks mixes with KnightHawk 4F are for use only in states where the tank mix partner(s), application site, and intended use pattern are registered.

Follow the label directions of the tank mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining a tank mix partner in the spray tank, test for compatibility as described on this label.

TANK MIX PARTNERS FOR KNIGHTHAWK 4F ON ORNAMENTALS

PRODUCT	PRECAUTIONS/INSTRUCTIONS
Goal® (use on conifers only)	Mix with KnightHawk 4F for postemergence control of certain broadleaf weeds including malva and filaree.
Gallery®, Princep®, Pennant Magnum®	See product labels for weed spectrum and tolerant ornamentals.
Avocet or other glyphosate-based products	These nonselective tank mix herbicides control many emerged annual broadleaves and grasses. Take extreme care to prevent tank mixtures with these partner products from contacting the foliage and stems of turfgrasses, 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. 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.

TOLERANT ORNAMENTAL SPECIES

The species listed below in Table 1 are tolerant to KnightHawk 4F. KnightHawk 4F may be used for applications, except in CA, to the species in Table 2. KnightHawk 4F may be applied over-the-top of the listed species. The species that are not tolerant to KnightHawk 4F when grown in containers are indicated.

When plants are under stress (such as heat, drought, or frost damage), some cultivars of listed plants may be sensitive to KnightHawk 4F.

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Table 1. Tolerant Ornamental Species -All States

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

Scientific Name	Common Name
<i>Ilex cornuta</i>	Chinese Holly**
<i>Ilex crenata</i>	Japanese Holly
<i>Ilex opaca</i>	American Holly
<i>Ilex pernyi</i>	Holly
<i>Ilex vomitoria</i>	Yaupon Holly
<i>Iris spp.</i>	Iris species**
<i>Jasminium nudiflorum</i>	Winter Jasmine
<i>Juniperus chinensis</i>	Chinese Juniper
<i>Juniperus conferta</i>	Shore Juniper
<i>Juniperus horizontalis</i>	Creeping Juniper
<i>Juglans spp.</i>	Walnut*
<i>Justicia brandegeana</i>	Shrimp Plant
<i>Lagerstromia indica</i>	Crape Myrtle
<i>Ligustrum amurense</i>	Amur Privet
<i>Ligustrum japonicum</i>	Japanese Privet
<i>Ligustrum lucidum</i>	Glossy Privet(Wax-Leaf)
<i>Liriope muscari</i>	Big Blue Lillyturf
<i>Lonicera japonica</i>	Japanese Honeysuckle
<i>Lonicera tatarica</i>	Tatarian Honeysuckle
<i>Magnolia spp.</i>	Magnolia Species**
<i>Maleophora luteola</i>	Ice Plant
<i>Malus spp.</i>	Crabapple*
<i>Nandina domestica</i>	Heavenly Bamboo
<i>Narcissus spp.</i>	Narcissus Species**
<i>Nerium spp.</i>	Oleander
<i>Olea europaea</i>	Olive*
<i>Ophiopogon japonicus</i>	Mondo Grass**
<i>Osteospermum fruticosum</i>	Trailing African Daisy
<i>Oxydendrum arboreum</i>	Sourwood
<i>Persea americana</i>	Avocado*
<i>Photinia fraseri</i>	Frasier's Photinia (Redtip)
<i>Picea spp.</i>	Spruce Species**(Colorado Blue, Norway, etc.)
<i>Pieris japonica</i>	Lily-of-the-Valley Shrub
<i>Pinus brutia</i>	Calabrian Pine
<i>Pinus canariensis</i>	Canary Island Pine
<i>Pinus elliottii</i>	Slash Pine
<i>Pinus halepensis</i>	Aleppo Pine
<i>Pinus nigra</i>	Austrain Black Pine
<i>Pinus palustris</i>	Longleaf Pine
<i>Pinus radiata</i>	Monterey Pine
<i>Pinus strobus</i>	Eastern White Pine
<i>Pinus sylvestris</i>	Scotch Pine
<i>Pinus taeda</i>	Loblolly Pine
<i>Pinus thunbergiana</i>	Japanese Black Pine
<i>Pinus virginiana</i>	Virgina Pine
<i>Pistacia spp.</i>	Pistachio*
<i>Pittosporum rhombifolium</i>	Queensland Pittosporum
<i>Pittosporum tobira</i>	Japanese Pittosporum

Scientific Name	Common Name
<i>Podocarpus macrophyllus</i>	Japanese Yew
<i>Prunus laurocerasus</i>	English Laurel
<i>Prunus spp.</i>	Almond, Apricot, Nectarine, Peach, Plum and Prune*
<i>Pseudotsuga menziesii</i>	Douglas Fir**
<i>Pyracantha coccinea</i>	Firethorn Scarlet
<i>Pyracantha fortuneana</i>	Firethorn
<i>Pyracantha koidzumii</i>	Firethorn
<i>Pyrus spp.</i>	Bradford Pear spp.
<i>Quercus rubra</i>	Oak Species
<i>Raphiolepis indica</i>	Indian Hawthorne
<i>Rhododendron</i> (including <i>Azalea</i>)	'Coral Bells' 'Formosa' Hino-crimson' 'PJM', 'Roseum Elegans'
<i>Rosa banksiae</i>	Lady Bank's Rose
<i>Rosmarinus officinalis</i>	Rosemary*
<i>Rumohra adiantiformis</i>	Leatherleaf Fern
<i>Santolina virens</i>	
<i>Sedum album</i>	Stonecrop
<i>Syzygium paniculatum</i>	Japanese Boxcherry
<i>Taxus cuspidate</i>	Japanese Yew
<i>Taxus media</i>	Yew
<i>Thuja occidentalis</i>	American Arborvitae
<i>Trachelospermum asiaticum</i>	Star Jasmine
<i>Tsuga canadensis</i>	Canada Hemlock
<i>Tulipa spp.</i>	Tulip Species
<i>Viburnum japonicum</i>	Japanese Viburnum
<i>Viburnum odoratissimum</i>	Sweet Viburnum
<i>Viburnum plicatum</i>	Japanese Snowball
<i>Viburnum rigidum</i>	Canary Island Viburnum
<i>Viburnum tinus</i>	Laurustinus
<i>Viburnum trilobium</i>	Cranberry Bush
<i>Viburnum wrightii</i>	Leatherleaf Viburnum
<i>Vinca major</i>	Vinca
<i>Vinca minor</i>	Dwarf Periwinkle
<i>Vitis spp.</i>	Grape*
<i>Weigela florida</i>	Old Fashioned Weigela
<i>Yucca aloifolia</i>	Spanish Bayonet
<i>Yucca filamentosa</i>	Yucca, Adam's Needle

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

**Not for use on container grown plants.

Table 2. Tolerant Ornamental Species/Varieties - All States Except CA

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

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

**Not for use on container grown plants.

NEW PLANTING, REPLANTING, AND ROTATIONAL PLANTING

Nursery, landscape, or non-cropped land areas treated with KnightHawk 4F 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 to 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, but do not apply more than 48 oz/A per year.

STORAGE AND DISPOSAL

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

Pesticide Storage

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 clean up and disposal of wastes.

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

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of container in a sanitary landfill, or incinerate, or burn if allowed by state and local authorities. Stay out of smoke from burning container.

Chemigation

Do not apply KnightHawk 4F through any type of irrigation system unless instructed otherwise in this label.

CONDITIONS OF SALE AND WARRANTY

The DIRECTIONS FOR USE of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with 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 Phoenix Environmental Care, LLC, its Supplemental Distributors, or the Seller. All such risks shall be assumed by the Buyer.

Phoenix Environmental Care, LLC, its Supplemental Distributors, and the Seller warrant that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NEITHER PHOENIX ENVIRONMENTAL CARE, LLC NOR ITS SUPPLEMENTAL DISTRIBUTOR MAKE ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL

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