

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON D C 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

Ms Rebecca A Clemmer United Phosphorus Inc 630 Freedom Business Center Suite 402 King of Prussia PA 19406

JUL 3 1 2012

Subject Notification per PR Notice 98 10

Pendi Hydrocap Herbicide EPA Reg No 70506 230 Application dated July 2 2012

Dear Ms Clemmer

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98 10 of the subject product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98 10 and finds that the action requested falls within the scope of PRN 98 10. The label submitted with the application has been date stamped. Notification, and will be placed in our records.

The alternate brand name Phoenix Hammerkop HydroCap Herbicide has been added to your file

If you have any questions please contact Hope Johnson at 703 305 5410

Sincerely

Kable Bo Davis Product Manager 25 Herbicide Branch

Registration Division (7505P)

Please read instructions on reverse before completing form Form Approved, OMB No. 2070-0060, Approval expires 5-31-98 **OPP Identifier Number** Registration **United States Amendment Environmental Protection Agency** X Other Washington, DC 20460 Application for Pesticide - Section I 1. Company/Product Number 2. EPA Product Manager 3. Proposed Classification Bo Kable Davis 70506-230 PM# 4. Company/Product (Name) Restricted None United Phosphorus, Inc/UP-End HydroCap herbicide 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) 5. Name and Address of Applicant (Include ZIP Code) United Phosphorus, Inc. (b)(i), my product is similar or identical in composition and labeling 630 Freedom Business Center, Suite 402 to: King of Prussia, PA 19406 EPA Reg No. Check if this is a new address **Product Name** Section - II Amendment - Explain below Final printed labels in response to Agency letter dated Resubmission in response to Agency letter dated "Me Too" Application Notification - Explain below Other - Explain below Explanation: Use additional page(s) if necessary. (For Section I and Section II.) Notification of Alternate Brand Name: Phoenix Hammerkop HydroCap herbicide 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. Section III 1. Material This Product Will be Packaged in: Child-Resistant Packaging Unit Packaging Water Soluble Packaging Type of Container Metal Yes Yes Yes Plastic No No No Glass If "Yes" If "Yes" \*Certification must No. per No. per Paper container Package wgt Unit Packaging wgt. container Other (Specify) be submitted 4. Size(s) Retail Container 3. Location of Net Contents Information 5. Location of label directions On Label Label Container On Label accompanying product 6. Manner in Which Label is Affixed to Product Lithograph Other Paper glued Stenciled Section IV 1. Contact Person (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.) Title Name Telephone No. (Include Area Code) Rebecca A. Clemmer Regulatory Manager 610-491-2828 6. Date Application Certification Received 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 (Stamped) 3. Title 2. Signature Regulatory Manager lemmer 4. Typed Name 5. Date

July 2, 2012

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

Rebecca A. Clemmer

White - EPA File Copy (Original) Yellow - Applicant Copy



# United Phosphorus, Inc

630 Freedom Business Center Suite 402 King of Prussia PA 19406 (610) 491 2828 (phone) (610) 491 2810 (fax) Rebecca A Clemmer Regulatory Manager

July 2 2012

Document Processing Desk (NOTIF)
Office of Pesticide Programs (H7504P)
U S Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave N W
Washington D C 20460

Re Pendi Hydrocap Herbicide (EPA Reg No 70506 230) Notification of Alternate Brand Name

Dear Mr Davis

United Phosphorus Inc is notifying the Agency of the use of an alternate brand name for the product Pendi Hydrocap Herbicide The alternate name is <u>Phoenix Hammerkop HydroCap herbicide</u>

In support of this action enclosed please find a marked copy of the label clean copy of the label and EPA form 8570 1

Please contact me if you have any questions

Very truly yours

Rebecca A Clemmer

rebecca clemmer@uniphos com

GROUP	3	HERBICIDE	
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# Phoenix Hammerkop<sup>TM</sup> HydroCap<sup>TM</sup>

# Herbicide

For Preemergent Weed Control in Turfgrasses, Landscape or Grounds Maintenance, Noncropland Areas and Ornamental Production

**ACTIVE INGREDIENT** 

pendimethalin N (1 ethylpropyl) 3 4 dimethyl 2 6 dinitrobenzenamine OTHER INGREDIENTS

38 7% 61 3%

TOTAL

100 0%

(1 gallon contains 3 8 lbs of microencapsulated pendimethalin in an aqueous carrier)

# KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCION

Si usted no entiende la etiqueta busque a alguien para que se la explique a usted en detalle (If you do not understand the label find someone to explain it to you in detail)

	FIRST AID
If in eyes	Hold eye open and rinse slowly and gently with water for 15 20 minutes Remove contact lenses if present after first 5 minutes then continue rinsing eye Call a poison control center or doctor for treatment advice
	container or label with you when calling a poison control center or doctor or going for treatment call the Rocky Mountain Poison Control Center at 1 866 673 6671

FOR CHEMICAL EMERGENCY Spill leak fire exposure or accident call CHEMTREC 1 800 424 9300



United Phosphorus Inc 630 Freedom Business Center Suite 402 King of Prussia PA 19406 1 800 247 1557

EPA Reg No 70506 230 EPA Est No

**Net Contents** 

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS

#### **CAUTION**

Causes moderate eye irritation Harmful if absorbed through skin Avoid contact with skin eyes or clothing

#### Personal Protective Equipment (PPE)

Some materials that are chemically resistant to these products are listed below. For more options refer to Category A on an EPA chemical resistance category selection chart

Applicators and other handlers must wear

- · Long sleeved shirt and long pants
- Chemical resistant gloves made of any waterproof material such as nitrile butyl neoprene and/or barrier laminate
- Shoes plus socks

Follow manufacturer s instruction for cleaning and maintaining PPE If no such instructions for washables exist use detergent and hot water. Keep and wash PPE separately from other laundry

#### **ENGINEERING CONTROLS**

When handlers use closed systems enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170 240)(d)(4 6) the handler PPE requirements may be reduced or modified as specified in the WPS

#### USER SAFETY RECOMMENDATIONS

Users should

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

#### **ENVIRONMENTAL HAZARDS**

This product is 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 aquatic sites. Do not contaminate water when disposing of equipment washwaters or rinsate.

#### **DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at time of herbicide application

Do not apply this product through any type of irrigation system

UPI does not authorize the use of this product in manufacturing processing or preparing custom blends with other products for application to turf or ornamentals

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 requirements specific to your state or tribe consult the state or tribal agency responsible for pesticide regulation

Do not apply **UP-ENDHAMMERKOP** HYDROCAP in greenhouses shadehouses or other enclosed strictures

Not for use for commercial seed production

# 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 24 hours

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

- Coveralls
- Chemical resistant gloves made of any waterproof material such as nitrile butyl neoprene and/or barrier laminate
- Shoes plus socks

### NON AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms forests nurseries or greenhouses.

Do not enter treated areas without protective clothing until sprays have dried

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL OR CROP INJURY

## MODE OF ACTION

UP-EndHammerkop HydroCap is a meristematic inhibitor that interferes with the plant cellular division or mitosis and cell elongation in the growing points of shoots and roots of susceptible weeds. When susceptible weeds germinate in the treated area, they contact the herbicide and both shoot and root growth stops. Translocation of the herbicide within the plant is limited. Affected weeds die shortly after growth is stopped usually before emergence from the soil.

### PRODUCT INFORMATION

APPLICATION USE SITES – for preemergence control of grasses and certain broadleaf weed species as they germinate

Turfgrass sites (golf course lawns sod farms and other turf areas) and landscape ornamental mattiffrance areas such sites include but are not limited to grounds or lawns around residential and commercial establishments multifamily dwellings military and other institutions parks airports roadsides schools picnic grounds athletic fields houses of worship cemeteries golf courses prairie grass areas and sod farms

Grounds maintenance in areas such as parking lots driveways and roadsides alleyways bike and jogging gaths vacant lots buildings stone gardens and gravel yards markers and fence lines and mulch beds. It may be used under asphalt or concrete treatments as part of a site preparation program

Noncropland areas such as railroad utility highway and pipeline rights of way highway guardrails delineators and sign posts bridge abutments and approaches utility substations petroleum tank farms pumping installations storage areas fence rows windbreaks and shelterbelts paved or gravel surfaces and established wildflower plantings where weed control is desired

Bulb plantings non bearing fruit and nut tree nurseries conifer and hardwood seedling nurseries and tree plantations for site preparation and maintenance Applications can be made on but are not limited to plant species listed on this label such as trees shrubs groundcovers perennials bulbs ornamental grasses and bedding plants

In and around field liner and container ornamental production

## APPLICATION INSTRUCTIONS

UP-EndHammerkop HydroCap will not control established weeds. Therefore areas to be treated should be free of established weeds at the time of treatment or use UP-EndHammerkop HydroCap together with herbicides registered for postemergence use in managed turf sites landscape ornamentals and in other noncropland areas. Consult the labels of those herbicides for suggested treatments rates to be used and precautions or restrictions for use in these areas. The efficacy of UP-EndHammerkop HydroCap will be best if the application is followed by one half inch of rainfall or its equivalent in sprinkler irrigation. If UP-EndHammerkop HydroCap is not activated by rainfall or irrigation within 30 days weed control may be erratic.

When applied according to label directions and under normal growing conditions <u>UP-EndHammerkop</u> HydroCap or <u>UP-EndHammerkop</u> HydroCap tank mix combinations will not cause crop injury. Over application can cause crop stand loss crop injury or soil residues. Uneven application can decrease weed control or cause crop injury.

Seedling diseases cold weather excessive moisture high soil pH high soil salt concentration or drought can weaken seedlings and plants and increase the possibility of plant damage from UP-EndHammerkop HydroCap

#### **MIXING INSTRUCTIONS**

<u>UP-EndHammerkop</u> HydroCap may be applied in a tank mix or a sequential application with other herbicides registered for use in a given crop Refer to the companion label for weeds controlled in addition to <u>UP-EndHammerkop</u> HydroCap alone

When using tank mixtures or sequential applications with <a href="UP-EndHammerkop">UP-EndHammerkop</a> HydroCap always read the companion product label(s) to determine the specific use rates by soil types weed species and weed or crop growth stage. In addition follow all precautions and restrictions including state and local use restrictions that may apply to specific products. Always follow the most restrictive label.

#### **Mixing Instructions**

1 Fill tank 1/2 to 3/4 full with clean water or liquid fertilizer and agitate Before mixing <u>UP EndHammerkop</u> HydroCap or <u>UP-EndHammerkop</u>—HydroCap tank mixtures in liquid fertilizer refer to appropriate label sections for recommended uses in liquid fertilizer application instructions and compatibility determinations

#### 2 UP-EndHammerkop HydroCap

When using UP-EndHammerkop HydroCap alone add UP-EndHammerkop HydroCap to the partially filled tank while agitating and then fill the remainder of the tank with water or liquid fertilizer

#### 3 UP-EndHammerkop HydroCap Tank Mixes

Add the tank mixture ingredients in the order listed below before adding UP-EndHammerkop HydroCap

- (a) Wettable Powder (WP) formulations make a slurry of the WP in water (1 2 ratio) Add the slurry slowly into the partially filled tank while agitating
- (b) Dry Flowable (DF)/Water Dispersible Granule (WDG) formulations add the granules to the partial'y filled tank while agitating Make a slurry of the granules in water before adding to liquid fertilizer
- (c) Flowable (F) formulations add the F formulation to the partially filled tank while agitating
- (d) Add UP-EndHammerkop HydroCap to the partially filled tank while agitating
- (e) Water Soluble Concentrate (WSC) formulations add the WSC formulation to the partially filled tank while agitating
- (f) Emulsifiable Concentrate (EC) formulations add the EC formulation to the partially filled tank while agitating

Fill the remainder of the tank with water or liquid fertilizer while agitating

4 Maintain continuous agitation while adding herbicides and until spraying is completed. If the spray mixture is allowed to settle for any period of time agitate thoroughly to resuspend the mixture before spraying is resumed.

#### 5 BACKPACK SPRAYER

Begin with a clean spray tank Fill the spray tank one half full with clean water and add the required amount of UP EndHammerkop HydroCap Cap sprayer and agitate to ensure mixing Uncap sprayer and finish filling tank to desired level Cap sprayer and agitate again During application it is desirable to agitate the mixture on occasion to ensure mixing. If the spray mixture is allowed to settle for any period of time agitate thoroughly before spraying is resumed.

#### 6 LIQUID FERTILIZERS

Before mixing always test small quantities using a simple jar test. Add the required amount of UP-EndHammerkop HydroCap to a half filled spray tank while agitating then add the fertilizer product Complete filling spray tank to desired level

#### SPRAYING INSTRUCTIONS

#### GROUND APPLICATIONS

Apply with properly calibrated ground equipment in sufficient water per acre to uniformly treat the area using a spray pressure of 25 to 50 psi. Suggested spray volumes are 20 200 gpa for professional turfgrass landscape and ornamental applications and 10 200 gpa for all other noncrop applications such as roadsides utility rights of way or soft residual bareground applications. Maintain continuous agitation during spraying with good mechanical or bypass agitation. Avoid overlaps that will increase rates above those listed. Do not apply when winds may cause drift

Avoid contact of spray solution with driveways stone wood or other porous surfaces. If contact occurs rinse immediately with water to avoid staining. Do not mechanically scrub until the surface area is thoroughly rinsed. Allow treated turfgrass to dry before entering to avoid staining onto non-treated surfaces.

#### **AERIAL APPLICATIONS**

Apply uniformly in 5 or more gallons of water per acre. Take care to minimize drift. Do not apply during periods of gusty winds or when wind conditions favor drifting. Spray drift can cause injury to sensitive crops. To avoid overlapping and possible crop injury use a flagman or an automatic mechanical flagging unit on the aircraft.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off target drift movement from aerial applications to agricultural field crops.

- 1 The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor
- 2 Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees

Observe more stringent state regulations. The applicator must be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information presented below.

#### INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see WIND TEMPERATURE AND HUMIDITY and TEMPERATURE INVERSIONS)

#### CONTROLLING DROPLET SIZE

- Volume Use high flow rate nozzles to apply the highest practical spray volume Nozzles with higher rated flows produce larger droplets
- Pressure Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed use higher flow rate nozzles it's ead of increasing pressure.
- Number of Nozzles Use the minimum number of nozzles that provide uniform coverage
- Nozzle Orientation Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice Significant deflection from the horizonal will reduce droplet size and increase drift potential
- Nozzle Type Use a nozzle type that is designed for the intended application. With most nozzle types narrower spray angles produce larger droplets. Consider using lowdrift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

#### **BOOM LENGTH**

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

#### APPLICATION HEIGHT

Do not apply at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind

#### **SWATH ADJUSTMENT**

When applications are made with a crosswind the swath will be displaced downward. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Increase swath adjustment distance with increasing drift potential (higher wind, smaller droplets etc.)

#### WIND

Drift potential is lowest between wind speeds of 2 10 mph. However, many factors including droplet size and equipment type determine drift potential at any given speed. Do not apply when wind is below 2 mph due to variable wind direction and high inversion potential **NOTE**. Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect spray drift

#### TEMPERATURE AND HUMIDITY

When making applications in low relative humidity set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry

#### **TEMPERATURE INVERSIONS**

Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog however if fog is not present inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### SENSITIVE AREAS

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

# Table 1 RESIDENTIAL GOLF COURSE COMMERCIAL AND OTHER NON RESIDENTIAL TURFGRASS USES

**Application Rates For Preemergence Weed Control** 

TDC		EndHammerkop H		C
Turfgrass Species	Weeds	Product per 1 000 sq ft	Product per acre	Comments
COOL SEASON G	RASSES		··	<u> </u>
Bluegrass Kentucky	Barnyardgrass	All	Turf Uses	Make a repeat
Fescue Fine	Crabgrass	1 1 to 1 6 fl oz	3 1 to 4 2 pints	application of 2 2 to 3 1
Fescue Tall Ryegrass Perennial			pints/A (0 86 to 1 1 oz/1000 sq ft ) after 5 8 weeks for extended control or where heavy weed infestations are	
	Oxalis Poa annua Prostrate Spurge Purslane			expected
	Goosegrass		ial and Sod Farm	Make a repeat
		1 1 to 1 6 fl oz	f Uses Only <sup>2</sup> 3 1 to 4 2 pints	application of 3 1 pints/Acre (1 1 oz/1000
		Golf Course Cor	nmercial and Other Non al Turf Uses Only	sq ft) if the lower rate was used initially or for
		1 1 to 2 3 oz	3 1 to 6 3 pints	extended goosegrass
		spring	efore weed germination in	control after 5 8 weeks
	Chickweed		Turf Uses	Apply in late summer o
	Corn Speedwell Cudweed Henbit Lawn Burweed Poa annual	1 1 to 1 6 fl oz	3 1 to 4 2 pints	early fall before weed germination Apply a repeat application of 3 1 to 4 2 pints (1 1 to 1 6 oz/1 000 sq ft ) after 5 weeks for extended <i>Poa annua</i> control
Bentgrass or	Barnyardgrass		I Turf Uses	Make a repeat
established <i>Poa</i> annua <sup>3</sup> (1/2 inch	Crabgrass Evening Primrose	1 1 fl oz	reens and Tees)	application of 2 2 to 3 1
height or taller)	Fall Panicum Foxtail Hop Clover Knotweed Poa annua Oxalis Prostrate Spurge Purslane		defore weed germination in	pints/Acre (0 86 to 1 1 oz/1000 sq ft ) after 5 8 weeks for extended control or where heavy weed infestations are expected
	Goosegrass		l Turf Uses	Apply a repeat
			reens and Tees)	application of 3 1
		1 1 fl oz	3 1 pints	pts/Acre (1 1 oz/1000 so ft) for extended
		Initial application b	efore weed germination in	goosegrass control after 5 8 weeks
	Chickweed	Al	l Turf Uses	Apply in late summer of
	Corn Speedwell Cudweed Henbit Lawn Burweed	(Non G	reens and Tees) 3 1 to 4 2 pints	early fall before weed germination

<del>UP-End</del> <u>Hammerkop</u> HydroCap <sup>1</sup>				
Turfgrass Species	Weeds	fl oz	pints	Comments
		Product per	Product per acre	
		1 000 sq ft		
WARM SEASON G				
Bahiagrass	Barnyardgrass	Resident	tial and Sod Farm	Make a repeat
Bermudagrass	Crabgrass		rf Uses Only	application of 2 2 to 3 1
Buffalograss	Evening Primrose	1 1 to 1 6fl oz	3 1 to 4 2 pints	pints/Acre (0 86 to 1 1
Centipedegrass	Fall Panicum	Golf Course Co	mmercial and Other Non	oz/1000 sq ft ) after 5 8
Fescue Tall	Foxtail	Residenti	al Turf Uses Only	weeks if necessary
Paspalum	Hop Clover	1 1 to 2 3 fl oz	3 1 to 6 3 pints	
seashore	Knotweed	Initial application b	pefore weed germination in	
St Augustinegrass	Poa annua	spring		
Zoysiagrass	Oxalis			
	Prostrate Spurge			
	Purslane			<del>                                     </del>
	Goosegrass		ll Turf Uses	An additional application
			reens and Tees)	of 3 1 pt/Acre (1 1
		1 l fl oz	3 1 pints	oz/1000 sq ft) may be made for extended
		Apply before weed	germination in spring	
			dication at 3.1 pints (1.1	goosegrass control 8 weeks after the second
		oz/1000 sq ft ) 5 8	weeks later	application
	Chickweed		l Turf Uses	Apply in late summer or
	Corn Speedwell	Al	Turi Oses	early fall before weed
	Cudweed	1 1 to 1 6 fl oz	2 1 to 4.2 mints	germination Make a
	Henbit	1 1 10 1 0 11 02	3 1 to 4 2 pints	repeat application of 3 1
	Lawn Burweed			to 4 2 pints (1 1 to 1 6
	Poa annua			oz/1 000 sq ft ) 5 8
				weeks for extended <i>Poa</i>
			Į.	annua control

Do not use more than 4 2 pints (2 1 quarts) <u>per acre per application</u> on residential and sod farm turfgrass Do not use more than 6 3 pints (3 1 quarts) <u>per acre per application</u> on golf course turfgrass commercial or other non residential turfgrass

The efficacy of <u>UP-EndHammerkop</u> HydroCap is best if the application is followed by one half inch of rainfall or its equivalent in sprinkler irrigation. If <u>UP-EndHammerkop</u> HydroCap is not activated by rainfall or irrigation within 30 days weed control may be erratic

To prevent establishment of weeds along the edges of treated area it may be necessary to overlap the spray three to six inches onto sidewalks or driveways etc. to ensure effective application rates in these especially vulnerable sites. Where temporary discoloration of pavement is undesirable. Do not rub or scrub surface, but rinse area immediately using a heavy spray of water to avoid staining. Allow treated turfgrass to dry before entering to avoid staining non treated surfaces.

#### **TURFGRASS TANK MIXES**

<u>UP-EndHammerkop</u> HydroCap can be mixed with postemergence herbicides to control emerged weeds in non residential turfgrasses For annual grass control applications can be made with DRIVE<sup>®</sup> or MSMA to control emerged weeds

Broadleaf weeds can be controlled using Trimec Three Way 2 4 D and other similar products

Before tank mixing perform a simple jar test to insure compatibility of herbicides

Refer to manufacturers labels for specific use directions precautions and limitations before tank mixing with UP-EndHammerkop HydroCap and follow those that are most restrictive

#### TURFGRASS RESTRICTIONS

<sup>&</sup>lt;sup>2</sup> Residential is defined as turf in any residential situation as well as home lawns schools parks and playgrounds

<sup>&</sup>lt;sup>3</sup> Not for use on bentgrass or *Poa annua* greens or tees

- Use on well established turfgrass with a dense and uniform stand. If turf has been thinned or damaged due to winter injury excessive moisture etc. allow turf to recover before application.
- On newly planted areas do not apply until the turfgrass has filled in and has been mowed at least four times Applications made to overseeded warm season turfgrasses may cause thinning or injury of the overseeded species
- Do not use on bentgrass or Poa annua greens and tees or injury may occur
- Delay reseeding or winter overseeding of treated turfgrass for at least three (3) months following the last UP— EndHammerkop HydroCap application
- Delay sprigging turfgrass for five (5) months after application

#### LANDSCAPE AND GROUNDS MAINTENANCE

UP-EndHammerkop HydroCap can be incorporated into landscape and grounds maintenance programs to provide extended preemergence control of most annual grasses and certain broadleaf weeds in areas such as mulch beds parking areas and roadsides fencelines and borders and around statuary or monuments. Ensure that these areas are free of emerged weeds before application. To remove emerged weeds either cultivate or tank mix UP-EndHammerkop HydroCap with a postemergence product labeled for such use

Not all ornamental species or cultivars of species have been tested for plant safety. Refer to the list of ornamental plant species found in this label. While **UP-EndHammerkop HydroCap** may be used on plant species not listed on this label a small number of plants should be tested at the specified rate to evaluate suitability before a broad use application is made

Refer to Table 2 Application Rates for Weed Control in Ornamental Plantings Tree Plantations and Other Noncropland Areas Avoid contact of spray solution with stone wood or other porous surfaces as staining may occur Rinse surfaces immediately using a heavy spray of water to avoid staining

#### ORNAMENTAL PLANTINGS AND TREE PLANTATIONS INCLUDING NONCROPLAND AREAS

Use <u>UP-EndHammerkop</u> HydroCap for grounds maintenance in noncropland areas preemergence control of the weed species listed in and around established tree plantations for site preparation and maintenance and conifer and hardwood seedling nurseries and pulpwood and fiber farms <u>UP-EndHammerkop</u> HydroCap may be used for hardwood and conifer regeneration on conservation reserve program (CRP) land <u>UP-EndHammerkop</u> HydroCap can also be used in Christmas trees and non bearing fruit and nutcrops and vineyards established or bulb and wildflower field plantings and in and around established ornamentals planted in noncropland areas such as highway rights of way and utility substations Refer to Table 2 Application Rates for Weed Control in Ornamentals Plantings Tree Plantations and Other Noncropland Areas

Applications at planting or to established trees When applying at planting it is important that slit closure be achieved to prevent <u>UP-EndHammerkop</u> HydroCap from directly contacting the tree roots or being washed into the root zone via the open slit or root stunting may occur Refer to section on <u>Instructions and Restrictions in Landscape and Ornamental Plantings</u> before making an application

For postemergence control of weeds use tank mix combinations of <a href="UP-EndHammerkop">UP-EndHammerkop</a> HydroCap plus VANTAGE® Roundup® Finale® or other labeled herbicides Refer to approved labeling for species recommendations Determine rates for the tank mix compounds from the product labels of both <a href="UP-EndHammerkop">UP-EndHammerkop</a> HydroCap and partner herbicides before use Take care to prevent combination sprays from direct contact with desirable foliage or injury may result <a href="UP-EndHammerkop">UP-EndHammerkop</a> HydroCap plus diuron or simazine combinations will broaden weed control spectrum however use of combinations may restrict <a href="UP-EndHammerkop">UP-EndHammerkop</a> HydroCap usage in sensitive areas Refer to manufacturers labels for specific use directions precautions and limitations before use and follow those that are most restrictive

#### ORNAMENTAL BULBS

UP-EndHammerkop HydroCap may be applied for control of susceptible annual weeds in ornamental bulbs listed under the Perennial Section on the label (crocus daffodil [narcissus] gladiolus lilies tulip etc.) Apply UP-EndHammerkop HydroCap before during or after bulb emergence. If weeds have already germinated add a labeled postemergence herbicide to control emerged weeds

#### WILDFLOWERS

**UP-EndHammerkop HydroCap** may be applied for control of susceptible annual weeds in plantings of wildflowers listed in the Perennial section on the label Those perennial species noted (\*Black eyed Susan California Poppy Coreopsis Oxeye Daisy etc.) have been evaluated for plant tolerance to applications of **UP-EndHammerkop HydroCap** at 4.2 pints (2.1 quarts) per acre **UP-EndHammerkop HydroCap** may be applied to

established perennial wildflowers before emergence of weeds or wildflowers. For wildflowers being established from seed apply **UP-EndHammerkop HydroCap** no sooner than 4 weeks after wildflowers have emerged but before weed germination. If weeds have already germinated add a labeled postemergence product to control emerged weeds. Refer to all label restrictions before making an application.

Due to the diversity of species and varieties which exist in areas where wildflowers are grown the response to UP-EndHammerkop HydroCap may vary greatly Test desirable species carefully to determine if area wide applications can be made

#### NON BEARING FRUIT AND NUTCROPS AND VINEYARDS

**UP-EndHammerkop HydroCap** may be applied for preemergence control of most annual grasses and certain broadleaf weeds on the following non bearing crops

Almond Citrus Olive Pistachio Apple Fig Peach Plum Apricot Grape Pear Prune

Cherry Nectarine Pecan Walnut English

#### NON CROPLAND WEED CONTROL

Use <u>UP-EndHammerkop</u> HydroCap for preemergence control of most annual grasses and certain broadleaf weeds as they germinate on noncropland areas such as railroad utility highway and pipeline rights of way highway guardrails delineators and sign posts utility substations petroleum tank farms pumping installations fence rows storage areas windbreaks and shelterbelts

#### INDUSTRIAL (UNIMPROVED) TURF

<u>UP-EndHammerkop</u> HydroCap will provide preemergence control of the annual grasses and broadleaf weeds listed in Weed Species Controlled section of this label that might germinate in established grasses in rights of way roadsides construction sites parks substations or lots

Apply before weeds germinate A postemergence herbicide such as 24 D DRIVE® VANTAGE® MSMA or similar products may be tank mixed to control established weeds. Apply according to label instructions for the respective products and follow the most restrictive wording

#### TOTAL VEGETATION CONTROL

UP-EndHammerkop HydroCap may be tank mixed with ARSENAL® SAHARA® PLATEAU® VANTAGE® Roundup® PRO Karmex® Finale® Oust® diuron glyphosate or other products to provide bare ground or total vegetation control UP-EndHammerkop HydroCap can be used to provide greater plant selectivity in areas where such action may be desired. Such sites might have roots of landscape vegetation ornamentals or desirable trees encroaching into the treated zone. Refer to tank mix partner labels regarding effects on desirable plants. Do not tank mix with ARSENAL SAHARA or PLATEAU herbicides in California.

Applications may be made to existing weeds controlled by the partner herbicide. Determine rates from the product labels before use. Follow the most restrictive label instructions.

For Kochia control use a combination of <u>UP-EndHammerkop</u> HydroCap with ARSENAL herbicide or diuron if control has been a problem for other herbicides

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# TABLE 2 APPLICATION RATES FOR WEED CONTROL IN LANDSCAPE ORNAMENTALS TREE PLANTATIONS AND OTHER NONCROP AREAS\*

For preemergence control of the weed species listed apply UP-EndHammerkop HydroCap as follows

Length of Control	Product per Acre	Product per 1000 sq ft
Short Term Control (2 4 months)	2 1 Quarts	1 6 fl oz
Long Term Control (6 8 months)	4 2 Quarts	3 2 fl oz

<sup>\*</sup>For all turfgrass weed control rates refer to Table 1 instructions

For extended weed control repeat applications of UP-EndHammerkop HydroCap can be made

### INSTRUCTIONS AND RESTRICTIONS

# LANDSCAPE AND ORNAMENTAL PLANTINGS<sup>1</sup>

Site	Application Instructions and Restrictions
Landscape Plantings <sup>2</sup>	Do not apply to newly transplanted ornamentals until plants have been watered and soil has been thoroughly packed and settled around roots
	2 Apply as a directed or over the top spray
	3 Use the lowest labeled rate when making applications to annuals Repeat applications can be made for extended landscape weed control
Ornamental Bulbs <sup>3</sup>	1 UP-EndHammerkop HydroCap may be applied to bulb species listed on the label
	2 Apply before during or after bulb emergence but not during bloom
Wildflowers <sup>3</sup>	UP-EndHammerkop HydroCap may be applied in plantings of wildflowers listed on the label Refer to specific instructions for rate and plant tolerance
	2 For wildflowers being established from seed apply at 4 weeks after wildflowers have germinated but before weed seed germination

Plant only those desirable plant species listed on this label into soil treated the previous season with UP-EndHammerkop HydroCap or injury may occur

#### HAND HELD SPRAY EQUIPMENT

Use table 2 above to determine the amount of <u>UP-EndHammerkop</u> HydroCap to be applied per 1000 square feet in sufficient water for thorough coverage without runoff Calibration of backpack or other hand held equipment will vary with each operator Determine the amount of water needed to treat 1000 square feet before mixing the spray solution Follow information in MIXING INSTRUCTIONS section of this label

UP-EndHammerkop HydroCap will not control established weeds If weeds germinate before activation of herbicide shallow cultivate to destroy existing weeds or where practical remove by hand Any necessary cultivation must be shallow UP-EndHammerkop HydroCap may be used together with herbicides registered for postemergence use (i e glyphosate or Finale) for the control of established weeds. Do not apply sprays containing glyphosate or Finale over the top of desirable plants. A UP-EndHammerkop HydroCap treatment may be followed by any registered herbicide to control weeds not listed on the UP-EndHammerkop HydroCap label.

The efficacy of <u>UP-EndHammerkop</u> HydroCap will be best if the application is followed by one half inch of rainfall or its equivalent in sprinkler irrigation. Erratic weed control may result if <u>UP-EndHammerkop</u> HydroCap is not activated by rainfall or irrigation within 30 days

The following grass and broadleaf weeds are controlled by preemergence treatments of **UP-EndHammerkop HydroCap** at the above specified rates

GRASSES CONTROLLED  Common Name Scientific Name		Bluegrass Annual	Poa annua Digitaria spp
		Crabgrass	
Barnyardgrass Echinochloa crus	Crowfootgrass	Dactyloctenium aegyptium	
gallı		Foxtail Giant	Setarıa faberi

<sup>&</sup>lt;sup>2</sup> Do not treat plants grown for food or feed Do not use treated plants for food or feed

<sup>&</sup>lt;sup>3</sup> Before treating a large number of plants spray a few plants and observe for 1 2 months for plant damage before full scale application

Foxtail Green	Setaria viridis	Chickweed Mouseear	Cerastium vulgatum
Foxtail Yellow	Setaria glauca	Clover Hop	Trifolium procumbens
Goosegrass	Eleusine indica	Cudweed	Gnaphalium spp
Itchgrass	Rottboellıa exaltata	Evening primrose	Oenothera biennis
Johnsongrass (from seed)	Sorghum halepense	Fiddleneck	Amsınckıa ıntermedia
Junglerice	Echinochloa colona	Fılaree	Erodium spp
Lovegrass (from seed)	Eragrostis spp	Henbit	Lamium amplexicaule
Panicum Browntop	Panicum fasciculatum	Knotweed prostrate	Polygonum aviculare
Panicum Fall	Panicum	Kochia	Kochia scoparia
	dichotomiflorum	Lambsquarters	Chenopodium album
Panicum Texas	Panıcum texanum	Pigweed	Amaranthus spp
Sandbur Field	Cenchrus incertus	Puncturevine	Tribulus terrestris
Signalgrass	Brachiaria	Purslane	Portulaca oleracea
	platyphylla	Pusley Florida	Rıchardıa scabra
Sprangletop Mexican	Leptochloa uninervia	Rocket London	Sisymbrium irio
Sprangletop Red	Leptochloa filiformis	Shepherdspurse	Capsella bursa
Witchgrass	Panıcum capıllare	•	pastoris
Woolly Cupgrass	Eriochloa villosa	Smartweed Pennsylvania	Polygonum
BROADLEAF WEEDS CO	NTROLLED		pensylvanıcum
		Speedwell Corn	Veronica arvensis
Common Name	Scientific Name	Spurge Annual	Euphorbia spp
Burweed Lawn	Soliva pterosperma	Spurge Prostrate	Euphorbia humistrata
Carpetweed	Mollugo verticillata	Woodsorrel Yellow	Oxalis stricta
Chickweed Common	Stellarıa media	Velvetleaf (Buttonweed)	Abutılon theophrastı

#### COMMERCIAL ORNAMENTAL PRODUCTION

#### **GENERAL INFORMATION**

Application Use Sites UP-EndHammerkop HydroCap can be used in and around field liner and container ornamental production

UP-EndHammerkop HydroCap sprays may be used around and over the top of the established plants listed in Table 4 of this label However not all varieties or strains of the plant species listed have been tested Refer to ornamental instructions and restrictions in this label before any application of UP-EndHammerkop HydroCap Unintentional consequences such as crop injury may result because of certain environmental or growing conditions manner of use or application Therefore before treating a large number of plants spray a few plants and observe for plant damage before full scale application

#### APPLICATION INSTRUCTIONS

**UP-EndHammerkop HydroCap** will not control established weeds Therefore ensure that areas to be treated are free of established weeds at the time of treatment or **UP-EndHammerkop HydroCap** may be used together with herbicides registered for postemergence use in ornamentals and vegetation control sites. Consult the labels of those herbicides for suggested treatments rates to be used and precautions or restrictions for use in these areas

The efficacy of UP-EndHammerkop HydroCap will be best if the application is followed by one half inch of rainfall or its equivalent in sprinkler irrigation. If UP-EndHammerkop HydroCap is not activated by rainfall or irrigation within 30 days erratic weed control may result

Applied according to label directions and under normal growing conditions UP-EndHammerkop HydroCap or UP-EndHammerkop HydroCap tank mix combinations will not cause crop injury. Over application can result in crop stand loss crop injury or soil residues. Uneven application can decrease weed control or cause crop injury. Seedling diseases cold weather excessive moisture high soil pH high soil salt concentration or drought can

weaken seedlings and plants and increase the possibility of plant damage from UP-EndHammerkop HydroCap

# SPRAYING INSTRUCTIONS

Apply uniformly with properly calibrated ground equipment in suggested spray volumes of 20 200 gpa for ornamental applications to uniformly treat the area with a spray pressure of 25 to 50 psi. Maintain continuous

agitation during spraying with good mechanical or bypass agitation. Avoid overlaps that will increase rates above those specified. Avoid application when winds may cause drift

Avoid contact of spray solution with driveways stone wood or other porous surfaces Rinse immediately with water to avoid staining. Avoid mechanically scrubbing until surface area is thoroughly rinsed using a heavy spray of water.

#### INSTRUCTIONS AND RESTRICTIONS1 IN PRODUCTION ORNAMENTALS

Do not apply in greenhouses shadehouses or other enclosed structures

Site	Application Instructions and Restrictions
Newly Transplanted Field Grown	1 Do not make over the top applications at time of field transplanting. Use shielded sprayer until plantings have been established for one (1) year or more in the field
Nursery Stock <sup>2 3</sup>	2 Do not apply until transplants have been watered and soil has been thoroughly packed and settled around transplants Take care to ensure there are no cracks in the soil where UP-EndHammerkop HydroCap could come into contact with the roots
'	3 DO NOT apply during bud swell bud break or at time of first flush of new growth
	4 Direct sprays away from graphed or budded tissue on transplants at all times
Newly Transplanted Container Grown Nursery Stock <sup>2 3</sup>	1 Do not apply until transplants have been watered and soil has been thoroughly packed and settled around transplants. Care must be taken to ensure there are no cracks in the soil where UP—EndHammerkop HydroCap could come into contact with the roots
	2 For container grown ornamentals delay first application of the product to bareroot liners for two (2) weeks after transplanting
	3 Do not apply during bud swell bud break or at time of first flush of new growth
	4 Direct sprays away from graphed or budded tissue on transplants at all times
Established	1 Do not apply during bud swell bud break or at time of first flush of new growth
Container or Field	2 Apply as a directed or over the top spray
Grown Nursery Stock <sup>2 3</sup>	3 If newly budded or graphed rootstock make an application using a shielded sprayer
	4 Take care to ensure there are no cracks in the soil where <b>UP-EndHammerkop</b> HydroCap could come into contact with the roots
Bare Ground for Container Placement	Apply to soil then water in (including mulch gravel wood chips or other permeable base) replace containerized ornamentals onto pad

Plant only those desirable plant species listed on this label into soil treated the previous season with UP-EndHammerkop HydroCap or injury may occur

Refer to Table 3 Application Rates for Weed Control in Production Ornamentals

#### ORNAMENTAL TANK MIXES

Emerged weeds in ornamentals can be controlled using tank mixes containing VANTAGE® Roundup® Finale® Ornamec® Gallery® Princep® and other similar products. Do not apply sprays containing Roundup or Finale over the top of ornamental plants

Before tank mixing perform a simple jar test to insure compatibility of herbicides

Refer to manufacturers labels for specific use directions precautions and limitations before tank mixing with UP-EndHammerkop HydroCap and follow those that are most restrictive

#### **CHRISTMAS TREE PLANTATIONS**

<u>UP-EndHammerkop</u> HydroCap may be used in and around Christmas tree plantations <u>UP-EndHammerkop</u> HydroCap may be applied at planting or to established trees. When making an application at planting it is important that slit closure be achieved to prevent <u>UP-EndHammerkop</u> HydroCap from directly contacting the tree roots or being washed into the root zone via the open slit or root stunting may occur

For postemergence control of weeds use tank mix combinations of <u>UP-EndHammerkop</u> HydroCap plus VANTAGE Roundup Finale or other labeled herbicides Refer to approved labeling for species information Determine rates for the tank mix compounds from the product labels of both <u>UP-EndHammerkop</u> HydroCap and partner herbicides before use Precaution must be exercised to prevent combination sprays from direct contact with

<sup>&</sup>lt;sup>2</sup> Before treating a large number of plants spray a few plants and observe for 1 2 months for plant damage before full scale application

<sup>&</sup>lt;sup>3</sup> Do not treat plants grown for food or feed Do not use treated plants for food or feed

desirable foliage or injury may result <u>UP-EndHammerkop</u> HydroCap plus diuron or simazine combinations will broaden weed control spectrum however use of combinations may restrict <u>UP-EndHammerkop</u> HydroCap usage in sensitive areas Refer to manufacturers labels for specific use directions precautions and limitations before use and follow those that Refer to Table 3 Application Rates for Weed Control in Production Ornamentals

#### **VEGETATION CONTROL IN ORNAMENTAL PRODUCTION**

UP-EndHammerkop HydroCap may be used for preemergence control of most annual grasses and certain broadleaf weeds as they germinate on noncropland areas such as sign posts pumping installations fence rows storage areas and windbreaks and shelterbelts UP-EndHammerkop HydroCap may be tank mixed with VANTAGE Roundup PRO Karmex<sup>®3</sup> Finale<sup>®4</sup> diuron glyphosate or other products to provide bare ground or total vegetation control or can be used to provide greater plant selectivity in areas where such action may be desired Such sites might have roots of landscape vegetation ornamentals or desirable trees encroaching into the treated zone Refer to tank mix partner labels regarding effects on desirable plants Applications may be made to existing weeds controlled by the partner herbicide Determine rates from the product labels before use Follow the most restrictive label instructions Refer to Table 3 Application Rates For Weed Control In Production Ornamentals

Table 3 APPLICATION RATES FOR WEED CONTROL IN PRODUCTION ORNAMENTALS\*

For preemergence control of the weed species listed apply UP-EndHammerkop HydroCap at the following rates

Length of Control	Product per Acre	Product per 1000 sq ft
Short Term Control (2 4 months)	2 1 Quarts	1 6 fl oz
Long Term Control (6 8 months)	4 2 Quarts	3 2 fl oz

<sup>\*</sup>For extended weed control repeat applications of UP-EndHammerkop HydroCap can be made

#### HAND HELD SPRAY EQUIPMENT

Use the table above to determine the amount of **UP-EndHammerkop HydroCap** to be applied per 1000 square feet. The amount of water used for the application is not critical but should be sufficient for thorough coverage without runoff Calibration of backpack or other hand held equipment will vary with each operator. Determine the amount of water needed to treat 1000 square feet before mixing the spray solution. Follow information in **MIXING INSTRUCTIONS** section of this label.

UP-EndHammerkop HydroCap will not control established weeds If weeds germinate before activation of herbicide shallow cultivate to destroy existing weeds or where practical remove by hand Any cultivation must be shallow UP-EndHammerkop HydroCap may be used together with herbicides registered for postemergence use (i.e. Roundup or Finale) for the control of established weeds. Do not apply sprays containing Roundup or Finale over the top of desirable plants. A UP-EndHammerkop HydroCap treatment may be followed by any registered herbicide to control weeds not listed on the UP-EndHammerkop HydroCap label.

The efficacy of <u>UP-EndHammerkop</u> HydroCap will be improved if the application is followed by one half inch of rainfall or its equivalent in sprinkler irrigation. Erratic weed control may result if <u>UP-EndHammerkop</u> HydroCap is not activated by rainfall or irrigation within 30 days

The following grass and broadleaf weeds are controlled by preemergence treatments of <u>UP-EndHammerkop</u> **HydroCap** at the above specified rates

#### GRASSES CONTROLLED

		Itahawaaa	
Common Name	Scientific Name	Itchgrass Johnsongr	
Barnyardgrass	Echinochloa crus galli	Junglerice Lovegrass	
Bluegrass Annual Crabgrass	Poa annua Digitaria spp	Panicum 1	
Crowfootgrass	Dactyloctenium aegyptium	Panicum	
Foxtail Giant Foxtail Green	Setarıa faberı Setarıa vırıdıs	Sandbur F	

Foxtail Yellow	Setarıa glauca
Goosegrass	Eleusine indica
Itchgrass	Rottboellıa exaltata
Johnsongrass (from seed)	Sorghum halepense
Junglerice	Echinochloa colona
Lovegrass (from seed)	Eragrostis spp
Panicum Browntop	Panıcum fascıculatum
Panicum Fall	Panicum dichotomiflorum
Panicum Texas	Panıcum texanum
Sandbur Field	Cenchrus incertus



Signalgrass	Brachıarıa platyphylla
Sprangletop Mexican	Leptochloa uninervia
Sprangletop Red	Leptochloa filıformıs
Witchgrass	Panıcum capıllare
Woolly Cupgrass	Eriochloa villosa

#### BROADLEAF WEEDS CONTROLLED

BROADLEAF WEEDS CONTROLLED			
Common Name	Scientific Name		
Burweed Lawn	Soliva pterosperma		
Carpetweed	Mollugo verticillata		
Chickweed Common	Stellarıa media		
Chickweed Mouseear	Cerastium vulgatum		
Clover Hop	Trıfolıum procumbens		
Cudweed	Gnaphalium spp		
Eveningprimrose	Oenothera biennis		
Fiddleneck	Amsınckıa ıntermedıa		
Filaree	Erodium spp		
Henbit	Lamıum amplexicaule		
Knotweed prostrate	Polygonum aviculare		
Kochia	Kochia scoparia		
Lambsquarters	Chenopodium album		
Pigweed	Amaranthus spp		
Puncturevine	Trībulus terrestrīs		
Purslane	Portulaca oleracea		
Pusley Florida	Rıchardıa scabra		
Rocket London	Sisymbrium irio		
Shepherdspurse	Capsella		
_	bursa pastoris		
Smartweed Pennsylvania	Polygonum pensylvanıcum		
Speedwell Corn	Veronica arvensis		
Spurge Annual	Euphorbia spp		
Spurge Prostrate	Euphorbia humistrata		
Woodsorrel Yellow	Oxalis stricta		
Velvetleaf (Buttonweed)	Abutilon theophrasti		

# **Table 4 ORNAMENTAL SPECIES**

UP-EndHammerkop HydroCap sprays may be used around and over the top of the established plants listed below Refer to Ornamental Instructions and Restrictions before application Refer to Table 3 Application Rates For Weed Control Production Ornamentals

#### TREES

Common Name	Scientific Name	
Alder European Black	Alnus glutinosa	
Apple	Malus spp	
Arborvitae American	Thuja occidentalis	
Arbutus	Arbutus spp	
Ash Red	Fraxinus	
	pennsylvanica	

Ash White	Fraxinus americana
Aspen Bigtooth	Populus
	grandidentata
Aspen Quaking	Populus tremuloides
Basswood	Tılıa spp
Birch European Weeping	Betula pendula
Birch River	Betula nigra

#### TREES (continued)

TREES (continued)	
Common Name	Scientific Name
Buckeye Red	Aesculus pavia
Cedar White	Thuja occidentalis
Chamaecyparis Boulevard	Chamaecyparis
	pısıfera
Cherry Black	Prunus serotina
Cherry Choke	Prunus virginiana
Cherry Kwanzan	Prunus serrulata
Cherry Nanking	Prunus tomentosa
Cottonwood	Populus deltoides
Crabapple	Malus spp
Crepe Myrtle	Lagerstroemia indica
Cryptomeria Japanese Cedar	Cryptomeria japonica
Cypress Bald	Taxodium distichum
Cypress Leyland	Cupressocyparis
	leylandıı
Dogwood Flowering	Cornus florida
Dogwood Korean	Cornus kousa
Dogwood Silky	Cornus amomum
Dogwood Shrub	Cornus spp
Elm	Ulmus japonica
Elm Winged	Ulmus alata
Eucalyptus (Silver dollar) tree	Eucalyptus cinerea
Fır Balsam	Abıes balsamae
Fir Douglas	Pseudotsuga
	menziesii
Fir Fraser	Abies fraseri
Fir White	Abies concolor
Franklınıa	Franklınıa spp
Fringe tree	Chlonenthus retusus
Gınkgo	Gınkgo bıloba
Gum Black	Nyssa sylvatica
Gum Sour	Nyssa sylvatica
Haw Black	Viburnum prunifolium
Hawthorn	Crataegus spp
Hemlock Canada	Tsuga canadensis
Hemlock Eastern	Tsuga canadensis
Holly American	Ilex opaca
Honeylocust	Gleditsia triacanthos
Lilac Common	Syrınga vulgarıs
Lilac Japanese Tree	Syrınga reticulata
Linden	Tılıa spp
	··· -1 1



Magnolia Saucer	Magnolia	Spruce Dwarf Alberta	Picea glauca
	soulangiana	1	albertiana
Magnolia Southern	Magnolia grandiflora	Spruce Norway	Picea abies
Magnolia Star	Magnolia stellata	Spruce White	Pıcea glauca
Maidenhair Tree	Gınkgo bıloba	Sweetgum	Lıquıdambar
Maple Norway	Acer platanoides	_	styracıflua
Maple Japanese	Acer palmatum	Sycamore	Platanus occidentalis
Maple Red	Acer rubrum	Trachycarpus	Trachycarpus spp
Maple Sugar	Acer saccharum	Tulip tree	Lırıodendron tulıpıfera
TREES (continued)		TREES (continued)	turpijera
Common Name	Scientific Name	<u>`</u>	C + M BI
Nannyberry Rusty	Vıburnum rufidulum	Common Name	Scientific Name
Oak Chinquapin	Quercus	Walnut Black	Juglans nigra
	muehlenbergu	Willow Weeping	Salıx babylonıca
Oak Live	Quercus virginiana	Yellowwood	Cladrastis lutea
Oak Pın	Quercus palustris	SHRUBS	
Oak Red	Quercus rubra	Common Name	Scientific Name
Oak Swamp Chestnut	Quercus michauxii	Abelia Glossy	Abelia grandiflora
Oak Water	Quercus nigra	Alder Witch	Fothergilla gardenii
Oak White	Quercus alba	Aucuba Gold	Aucuba japonica
Oak Willow	Quercus phellos	Azalea	Rhododendron sp
Olive	Olea europaea	Bamboo Heavenly	Nandina domestica
Palm Date	Phoenix spp	Barberry	Berberis
Palm Fan	Washingtonia spp	Barberry	gladwynensis
Palm Pındo	Butia spp	Barberry Japanese	Berberis thunbergii
Palm Washington	Washingtonia spp	Blue Indigo Bush	Dalea gregu
Peach	Prunus persica	Bottlebrush Lemon	Callistemon citrinus
Pear Bradford	Pyrus calleryana	Boxwood Common	Buxus sempervirens
	Bradford	Boxwood Japanese	Buxus microphylla
Pecan	Carya ıllınoensıs	Brittlebush	Encelia farinosa
Pine Austrian	Pinus nigra	Buttonbush	Cephalanthus
Pine Italian Stone	Pinus pinea		occidentalis
Pine Loblolly	Pinus taeda	Camellia	Camellia japonica
Pine Monterey	Pınus radıata	Cape Jasmine	Gardenia jasminoides
Pine Red	Pinus resinosa	Cassia Feathery	Cassia artemisioides
Pine Scotch	Pinus sylvestris	Cordyline	Cordyline spp
Pine Virginia	Pınus virginiana	Correa	Correa spp
Pine White	Pinus strobus	Cotoneaster	Cotoneaster
Plum Purple Leaf	Prunus cerasifera		apıculatus
Poplar Black	Populus nigra	Cotoneaster Bayberry	Cotoneaster dammerı
Redcedar Eastern	Juniperus virginiana	Cotoneaster Rock	Cotoneaster
Redcedar Western	Thuja plicata		horizontalis
Red Ironbark	Eucalyptus	Cypress Italian	Cupressus
	sideroxylon Rosea		sempervirens
Redwood Dawn	Metasequoia glyptostroboides	Cypress Leyland	Cupressocyparıs leylandıı
Sequoia Giant	Sequoiadendron giganteum	Deutzia Slender	Deutzia gracilis
Serviceberry	Amelanchier laevis	Dogwood Red Twig	Cornus sericea
Sourwood	Oxydendrum	Elaeagnus	Elaeagnus ebbingei
Dour wood	arboreum	Escallonia	Escallonia fradesii
Spruce Colorado Blue	Picea pungens	Euonymus	Euonymus fortunei

Euonymus Golden	Euonymus japonica
Euonymus Winged	Euonymus alata
Firethorn	Pyracantha coccinea
Forsythia Border	Forsythia intermedia
Fragrant Olive	Osmanthus fragrans
Fuschia California	Zauschineria californica
Gardenia	Gardenia jasminoides
Hawthorne Indian	Raphiolepis indica
Hibiscus	Hibiscus syriacus
Holly Chinese	Ilex cornuta

# SHRUBS (continued)

SHRUBS (continued)	
Common Name	Scientific Name
Holly Japanese	Ilex crenata
Holly Fosters	Ilex attenuata Fosteri
Holly Savannah	Ilex attenuata
Holly Yaupon	Ilex vomitoria
Honeysuckle Bush	Diervilla lonicera
Hopseed Bush	Dodonaea viscosa
Hopbush	Dodonaea viscosa
Hydrangea	Hydrangea macrophylla
Juniper	Juniperus sp
Juniper Chinese	Juniperus chinensis v pfitzer
Juniper Shore	Juniperus conferta
Juniper Trailing	Juniperus horizontalis
Laurel Cherry	Prunus laurocerasus
Laurel Mountain	Kalmıa latıfolıa
Laurel Otto Luyken	Prunus laurocerasus
Laurel Schipka	Prunus schipkanensis
Laurustinus	Viburnum tinus
Lavender English	Lavandula angustifolia
Leucothoe	Leucothoe fontanesiana
Leucothoe Coast	Leucothoe axillaris
Lilac Cut leaf	Syringa laciniata
Lily of the Nile	Agapanthus africanus
,	
Mahonia Mahonia aquifol Mock Orange Pittosporum tobi	
Myrtle Compact	Myrtus communis
Myrtle Wax	Myrica cerifera
Nandina	Nandina domestica
Oleander	Nerium oleander
Oregon Grape	Mahonia aquifolium
Osmanthus	Osmanthus fragrans
Palm European Fan	Chamaerops humilis
Palm Mediterranean Fan	Chamaerops spp
Phlox Prickly	Leptodactylon
I mor I newly	californicum

Photinia Fraser	Photinia x Fraseri
Pieris Japanese	Pieris japonica
Pine Mugo	Pinus mugo
Plum Natal	Carıssa grandıflora
Privet California	Ligustrum ovalifolium
Privet Glossy	Lıgustrum lucıdum
Privet Variegated	Ligustrum sinensis
Privet Waxleaf	Ligustrum japonicum
Pyracantha	Pyracantha coccinea
Quince Flowering	Chaenomeles japonica
Ranger Texas	Leucophyllum frutescens

## SHRUBS (continued)

Common Name	Scientific Name	
Redroot	Ceanothus spp	
Rhododendron	Rhododendron spp	
Robira	Pittosporum tobira	
Rose	Rosa spp	
Spice Plant	Illıcıum parvıflorum	
Spiraea	Spiraea vanhouttei	
Spiraea Anthony Waterer	Spiraea X bumalda	
Spiraea Japanese	Spiraea japonica	
Sweet Bay	Laurus nobilis	
Trumpet Bush	Tecoma stans	
Verbena Lemon	Aloysıa trıphylla	
Vıburnum	Viburnum suspensum	
Vıtex	Vitex spp	
Weigela	Weigela florida	
Wıld Lılac	Ceanothus spp	
Wisteria	<i>Wisteria</i> spp	
Xylosma	Xylosma congestum	
Yellowbells	Tecoma stans	
Yew*	Taxus media	
Yew Japanese*	Taxus cuspidata	
Yew Southern*	Podocarpus	
	macrophyllus	
Yucca Adam s Needle	Yucca filamentosa	
Yucca Weeping	Yucca pendula	

<sup>\*</sup> Do not apply UP-EndHammerkop HydroCap during spring growth or injury to terminals may occur

# **GROUND COVERS**

Common Name	Scientific Name	
Ajuga	Ajuga reptans	
Baby Sun Rose	Aptenia cordifolia	
Beach Strawberry	Fragarıa chiloensis	
Capeweed	Arctotheca calendula	
Cinquefoil Spring Potentilla verna		
Coyotebrush Dwarf	Baccharis pitularis	

Scientific Name

Daisy Trailing African	Osteospermum fruticosum	Bellflower Willow	Campanula persicifolia
Dymondia	Dymondia margaretae	Bird of Paradise	Caesalpınıa pulcherrıma
Gazania	Gazanıa splendens	Black eyed Susan†	Rudbeckıa hırta
Iceplant Large Leaf	Carpobrotus edulis	Blanket Flower†	Gaillardia aristata
Ivy English	Hedera helıx	Blanket Flower†	Gaıllardıa x
Ivy Geranium	Pelargonium peltatum		grandıflora
Jasmine Asiatic	Trachelospermum	Bleeding Heart	Dicentra spectabilis
	asiaticum	Butterfly Weed	Asclepias tuberosa
Jasmine Primrose	Jasmınum mesnyı	California Poppy	Eschscholzia
Jessamine Carolina	Gelsemium		california
	sempervirens	Calla Lıly	Zantedeschia
Manzanıta Bearberry	Arctostaphylos		aethiopica
	uva ursi	Canna Common Garden	Canna generalis
CROUND COVERS (	4		Lucifer

## **GROUND COVERS (continued)**

Common Name	Scientific Name
Miscanthus	Miscanthus spp
Mondograss	Ophiopogon japonica
Morning glory	Convolvulus spp
Myoporum	Myoporum parviflolium
Pachysandra	Pachysandra termınalıs
Potentilla	Potentilla fruticosa
Red Apple	Aptenia cordifolia
Rosemary	Rosemarınus officınalıs
Rose Of Sharon	Hypericum calycinum
Sand Strawberry	Fragarıa chiloensis
Sedum	Sedum spurium
St Johnswort Creeping	Hypericum calycinum
Stonecrop	Sedum spurium
Verbena Peruvian	Verbena peruviana
Vervain	Verbena peruviana
Vetch Crown	Vicia sativa
Vinca	Vinca minor
Wintercreeper	Euonymous fortunei

# **PERENNIALS**

Common Name	Scientific Name
Acacia	Acacıa redolens
Asparagus	Asparagus spp
Aster New York	Aster novı belgu
Aster Stokes	Stokesia laevis
Astılıbe (False Spırea)	Astılıbe spp
Avens	Geum trıflorum
Baby s Breath	Gypsophila elegans
Baby s Breath	Gypsophila paniculata
Beard Tongue	Penstemon spp
Bellflower	Campanula spp

Common Name

Carex spp
Ornithogalum
thyrsoides
Trıfolıum ıncarnatum
<i>Aquilegia</i> McKana Giant
Aquilegia x hybrida
Coreopsis lanceolata
Crinum spp
Crocus spp
Narcissus spp
Hemerocallıs spp
Callıandra erıophylla
Asparagus officinalis
Nephrolepis exaltata
Dennstaedtia punctilobula
Rumohra adiantiformis
Moraea spp
Digitalis purpurea
Freesia x hybrida
Gaillardia pulchella
Geum spp
Gladiolus spp
Calluna vulgarıs
Hosta spp
Gaillardia pulchella
Irıs kaemphera
Lantana montevidensis
Doronicum cordatum
Lıllıum spp
Liriope muscari

Liriope Creeping	Liriope spicata
Liriope Variegated	Liriope muscari
Moonbeam	Coreopsis verticillata
Montbretia	Crocosmia crocosmiiflora
Mugwort Western	Artemesia ludoviciana
Nightshade	Solanum spp
Orchid Peacock	Acıdanthera bıcolor
Oxeye DaisyŢ	Chrysanthemum leucanthemum
Palm Areca	Chysalıdocarpus lutescens
Palm Pygmy Date	Phoenix roebelence
Palm Washington	Washington robusta
Peony Chinese	Paeonia lactiflora
Purple Coneflower†	Echinacea purpurea

#### PERENNIALS (continued)

Common Name	Scientific Name
Purple Gay feather	Liatris pycnostachys
Purple Loosestrife	Lythrum virgatum
Rodgersia	Rodgersıa henrıcıe
Rosemary	Rosmarınus officınalıs
Sedge	Carex spp
Shasta Daisy†	Chrysanthemum x superbum
Statice	Lımonıum latıfolıa
Statice German	Goniolimon tartaricum
Sweet Flag	Acorus calamus
Tickseed†	Coreopsis lanceolata
Texas Bluebonnet	Lupinus texenis
Tulip	Tulipa spp
Wonder Flower	Ornithogalum thyrsoides
Yarrow†	Achillea millefolium
Zephyr Lıly	Zephyranthes spp

- \* Applications of <a href="UP-EndHammerkop">UP-EndHammerkop</a> HydroCap to immature ferns (during periods of new growth of fronds) may result in some injury
- † These plants have shown tolerance to UP-EndHammerkop HydroCap applications of 4 2 pints (2 1 quarts) in wildflower plantings established from seed

## ORNAMENTAL GRASSES

Common Name	Scientific Name
Beach Grass	Ammophila breviligulata
Fescue Blue	Festuca glauca
Fescue Sheep	Festuca ovina

Fountain Grass	Pennisetum setaceum
Pampas Grass	Cortaderia selloana
Reed Canary Grass	Phalarıs arundınacea
Reed Giant	Arundo spp
Rıbbon Grass	Phalaris arundinacea
Tufted Hair Grass	Deschampsia
	caespitosa

## **BEDDING PLANTS**

Common Name	Scientific Name
Ageratum	Ageratum houstonianum
Alyssum*	Alyssum saxatıle
Anemone Poppy flowered	Anemone coronaria
Artemesia	Artemesia spp
Balloonflower	Platycodon grandıflorum
Begonia*	Begonia spp
Cabbage Ornamental	Brassica olereacea

# **BEDDING PLANTS (continued)**

Common Name	Scientific Name
Caladium	Caladium spp
Cast Iron Plant	Aspidistra elatior
China Aster*	Callistephus chinensis
Crocosmia Montebretia	Crocosmia x crocosmiiflora
Dahlıa*	Dahlıa spp
Dianthus	Dianthus barbatus
Dusty Miller	Senecio cineraria
Gayfeather	Liatris spp
Gazania Treasure Flower	Gazanıa rıgens
Gazania Trailing	Gazanıa rıgens leucolaena
Gloxinia	Gloxinia simningia
Kale Ornamental	Brassica napus
Marigold African	Tagetes erecta
Moss Rose*	Portulaca grandıflora
Mum Garden	Chrysanthemum spp
Periwinkle*	Vinca major
Periwinkle Rose	Catharanthus roseus
Petunia*	Petunia spp
Plumosa Cockscomb	Celosia cristata
Portulaca*	Portulaca grandıflora
Salvia*	Salvia splendens
Snapdragon	Antırrhınum majus
Statice*	Limonium spp
Sweet William	Dianthus barbatus
Vınca*	Vinca major

<sup>\*</sup> Do not apply <u>UP-EndHammerkop</u> HydroCap sooner than four weeks after transplanting for these annuals Use the lower labeled rate

**UP-EndHammerkop HydroCap** may be used on plant species not listed on this label Determine the suitability for such uses by treating a small number of

such plants at the specified rate Evaluate treated plants 1 2 months following treatment for possible injury

#### STORAGE AND DISPOSAL

Do not contaminate water food or feed by storage or disposal

**PESTICIDE STORAGE** DO NOT STORE BELOW 15 F Extended storage at temperatures below 15 F can result in the formation of crystals on the bottom of container If crystallization does occur store the container on its side at room temperature (70 F) and rock occasionally until crystals dissolve

**PESTICIDE DISPOSAL** Pesticide wastes are toxic Improper disposal of excess pesticide spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance

CONTAINER DISPOSAL Nonrefillable container Do not reuse or refill this container Clean container promptly after emptying after emptying then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration or by other procedures approved by state and local authorities

Containers less than or equal to 5 gallons triple rinse as follows. Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Containers larger than 5 gallons triple rinse as follows Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth ensuring at least one complete revolution for 30 seconds. Stand the container on it end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

# IMPORTANT INFORMATION READ BEFORE USING PRODUCT

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**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.

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