

34704-868

12/27/2004

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505C)
1200 Pennsylvania Av., N.W.
Washington, D.C. 20004

EPA Reg. Number:

34704-868

Date of Issuance:

12/27/04

Term of Issuance:

Conditional

Name of Pesticide Product:

Pendimethalin 3.3 EC

NOTICE OF PESTICIDE:

Registration
 Reregistration
(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Loveland Products, Inc.
P.O. Box 1286
Greeley, CO 80632-1286

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.

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.

This product is conditionally registered in accordance with FIFRA Section 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration/ reregistration of your product under FIFRA Sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA .
2. Within 18 months of the date of this registration, submit one-year storage stability and corrosion characteristics studies for review and acceptance.
3. Add on the front panel, "EPA Reg. No. 34704-868 " and "EPA Est. No. 34704-XX-XX."
4. It is recommended you add a table of contents for easier subject searches, and increase the size or highlight the subject headings for easier reading.

/Signature of Approving Official:

Jim Tompkins
Product Manager (25), Herbicide Branch, Registration Division

Date:

12/27/04

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5.
Make the following label changes listed below before you release the product for shipment:

6. Under "Environmental Hazards";

Add "or rinsate" after "equipment washwaters"

7. "Under Agricultural Use Requirements";

Replace the glove statement with the following:
"Chemical resistant gloves, such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, or neoprene rubber ≥ 14 mils."

Separate PPE required for early entry from the exception paragraph.

8. Under Directions for Use: Delete "Do not use in manufacturing products for application to turf and ornamentals" or modify the statement to read "The registrant does not intend this product manufacturing products for application to turf and ornamentals" or something similar. You may not prohibit an activity that is legal under FIFRA.

9. "Under Storage and Disposal";

a. Change "Storage" to "Pesticide Storage," "Product Disposal" to "Pesticide Disposal," and "Empty Container Disposal" to "Container Disposal."

b. Incorporate the following Bulk Container Language into your container disposal section:

Container Disposal (Bulk and Minibulk)

When the container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase, or to an alternate location designated by the registrant at the point of purchase of this product. If not returned to the point of purchase or to a designated location, triple rinse or pressure rinse the empty container and offer for recycling if available.

Instruction for Users and Refillers

This container must only be refilled with this pesticide. **Do Not Reuse the**

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Container for Any Other Purpose. Do not transport if this container is damaged, leaking, or obsolete, or to obtain information about recycling refillable containers, contact (**insert company name**) at (**insert telephone number**). Cleaning is not necessary prior to refilling with the same product. Clean container before final disposal. Disposal of this container must be in compliance with state and local regulations.

Instructions for Refillers

Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. If the container cannot be refilled, triple rinse or pressure rinse the empty container and offer for recycling if available.

10. Under "Weed Controlled (page 3)";
 - a. Under "Weed Controlled -Grasses";
Add a line to separate between "Red Rice" and "Shatter Cane."
 - b. Under "Weed Controlled - Broadleaves";
You may add "Nonbearing fruit and nuts and vineyards" to "Carpetweed."

11. Under "Aerial Applications";

Change "downward" to "downwind" under "Swath Adjustment."

12. Under "Rate chart for impregnation of Dry bulk Fertilizer with Pendimethalin 3.3 EC";

Change "0.6 pts/ton" to "9.6 pts/ton" under "250 lbs/acre" and "1.2 pt."

13. Under "Field Corn" and "Sweet Corn"
 - a. Remove all tank mixes involving Bladex & Extrazine which are cancelled.
 - b. Change references to Bicep and Bicep II to Bicep Magnum and adjust the rate.
 - c. Modify Surpass to Surpass II and delete Surpass 100.
 - d. Change Guardsman to Guardsman Max and adjust the rate.
 - e. Confirm Laddok S-12 is registered for use on corn and rate is correct.
 - f. Change the use rate for Python WDG to ounces.
 - g. Make similar name and rate changes under Sweet Corn section.

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14. In the Cotton Section:

- a. On page 10 before "Pendimethalin 3.3 EC Tank Mixes and Sequential Programs in Cotton" add "The total amount of Pendimethalin 3.3 EC applied per acre per season can not exceed the highest label rate in the preceding table."
- b. Delete the "Layby Use in Cotton Recommended For Use in Arizona, New Mexico, California, Oklahoma, and Texas Only" or modify the list of States to conform with the States listed for the two products you are repacking and incorporate all the restrictions imposed on their labels.
- c. Delete the typo in Note: Do not feed.....incorp9orate.....
- d. Move the section "Pendimethalin 3.3 EC and Roundup Ultra Tank-Mix for Layby Use in Cotton in Arizona, New Mexico, California, Oklahoma, and Texas" after the boxes giving tank mixes and before the section on "Preplant Incorporated Application "of" Pendimethalin EC for Control of Rhizome Johnsongrass".
- e. Correct Dual to Dual Magnum and adjust the rate in the tank mix section.

15. Under "Peanuts";

- a. Move the section titled: Peanuts Grown Under Overhead Irrigation in the Staes of North Carolina, South Carolina, Virginia, Alabama, Florida and George after the tank mix section.
- b. The statement "When using tank mixtures with pendimethalin 3.3 EC, always read the companion product label(s) to determine the specific use rates by soil types, weed species, and weed 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." should appear in the tank mix section and Overhead irrigation section.
- c. Change Dual to Dual Magnum and reduce rate to the rate for Dual Magnum.

16. Under "Rice"

- a. Add a restriction against using this product on water-seeded rice.
- b. Add a "0" to application rate for Facet 75 DF under " Course" soil type in the table under item 5 "Braoadcast Rate per Acre of Pendimethalin 3.3 EC plus Facet DF Early Postemergent Tank Mixture in Rice.

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c. Change Dual to Dual Magnum.

17. Under "Regional Map";

Define the regional designation for the mid-Atlantic States since the map is too small to read.

18. Change "™/ ® Trademarks of American Cyanamid Company" to "™/ ® Trademarks of BASF Corporation."

The Agency has not reviewed or accepted the "Warranty and Disclaimer and Notice" statements. It may need to be changed at a later date.

Submit one (1) copy of your final printed labeling before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

Enclosure



Pendimethalin 3.3 EC

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FOR CONTROL OF MOST ANNUAL GRASSES AND CERTAIN BROADLEAF WEEDS

For Use in Cotton, Dry Bulb Onions, Dry Bulb Shallots, Edible Beans, Field Corn, Forage Legumes, Garlic, Grain Sorghum, Nonbearing Fruit, Nut Crops and Vineyards: Peanuts, Potatoes, Rice, Soybeans, Sugarcane, Sunflowers, Sweet Corn, Sweet Lupines, and Tobacco

ACTIVE INGREDIENTS:	
Pendimethalin (N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine)	37.4%
INERT INGREDIENTS*	62.6%
TOTAL 100.0%	

(1 gallon contains 3.3 pounds of pendimethalin)
*Contains aromatic naphtha

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 this label, find someone to explain it to you in detail).

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PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

Personal Protective Equipment (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear: Long-sleeved shirt and long pants, chemical-resistant gloves, such as Barrier Laminate or Viton > 14 mils, and 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 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) (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.

ACCEPTED
with COMMENTS
in EPA Letter Dated

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

34704-868

DEC 27 2004

FIRST AID

If swallowed:	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Have a 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 15-20 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 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.
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 by mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Note To Physician: Because of increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent, vomiting should be induced only under professional supervision.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL:
1-800-301-7976.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not apply directly to water, or 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.

DIRECTIONS FOR USE

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

Observe all cautions and limitations in this label and the labels of products used in combination with Pendimethalin 3.3 EC. The use of Pendimethalin 3.3 EC not consistent with this label can result in injury to crops, animals, or persons. Keep containers closed to avoid spills and contamination.

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 protection.

Do not use in manufacturing products for application to turf and ornamentals.

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 workers on farms, forest, 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.

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, chemical-resistant gloves, such as Barrier Laminate or Viton > 14 mils, and shoes plus socks.

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STORAGE AND DISPOSAL

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

STORAGE: Do not store below 40°F. Extended storage at temperatures below 40° can result in the formation of crystals on the bottom of the container. If crystallization does occur, store the container on its side at room temperature (70°F) and rock occasionally until crystals re-dissolve.

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: For five gallons and under: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

FOR BULK AND MINI-BULK: Return empty container to point of purchase for repackaging or recycling.

Bulk Longway

GENERAL INFORMATION

Special Precautions

Pendimethalin 3.3 EC herbicide controls most annual grasses and certain broadleaf weeds as they germinate, but it will not control established weeds. Destroy existing weeds before applying Pendimethalin 3.3 EC (except as recommended in specific postemergence combination treatments). Unusually cold, excessively wet, or hot and dry conditions that delay germination or extend germination over a long period of time can reduce weed control.

Applied according to label directions and under normal growing conditions, Pendimethalin 3.3 EC or Pendimethalin 3.3 EC tank-mix combinations will not cause crop injury. Over-application can result in crop stand loss, crop injury, or soil residues.

Uneven application or improper soil incorporation can decrease weed control or cause crop injury. Soil incorporation deeper than recommended can reduce weed control.

Seedling diseases, cold weather, excessive moisture, shallow or deep planting, low or high soil pH, high soil salt concentration, or drought can weaken seedlings and plants and increase the possibility of crop damage from Pendimethalin 3.3 EC. Under these conditions, crop yields can be reduced.

Use of Pendimethalin 3.3 EC herbicide in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of Pendimethalin 3.3 EC and, therefore, rotational crop injury is always possible.

Naturally occurring biotypes* of some of the weeds listed on this label may not be effectively controlled by this and/or other products with the mitotic inhibiting mode of action. Other herbicides with the mitotic inhibiting mode of action include other dinitroaniline herbicides such as Treflan®, TRI-4® herbicide and Sonolan®. If naturally occurring mitotic inhibiting resistant biotypes are present in a field, Pendimethalin 3.3 EC and/or any other mitotic inhibiting mode of action herbicide should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

*A weed biotype is a naturally occurring plant within a given species that has a slightly different, but distinct, genetic makeup from other plants.

See your Loveland Products, Inc. representative for additional information.

MIXING INSTRUCTIONS

- Fill tank one-half to three-quarters full with clean water or liquid fertilizer and agitate. Prior to mixing Pendimethalin 3.3 EC or Pendimethalin 3.3 EC tank mixtures in liquid fertilizer, refer to appropriate label sections for recommended uses in liquid fertilizer, application instructions, and compatibility determinations.
- Pendimethalin 3.3 EC Alone**
When using Pendimethalin 3.3 EC alone, add Pendimethalin 3.3 EC to the partially-filled tank while agitating and then fill the remainder of the tank with water or liquid fertilizer.
- Pendimethalin 3.3 EC Tank Mixtures**
Add the tank mixture ingredients in the order listed below prior to adding Pendimethalin 3.3 EC. (For tank mixtures with Butyrac 200, Gramoxone Extra or Roundup see mixing instructions at the end of the section):
 - Wettable powder formulations**
Make a slurry of the wettable powder in water (1 part WP + 2 parts water). Add the slurry slowly into the partially-filled tank while agitating. If tank mixing more than one wettable powder formulation, add the first one while agitating. Continue agitation and add second wettable powder only after complete mixing of the first wettable powder has occurred.
 - Dry flowable/water dispersible granule formulations**
Add the granules to the partially-filled tank while agitating. Make a slurry of the granules in water before adding to liquid fertilizer.
 - Flowable formulations**
Add the flowable to the partially-filled tank while agitating.
 - Water soluble concentrate formulations**
Add the water soluble concentrate to the partially-filled tank while agitating.
 - Emulsifiable concentrate formulations**
Add the emulsifiable concentrate to the partially-filled tank while agitating.

After complete mixing, add Pendimethalin 3.3 EC to the tank.

- (f) **Note: For tank mixes including Butyrac[®], Gramoxone[®] Extra or Roundup[®]**
After complete mixing of Pendimethalin 3.3 EC, continue filling the sprayer with water and add Butyrac or Gramoxone Extra or Roundup near the end of the filling process.

If Gramoxone Extra is included in the tank mixture, add 8 oz. of Ortho X-77 Spreader or similar non-ionic surfactant per 100 gallons of total spray mixture as the last ingredient in the tank.

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

- MAINTAIN CONTINUOUS AGITATION WHILE ADDING HERBICIDES AND UNTIL SPRAYING IS COMPLETED. If the spray mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed. Continue agitation while spraying.

GENERAL APPLICATION INSTRUCTIONS

Uniformly apply recommended Pendimethalin 3.3 EC or Pendimethalin 3.3 EC tank mixture treatments in 10 or more gallons of water or 20 or more gallons of liquid fertilizer per acre with ground equipment. Use higher gallonage for fields with heavy weed infestations or excessive crop residues. Refer to Applications with Liquid Fertilizers section for liquid fertilizer recommended uses, application instructions and compatibility determinations. Apply in 5 or more gallons of water per acre with aircraft. Refer to Spraying Instructions for spraying directions. Refer to Applications with Dry Bulk Fertilizers section for Pendimethalin 3.3 EC/dry bulk fertilizer applications.

RATES

Follow all recommendations in specific crop sections of this label regarding rates per acre of Pendimethalin 3.3 EC and herbicides used in combination with Pendimethalin 3.3 EC. When a rate range is recommended, unless other directions are given in a crop section, the high rate of the range should be used if heavy weed populations are anticipated or if extensive crop residues were present prior to seedbed preparation.

SOIL TEXTURES

The rate tables for recommended Pendimethalin 3.3 EC treatments for each crop refer to coarse, medium, and fine soils. Soil type should be determined since rates for Pendimethalin 3.3 EC treatments will change with soil texture. The following table lists soil types for coarse, medium and fine soils.

COARSE	MEDIUM	FINE
sands	sandy clay loams*	silty clay loams*
loamy sands	sandy clays	silty clays
sandy loams	loams	clay loams
	silt loams	clays
	silts	

*Sometimes considered transitional soils and may be classified as either medium or fine textured soils.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils, unless otherwise specified.

CHEMIGATION

Pendimethalin 3.3 EC may be applied through sprinkler irrigation systems in cotton, field corn, garlic, dry bulb shallots, direct-seeded and transplanted dry bulb onions, grain sorghum, peanuts, potatoes, soybeans and sunflowers. Follow all label recommendations for these crops regarding rates per acre, timing of application, special instructions, and precautions.

Apply Pendimethalin 3.3 EC only through a sprinkler including center pivot, lateral move, end row, side (wheel) roll, traveler, big gun, solid set, or hand-move irrigation systems. Do not apply Pendimethalin 3.3 EC through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

The system must be properly calibrated (with water only) to ensure that the amount of Pendimethalin 3.3 EC applied corresponds to the recommended rate.

Apply Pendimethalin 3.3 EC in ½ to ¾ inches of water during the first sprinkler set. When application is complete, flush the system with water.

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

Special Precautions for Chemigation

- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- The system must be free of leaks and clogged nozzles.
- The pesticide must be supplied continuously for the duration of the aqueous application. An uneven application may cause injury to the crop or poor weed control.
- Agitation must be maintained in the nurse tank.

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- The sprinkler-chemigation system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

Chemigation Systems Connected to Public Water Systems

- Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- All chemigation systems connected to public water systems must also follow restrictions listed in the preceding section titled "Chemigation".

WEEDS CONTROLLED ✓

The following grass and broadleaf weeds are controlled by treatments of Pendimethalin 3.3 EC in all registered crops at the rates recommended for each soil texture in the respective crop section:

Grasses Controlled

Barryardgrass
 Crabgrass
 Crowfootgrass
 Field Sandbur
 Foxtail (giant)
 Foxtail (green)
 Foxtail (yellow)
 Goosegrass
 Johnsongrass, seedling
 Panicum, fall
 Panicum, Texas (Buffalograss)
 Signalgrass¹
 Witchgrass

Broadleaves Controlled

Bugloss, small
 Carpetweed
 Florida pusley
 Kochia
 Lambsquarters, common
 Lambsquarters, slimleaf
 Pigweed (*Amaranthus* spp.)
 Purslane
 Smartweed, Pennsylvania²
 Spurge, annual
 Velvetleaf²

¹ In cotton and soybeans, effective management can be achieved by utilizing a program involving Pendimethalin 3.3 EC preplant incorporated followed by a labeled postemergence grass product. Signalgrass populations should be managed in all crop rotations for effective control.

² Reduced competition only.

In addition to the weeds listed above as being controlled, Pendimethalin 3.3 EC (when applied as directed) will control the weeds in the crops indicated in the following table:

Weeds Controlled - Grasses	Crop
Bluegrass, annual	Nonbearing fruit and nuts and vineyards
Guineagrass	Sugarcane
Itchgrass (Raouigrass)	Soybeans ¹ Sugarcane ² (except in Hawaii)
Johnsongrass, rhizome	Cotton ¹ Soybeans ¹
Junglerice	Nonbearing fruit and nuts and vineyards Rice Sugarcane
Lovegrass	Nonbearing fruit and nuts and vineyards
Panicum, Browntop	Nonbearing fruit and nuts and vineyards Sugarcane
Red Rice	Soybeans ¹
Shattercane	Field Corn ³ Grain Sorghum ³ Soybeans ¹
Sprangletop (<i>Leptochloa</i> spp.)	Rice Nonbearing fruit and nuts and vineyards

Weeds Controlled - Grasses	Crop
Swollen fingergrass	Sugarcane
Volunteer Sorghum	Cotton ¹ (except in California and Arizona)
Wild Proso Millet	Field ² and Sweet Corn Grain Sorghum ³
Woolly cupgrass	Field ² and Sweet Corn Nonbearing fruit and nuts and vineyards Soybeans ¹

Weeds Controlled - Broadleaves	Crop
Carpetweed	Sunflowers, no-till
Chickweed, common	Nonbearing fruit and nuts and vineyards
Fiddleneck	Nonbearing fruit and nuts and vineyards
Henbit	Nonbearing fruit and nuts and vineyards
Knotweed, prostrate	Nonbearing fruit and nuts and vineyards
London rocket	Nonbearing fruit and nuts and vineyards
Smartweed, Pennsylvania	Field and Sweet Corn Nonbearing fruit and nuts and vineyards
Puncturevine	Nonbearing fruit and nuts and vineyards
Shepherdspurge	Nonbearing fruit and nuts and vineyards
Stinging nettle	Potatoes
Velvetleaf	Field and Sweet Corn Nonbearing fruit and nuts and vineyards

- Control or reduced competition (refer to appropriate section for use instructions).
- Pendimethalin 3.3 EC must be applied at the 7.2 pint/acre broadcast rates for Itchgrass control. Surface application (no mechanical incorporation) will provide partial Itchgrass control. An additional application of 4.8 to 7.2 pints/acre may be made at layby.
- Control with Culti-Spray applications only. Refer to appropriate section for use instructions.
- Pendimethalin 3.3 EC will control wild proso millet when applied as a Culti-Spray application. Pendimethalin 3.3 EC will reduce the competition of wild proso millet when applied preemergence. Effective management of wild proso millet can be achieved with a program involving herbicide applications and mechanical cultivation to eliminate weed escapes. Pendimethalin 3.3 EC plus Accent SP, Bladex or Extrazine II applied early postemergence (no later than when corn is in the 4-leaf stage) treatments have provided the most consistent control of wild proso millet because: (1) early postemergence treatments provide a burn-down of initial germination flush of wild proso millet and (2) early postemergence treatments provide residual activity later into the growing season.
- Effective management of woolly cupgrass can be achieved with a program involving herbicide applications and mechanical cultivation to eliminate weed escapes. Pendimethalin 3.3 EC plus Accent, Bladex or Extrazine II applied early postemergence (no later than when corn is in the 4-leaf stage) treatments have provided the most consistent control of woolly cupgrass because: (1) early postemergence treatments provide a burn-down of the initial germination flush of woolly cupgrass and (2) early postemergence treatments provide residual activity later into the growing season.
- Use the high rate for each soil texture. Apply broadcast to flat land and mechanically incorporate (two passes at an angle to one another) prior to bedding up.

SPRAYING INSTRUCTIONS

Ground Applications

Use sprayers with appropriate nozzles that provide uniform spray distribution and minimize drift. Keep the bypass line on or near the bottom of the tank to minimize foaming. Nozzle and in-line screens must be no finer than 50 mesh. DO NOT apply Pendimethalin 3.3 EC during periods of gusty winds. As with all herbicides, windy conditions can cause uneven applications.

BROADCAST TREATMENT - Uniformly apply in 10 or more gallons of water or 20 or more gallons of liquid fertilizer as specified in the appropriate sections of this booklet.

BAND TREATMENT - Uniformly apply the broadcast equivalent rate and volume per acre. To determine these:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast Rate per acre} = \text{Band Rate per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast Volume per acre} = \text{Band Volume per acre}$$

Aerial Applications

Uniformly apply in 5 or more gallons of water per acre. Exercise caution to minimize drift. DO NOT apply during period of gusty winds or when wind conditions favor drifting. Spray drift can cause injury to sensitive crops. It is recommended that a flagman or an automatic mechanical flagging unit on the aircraft be used to avoid overlapping and possible crop injury.

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.

- The distance of the outermost nozzles on the boom must not exceed ¼ the length of the wingspan or rotor.
- Nozzles must always point backward parallel with the airstream and never be pointed downwards more than 45 degrees.

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Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reductions 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 instead 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 horizontal 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 low-drift 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 ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height

Applications should not be made 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 downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase 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. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should 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

Applications should not occur 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

The pesticide should only be applied 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).

INCORPORATION INSTRUCTIONS

Break up clods before a preplant incorporated application.

1. Flat-planted crop

Pendimethalin 3.3 EC is to be incorporated prior to planting and within 7 days of application. When Pendimethalin 3.3 EC is applied to flat land that will not be bedded, mechanical incorporation should be into the top 1 or 2 inches of soil. Mechanical incorporation of Pendimethalin 3.3 EC into the top 1 or 2 inches of soil can be achieved by the following:

- (a) Disk harrow set to cut 3 to 4 inches deep and operated in two different directions at 4 to 6 mph. The second pass should be made at an angle to the first.

- (b) PTO-driven equipment (tillers, cultivators, hoes) set to cut 2 inches deep and operated one time at 4 mph or less.
- (c) Rolling cultivator set to cut 2 to 3 inches deep and operated two times at 6 to 8 mph. The second pass should be made at an angle to the first. Use only on coarse and medium textured soils.
- (d) Field cultivator set to cut 3 inches deep, operated two times at more than 5 mph. The second pass should be made at an angle to the first. Equipment must have 3 or 4 rows of sweeps, spaced at intervals of 7 inches or less and staggered so that no soil is left unturned. Do not use chisel points.
- (e) Lely-Roterra¹² set and operated according to the manufacturer's directions to thoroughly incorporate Pendimethalin 3.3 EC to a depth of 1 to 2 inches.
- (f) Do-All set and operated according to the manufacturer's directions to thoroughly incorporate Pendimethalin 3.3 EC to a depth of 1 to 2 inches.

NOTE: Pendimethalin 3.3 EC can be incorporated in a single pass when the soil is of good tilth with moderate moisture and relatively free of clods and trash. Implements must be properly set up to thoroughly incorporate Pendimethalin 3.3 EC into the top 1 or 2 inches of soil. Recommended implements include: (1) C-shank or S-shank field cultivators equipped with flexline drag or rolling basket attachment and (2) the combination disk/field cultivator implement equipped with flexline drag or rolling basket attachment. Field cultivators must have 3 or 4 rows of sweeps, spaced at intervals of 7 inches or less and staggered so that no soil is left unturned. Implements must be operated at 6 to 8 miles per hour and set to cut 3 to 4 inches deep.

2. Bedded Crop - Application Over Beds

Pendimethalin 3.3 EC is to be incorporated prior to planting and within 7 days of application. When Pendimethalin 3.3 EC is applied over beds, mechanical incorporation should be into the top 1 or 2 inches of soil. Mechanical incorporation of Pendimethalin 3.3 EC into the top 1 or 2 inches of soil can be achieved by the following:

- (a) Rolling cultivator set to cut 2 to 3 inches deep and operated two times at 6 to 8 mph. Use only on coarse and medium textured soils.
- (b) PTO-driven equipment (tillers, cultivators, hoes) set to cut 2 inches deep and operated one time at 4 mph or less.
- (c) Bed conditioner set to cut 2 to 3 inches deep and operated one time at 4 to 6 mph.

During planting, or if beds must be reshaped prior to planting, avoid tillage that will bring untreated soil to the surface or expose untreated soil in the seedbed or in the furrow.

3. Bedded Crop - Application Prior to Bedding

Pendimethalin 3.3 EC is to be incorporated prior to planting and within 7 days of application. When Pendimethalin 3.3 EC is applied to flat land prior to bedding, mechanical incorporation should be of sufficient depth so that bedding does not bring up untreated soil. Mechanical incorporation of Pendimethalin 3.3 EC can be achieved by the following:

- (a) Disk harrow set to cut 4 to 6 inches deep and operated in two different directions at 4 to 6 mph. The second pass should be made at an angle to the first.
- (b) PTO-driven equipment (tillers, cultivators, hoes) set to cut 3 to 4 inches deep and operated one time at 4 mph or less. During planting, or if beds must be reshaped prior to planting, avoid tillage that will bring untreated soil to the surface or expose untreated soil on the seedbed or in the furrow.

APPLICATIONS WITH LIQUID FERTILIZERS

Pendimethalin 3.3 EC alone or in tank mix combinations with wettable powders (WP), dry flowables (DF), flowables (F), water-soluble concentrates (S) or emulsifiable concentrates (EC) may not combine properly with some liquid fertilizer materials. Small quantities should always be tested before full scale mixing. Follow the testing procedure below to determine compatibility and if a compatibility agent is needed.

Follow all Pendimethalin 3.3 EC label recommendations regarding registered crops, rates per acre, timing of application, special instructions and precautions. Apply treatments in 20 or more gallons of liquid fertilizer per acre with ground equipment. DO NOT apply Pendimethalin 3.3 EC postemergence in liquid fertilizers.

All individual state regulations relating to fluid fertilizer mixing, registration, labeling and application are the responsibility of the individual and/or company selling the Pendimethalin 3.3 EC/liquid fertilizer mixture.

Liquid Fertilizer Compatibility Determinations

If liquid fertilizer/herbicide(s) mixture separates in the spray tank, clogged equipment and uneven application can result, which can cause poor weed control and crop injury. Always predetermine the compatibility of Pendimethalin 3.3 EC alone or with other herbicides in the specific liquid fertilizer to be used according to the following directions:

1. Add 1 pint of fertilizer to a quart jar.
2. Add 1 to 4 teaspoons(s) of the DF, WP, AS, F or L formulation (depending on mixing ratio required) to the liquid fertilizer. The number of teaspoons of the formulation to add can be determined by the following formula:

$$\frac{\text{Lbs or pts of product/acre}}{\text{Gallons of fertilizer/acre}} \times \frac{11.4}{1 \text{ pint of fertilizer}} = \text{number of teaspoons of herbicide to add}$$

3. Close the jar and agitate until the herbicide(s) are evenly dispersed in the liquid fertilizer. If the materials do not disperse well, it may be necessary to slurry the chemicals in water before adding to the fertilizer.
4. After dispersing the materials (step 2) add appropriate number of teaspoons of Pendimethalin 3.3 EC (see formula step 2) to the jar and shake well. Add water-soluble concentrate herbicides to the mixture last and agitate. Let the mixture stand for 30 minutes and then observe the results. Look for signs of separation, an oily layer or globules, sludge, flakes or other precipitates.

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5. Determine compatibility.
 - (a) If the herbicide(s) and liquid fertilizer mixture does not separate, use this mixture in our spray tank.
 - (b) If the mixture separates, but mixes readily with shaking, the mixture can be used provided good agitation is maintained in the spray tank.
 - (c) If separation of the mixture occurs and agitation does not correct this problem, a compatibility agent* is needed.
6. If the need for a compatibility agent* is demonstrated, the following procedure is recommended: Using a clean quart jar repeat step one above and add 1/2 teaspoon of the compatibility agent to the liquid fertilizer. Mix well and repeat steps 2, 3 and 4. If separation or precipitation occurs with the compatibility agent, DO NOT use Pendimethalin 3.3 EC with that specific liquid fertilizer.

An effective compatibility agent will cause the mixture to remain uniformly dispersed with little or no separation (oil rising to the surface) for one half hour or longer. If slight separation occurs, 2 to 3 inversions of the jar should be sufficient to re-disperse the mixture uniformly.

Use a clean jar for each test. A compatible mixture will have a uniform appearance and will be relatively easy to re-disperse with gentle agitation of the jar.

*Complex-Kalo Laboratories, Kansas City, MO; Sponto 168-D-Witco Chemical Company, Houston, TX; Unite-Hopkins Agricultural Chemical Company, Madison, WI; or other comparable adjuvants.

APPLICATIONS WITH DRY BULK FERTILIZERS

Pendimethalin 3.3 EC may be impregnated on dry bulk fertilizers. When applied as direct, Pendimethalin 3.3 EC/dry bulk fertilizer mixtures provide weed control equal to that provided by the same rates of Pendimethalin 3.3 EC applied in water.

Follow all Pendimethalin 3.3 EC label recommendations regarding rates per acre, registered crops, incorporation, special instructions and precautions. Apply Pendimethalin 3.3 EC/dry bulk fertilizer mixtures only with ground equipment.

All individual state regulations relating to dry bulk fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the Pendimethalin 3.3 EC bulk fertilizer mixture.

A minimum of 200 pounds of dry bulk fertilizer impregnated with the recommended amount of Pendimethalin 3.3 EC must be applied per acre.

DO NOT impregnate Pendimethalin 3.3 EC onto coated ammonium nitrate or limestone because these materials will not absorb the herbicide. Dry fertilizer blends containing mixtures of ammonium nitrate or limestone may be impregnated with Pendimethalin 3.3 EC. A minimum of 200 pounds of impregnated dry bulk fertilizer, excluding the weight of ammonium nitrate or limestone, must be applied per acre.

Refer to appropriate crop section in Pendimethalin 3.3 EC herbicide booklet to determine the rate of Pendimethalin 3.3 EC per acre. Use the following table to determine the amount of Pendimethalin 3.3 EC to be impregnated on a ton of dry bulk fertilizer based on the rate of fertilizer, which will be applied per acre.

Rate Chart for Impregnation of Dry Bulk Fertilizers with Pendimethalin 3.3 EC
(Pints of Pendimethalin 3.3 EC per Ton of Fertilizer)

Fertilizer Rate (lbs/acre)	Pendimethalin 3.3 EC Rate per Acre (recommended rate for crop and soil texture)				
	1.2 pint	1.8 pint	2.4 pint	3.0 pint	3.6 pint
200	12 pts/ton	18 pts/ton	24 pts/ton	30 pts/ton	36 pts/ton
250	6 pts/ton	14.4 pts/ton	19.2 pts/ton	24 pts/ton	28.8 pts/ton
300	8 pts/ton	12 pts/ton	16 pts/ton	20 pts/ton	24 pts/ton
350	6.9 pts/ton	10.3 pts/ton	13.7 pts/ton	17.1 pts/ton	20.6 pts/ton
400	6 pts/ton	9 pts/ton	12 pts/ton	15 pts/ton	18 pts/ton
450	5 1/3 pts/ton	8 pts/ton	10 2/3 pts/ton	13 1/3 pts/ton	16 pts/ton

For those rates not listed in this table, calculate the pints of Pendimethalin 3.3 EC to be impregnated on a ton of dry bulk fertilizer using the following formula:

$$\frac{2000}{\text{Pounds of dry fertilizer per acre}} \times \frac{\text{Pints of Pendimethalin 3.3 EC per acre (recommended rate for crop and soil texture)}}{1} = \text{Pints of Pendimethalin 3.3 EC per ton of fertilizer}$$

To impregnate Pendimethalin 3.3 EC on bulk fertilizer, use a closed rotary-drum mixer or other commonly used dry bulk blender equipped with suitable spray equipment. Spray nozzles must be placed to provide uniform coverage of Pendimethalin 3.3 EC onto the fertilizer during mixing.

Apply the Pendimethalin 3.3 EC/dry bulk fertilizer mixture with an accurately calibrated dry fertilizer spreader. Pendimethalin 3.3 EC/dry bulk fertilizer mixture must be spread uniformly on the soil surface. Uneven spreading can cause poor weed control and crop injury.

Refer to Incorporation Instructions section for incorporation directions.

CULTURAL PRACTICES FOLLOWING APPLICATION

Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control. A Pendimethalin 3.3 EC treatment may be followed by any registered herbicide to control weeds not listed on the Pendimethalin 3.3 EC label.

FOLLOW CROP RESTRICTIONS

1. Land treated with Pendimethalin 3.3 EC may be planted to other crops the following year. See restrictions below for sugar beets, red beets, and spinach.
2. Winter wheat, winter barley
 - Winter wheat and winter barley may be planted in the fall 4 months after a Pendimethalin 3.3 EC application in any registered crop. Winter wheat and winter barley may be planted in the fall 3 months after a Pendimethalin 3.3 EC Culti-Spray application in irrigated field corn or grain sorghum. The treated crop must be grown to maturity and harvested before planting wheat or barley.
 - In areas where irrigation is necessary to produce the crop treated with Pendimethalin 3.3 EC, DO NOT plant winter wheat or winter barley as follow crops if crops failure/destruction occurs and land is fallowed during the summer as crop injury may result.
 - DO NOT plant winter wheat or winter barley as follow crops in treated land if Pendimethalin 3.3 EC is applied at 4.8 pints or higher until the next growing season.
 - DO NOT feed forage or graze livestock for 75 days after planting wheat or barley in treated land.
3. Sugar beets, red beets, spinach
 - To avoid crop injury, do not plant sugar beets, red beets or spinach for 12 months following a Pendimethalin 3.3 EC application. To insure thorough mixing of soil, land should be plowed using a moldboard plow to a depth of 12 inches prior to planting these crops.
4. When Pendimethalin 3.3 EC is used in tank-mix or sequential combinations, refer to label of other herbicides for additional follow crop restrictions. Use of Pendimethalin 3.3 EC herbicide in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of Pendimethalin 3.3 EC and therefore, rotational crop injury is always possible.

FIELD CORN

General Instructions

Pendimethalin 3.3 EC may be applied in conventional, minimum or no-till as a pre-emergence, early postemergence or Culti-Spray (postemergence incorporated) application in field corn.

DO NOT APPLY PREPLANT INCORPORATED or serious corn injury can result.

DO NOT apply Pendimethalin 3.3 EC in no-till in California.

With the exception of minimum or no-tillage systems (see below) plant into a seed bed that is firm and free of clods and trash. Use only where adequate tillage is practiced to provide good soil coverage of the corn seed. **PLANT CORN AT LEAST 1 1/2 INCHES DEEP. CORN SEED MUST BE COMPLETELY COVERED WITH SOIL.**

Pendimethalin 3.3 EC or Pendimethalin 3.3 EC tank-mix combination treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after application, if cultivation is necessary because of soil crusting, soil compaction or weed germination before rain or irrigation, use shallow tillage (such as rotary hoe), and make certain corn seeds are below the tilled area.

When Pendimethalin 3.3 EC alone is used, if corn loss occurs due to weather conditions, corn or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted the same year without adverse effects. If corn is replanted, seeding depth must be below retilled area or crop injury may occur.

DO NOT exceed the maximum labeled rate for any soil type.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Field Corn Grown in Minimum or No-Tillage Systems

Pendimethalin 3.3 EC alone and Pendimethalin 3.3 EC tank mixtures may be used in field corn in minimum or no-tillage systems. **PLANT CORN AT LEAST 1 1/2 INCHES DEEP. CORN SEED MUST BE COMPLETELY COVERED WITH SOIL.** The use of no-till planters under conditions which do not allow good soil coverage of the corn seed can result in reduced crop stand or injury if Pendimethalin 3.3 EC contacts the germinating corn seed. Check equipment to ensure good seed coverage.

Use Methods and Timings

Preemergence - Apply Pendimethalin 3.3 EC after planting, but before weeds and crop emerge. Apply Pendimethalin 3.3 EC tank mixes and sequential programs as specified under the tank mix section.

Early Postemergence - Apply Pendimethalin 3.3 EC tank mixes postemergence according to corn height and weed size specified under the tank mix section. Pendimethalin 3.3 EC alone will not control emerged weeds. For maximum effectiveness, wait at least 7-10 days before cultivating early postemergence treatments.

Culti-Spray (postemergence incorporated) - Apply Pendimethalin 3.3 EC alone or Pendimethalin 3.3 EC plus atrazine when corn is at least 4 inches tall until layby (last cultivation). Refer to Culti-Spray section for complete Culti-Spray instructions.

DO NOT APPLY PREPLANT INCORPORATED or serious corn injury can result.

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Pendimethalin 3.3 EC Use Rates in Field Corn

Recommended use rates for Pendimethalin 3.3 EC alone and in tank mix or sequential applications are given in the following table.

Broadcast Rate¹ per Acre of Pendimethalin 3.3 EC Preemergence or Early Postemergence in Field Corn (Pints per Acre)

Soil Texture	<1.5%	1.5-3.0%	>3.0%
	Organic Matter	Organic Matter	Organic Matter
Coarse	1.8 to 2.4 pts	2.4 to 3.6 pts	3.6 pts
Medium	2.4 to 3.6 pts	3.6 pts	3.6 to 4.8 pts
Fine	2.4 to 3.6 pts	3.6 to 4.8 pts	3.6 to 4.8 pts

¹Use the high rate for each soil classification when using Pendimethalin 3.3 EC alone.

Pendimethalin 3.3 EC Tank Mixes and Sequential Programs in Field Corn

Pendimethalin 3.3 EC may be applied in a tank mix with Accent SP, Accent plus Beacon, atrazine, ~~atrazine plus Bladex~~, Balance, Banvel, ~~Banvel plus Bladex~~, Basis Gold, Beacon, ~~Bicep~~, ~~Bicep II~~, Bladex, Buctril + atrazine, Bullet, Dual, Dual II, ~~Extrazine II~~, Frontier, Guardsman, Harness Plus, Hornet, Laddok S-12, Lariat, Lasso, marksman, ~~Marksman plus Bladex~~, Python WDG, Surpass or ~~Surpass 100~~. Pendimethalin 3.3 EC may be tank mixed with any registered herbicide labeled for preemergence, postemergence, or culti-spray use in field corn unless prohibited by the companion label. Refer to the companion label for weeds controlled in addition to Pendimethalin 3.3 EC alone.

When using tank mixtures or sequential applications with Pendimethalin 3.3 EC, 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.

Restrictions For Early Postemergence Applications

To avoid serious crop injury with early postemergence applications observe the following restrictions:

- DO NOT apply Pendimethalin 3.3 EC plus ~~Bladex 90DF~~ or Pendimethalin 3.3 EC plus ~~Extrazine II DF~~ if 5th corn leaf is visible.
- DO NOT use ~~Bladex 4L~~ or ~~Extrazine II 4L~~ postemergence on corn.
- DO NOT apply Pendimethalin 3.3 EC plus ~~Bladex 90DF~~ or Pendimethalin 3.3 EC plus Extrazine II DF under extended cold (below 50°F), wet weather conditions, or when cold, wet conditions are predicted. Bladex or Extrazine injury can occur under these conditions.
- DO NOT apply in liquid fertilizer.

Follow additional use directions in this table for Pendimethalin 3.3 EC tank mixes. (Refer to Pendimethalin 3.3 EC in Field Corn use rates.)

Pendimethalin 3.3 EC alone or Pendimethalin 3.3 EC tank mixes may be used with Gramoxone Extra or Roundup herbicides, after planting but before crop emergence, to kill existing vegetation. Refer to these labels for specific use recommendations, rates and weeds controlled.

Pendimethalin 3.3 EC plus Accent or Accent SP (1/3 to 2/3 oz/A)

Preemergence followed by Early Postemergence - Apply Pendimethalin 3.3 EC after planting but before weeds or crops emerge. Apply Accent early postemergence at 1/3 to 1/2 ounces per acre to corn up through the 6-leaf (4th collared leaf) stage and before barnyardgrass, giant foxtail, green foxtail, seedling johnsongrass, shattercane and wild proso millet exceed a height of 3 inches or at 2/3 ounce per acre before the corn exceeds 24 inches tall and weeds exceed the height on the Accent label.

Early Postemergence - Apply tank mix at 1/3 to 1/2 ounce per acre of Accent to corn through the 6-leaf (4th collared leaf) stage and before barnyardgrass, giant foxtail, green foxtail, seedling johnsongrass, shattercane and wild proso millet exceed a height of 3 inches or at 2/3 ounces per acre of Accent to 6-leaf (4th collared leaf) stage corn and before weeds exceed the height recommended on the Accent label.

- Read and strictly follow all precautions and instructions on the Accent label.
- Barnyardgrass, giant Foxtail, green foxtail, seedling johnsongrass, shattercane, and wild proso millet are the only weeds controlled early postemergence by Accent when applied at 1/3 to 1/2 ounce per acre and before the weeds exceed a height of 3 inches.
- Atrazine, Banvel, Buctril, Buctril + atrazine, Clarity³, Exceed², Marksman, Permit⁵, and Scorpion III¹¹ herbicides may be tank mixed with Pendimethalin plus Accent for improved broadleaf weed control.
- For early postemergence applications of Accent or Pendimethalin 3.3 EC plus Accent, add non-ionic surfactant (NIS) at 0.25% vol/vol (1 quart per 100 gallons of spray solution) or a Crop Oil concentrate (COC) at 1.0% vol/vol (1 gallon per 100 of spray solution). The addition of a liquid nitrogen fertilizer solution (28% nitrogen at 2-4 quarts/acre) or spray grade ammonium sulfate (2-4 lbs/acre) may improve the weed control of certain emerged species by Accent. When used with an additional broadleaf herbicide, select adjuvants based on the adjuvant limitations of the herbicide.
- Banded applications of Counter CR systemic insecticide-nematicide can be used with Pendimethalin 3.3 EC and Accent treatments. Refer to the Counter CR and Accent labels for use directions, precautions and restrictions.
- DO NOT apply Accent through any type of irrigation system.

Pendimethalin 3.3 EC plus Accent or Accent SP (1/3 oz/A) plus Beacon (0.38 oz/A)

✓ **DO NOT use in California.**

Preemergence followed by Early Postemergence - Apply Pendimethalin 3.3 EC after planting, but before weeds or crops emerge. Apply Accent plus Beacon post-emergence before the corn exceeds 20 inches tall and the weeds exceed the height limitations given below.

Early Postemergence - Apply tank mix to corn through the 6-leaf (4th collared leaf) stage and before weeds exceed the height limitations given below.

- Read and strictly follow all precautions and instructions on the Accent and Beacon labels.
- **Weeds Controlled and height (inches):**

Fall Panicum (2-4)	Shattercane (4-12)	Giant ragweed (2-6)
Giant foxtail (2-4)	Sorghum Aluminum (4-12)	Jimsonweed (1-4)
Green foxtail (1-4)	Cocklebur (1-4)	P. Smartweed (1-2)
Quackgrass (4-8)	Common ragweed (2-6)	Redroot pigweed (1-4)
S. johnsongrass (4-12)	Eastern black nightshade (1-4)	Sunflowers (1-4)
- **Weeds Suppressed and height (inches):**

Lambsquarters (<1.5)	Velvetleaf (1-4)	Woolly cupgrass (1-4)
Morningglory (<1.5)	Wild proso millet (1-4)	Yellow foxtail (1-4)
Sandbur (1-3)		
- If application is made during cool (<50°F), dry weather or to weeds hardened by cold or drought, the "controlled weeds" may only be suppressed.
- Banvel, Buctril or Clarity herbicides may be tank mixed with Pendimethalin 3.3 EC plus Accent plus Beacon for improved broadleaf weed control.
- For early postemergence applications of Accent plus Beacon or Pendimethalin 3.3 EC plus Accent plus Beacon, add a non-ionic surfactant (NIS) at 0.25% vol/vol (1 quart per 100 gallons of spray solution) or a Crop Oil Concentrate (COC) at 1.0% vol/vol (1 gallon per 100 gallons of spray solution). The addition of a liquid nitrogen fertilizer solution (28% nitrogen at 2-4 quarts/acre) or spray grade ammonium sulfate (2-4 lbs/acre) may improve the weed control of certain emerged species by Accent plus Beacon. When used with an additional broadleaf herbicide, select adjuvants based on the adjuvant limitations of the herbicide.
- Mixing order: Add the ingredients to water in the following order with the agitator running: Accent, Beacon, Pendimethalin 3.3 EC and adjuvant(s). Thoroughly mix each ingredient before adding another.
- DO NOT apply Accent or Beacon through any type of irrigation system.

Pendimethalin 3.3 EC plus Atrazine (1.0 to 2.0 lbs ai/A)

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and before weeds exceed 1" in height except for Texas panicum which must be no larger than the 2-leaf stage.

Culti-Spray (postemergence incorporated) - Refer to page 32 for application instructions.

- Read and strictly follow all precautions and instructions on the atrazine label.
- DO NOT exceed 1.2 lbs ai/A of atrazine for Culti-Spray applications.

Pendimethalin 3.3 EC plus Atrazine (0.4 to 0.8 ai/A) plus Bladex 90DF (0.45 to 1.78 lbs/A) or Bladex 4L (0.4 to 1.6 qts/A)

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and before weeds exceed 1" in height except for Texas panicum which must be no larger than the 2-leaf stage.

- Read and strictly follow all precautions and instructions on the atrazine and Bladex labels.
- DO NOT apply tank mixture postemergence under extended cold (<50°F), wet weather conditions, or when cold, wet conditions are predicted. Bladex injury can occur under these conditions.
- ~~DO NOT use this combination on sands or loamy sands with less than 1% organic matter.~~
- ~~DO NOT apply Bladex 4L postemergence.~~
- ~~DO NOT apply Bladex by air.~~

Pendimethalin 3.3 EC plus Balance (1.0 to 2.0 oz/A)

Preemergence - Apply after planting, but before weeds or crops emerge.

- Balance is not labeled for use in every state. For the list of states where Balance may be used, refer to the General Instructions section of the Balance label.
- Read and strictly follow all precautions and instructions on the Balance label.

Pendimethalin 3.3 EC plus Banvel (0.5 to 0.75pts/A)

Preemergence - Apply after planting, but before weeds or crops emerge. When applying this tank mixture at planting, the spray nozzles must be far enough behind the planter to avoid contact of the spray mixture with the seeds to avoid crop injury. **DO NOT use on furrow irrigated corn.**

Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and before weeds exceed one inch in height. Emerged grasses will not be controlled by this tank mix.

- Read and strictly follow all precautions and instructions on the Banvel label.
- Apply only on level planted corn.
- DO NOT use on sands, loamy sands, or sandy loams. DO NOT use on medium or fine textured soils containing less than 2% organic matter.

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Pendimethalin 3.3 EC plus Banvel (0.5 to 0.75pts/A) cont'd.:

- Apply in water with ground equipment only.
- Avoid drift of this mixture to soybeans or other sensitive crops.
- DO NOT apply this tank mixture by aircraft.

Pendimethalin 3.3 EC plus Banvel (0.5 to 1.0 pt/A) plus Bladex 90DF (1.0 to 2.22 lbs/A) or Bladex 4L (1.0 to 2.0 qts/A)

Preemergence - Apply after planting, but before weeds or crops emerge. DO NOT use furrow irrigated corn.

Early Postemergence - Apply from spike through 4-leaf (2nd collared leaf) stage and before weeds exceed one in height except for Texas panicum which must be no larger than the 2 leaf stage.

- Read and strictly follow all precautions and instructions on the Banvel and Bladex labels.
- Apply only on level planted corn.
- DO NOT apply this tank mixture postemergence on any soils with less than 2% organic matter.
- DO NOT use this tank mixture postemergence on any soils with less than 1% organic matter.
- DO NOT apply this tank mixture by air. Avoid drift of this mixture to soybeans or other sensitive crops.
- DO NOT apply postemergence under extended cold (<50°F) and wet weather conditions, or when cold, wet conditions are predicted or serious crop injury can result. Bladex injury can occur under these conditions.
- DO NOT apply through any type of irrigation system.
- DO NOT apply Bladex 4L postemergence on corn.

Pendimethalin 3.3 EC plus Bladex 90DF (1.11 to 2.67 lbs/A) or Bladex 4L (1.0 to 2.4 qts/A)

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and before weeds exceed 1" in height except for Texas panicum, which must be no larger than the 2-leaf stage.

- Read and strictly follow all precautions and instructions on Bladex label.
- DO NOT apply tank mixture postemergence under extended cold (<50°F), wet weather conditions, or when cold, wet conditions are predicted. Bladex injury can occur under these conditions.
- DO NOT use this combination on sands or loamy sands with less than 1% organic matter.
- DO NOT apply Bladex 4L postemergence.
- DO NOT apply Bladex by air.
- The maximum rate for Bladex 90DF for early postemergence applications is 2.2 lbs of product per acre.

Pendimethalin 3.3 EC plus Buctril + Atrazine (1.5 to 2.0 pts/A)

DO NOT use in California.

Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and before weeds exceed the height on the Buctril + Atrazine label. This tank mix will not adequately control emerged grasses.

- Read and strictly follow all precautions and instructions on the Buctril + Atrazine label.

Pendimethalin 3.3 EC plus Dual or Dual II (1.25 to 2.5 pts/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge. Preemergence applications may be made through center pivot irrigation systems.

- Read and strictly follow all precautions and instructions on the Dual label.

Pendimethalin 3.3 EC plus Basis Gold (14 oz/A)

Preemergence followed by Early Postemergence - Apply Pendimethalin 3.3 EC after planting before weeds emerge. Apply Basis Gold postemergence before corn exceeds 12 inches tall or exhibiting up to 5 collared leaves, whichever is more restrictive.

Early Postemergence - Apply tank mix to corn up to 12 inches tall or exhibiting up to 5 collared leaves, whichever is more restrictive.

- Applications of Basis Gold to corn under stress may result in crop injury. Read and strictly follow all precautions and instructions on the Basis Gold label.
- Applications of Basis Gold or Basis Gold plus Pendimethalin 3.3 EC must include crop oil concentrate (COC) at 1.0% vol/vol (1 gallon per 100 gallons spray solution). COC at 2% vol/vol should be used under arid conditions. The addition of a liquid nitrogen fertilizer solution (28% nitrogen at 2-4 qts/acre) is recommended to improve the weed control of certain emerged species by Basis Gold.
- DO NOT apply Basis Gold through any type of irrigation system.

Pendimethalin 3.3 EC plus Dual or Dual II (1.25 to 2.5 pts/A) plus Bladex 90DF (1.0 to 2.22 lbs/A) or Bladex 4L (1.0 to 2.0 qts/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and before weeds exceed 1" in height except for Texas panicum, which must be no larger than the 2-leaf stage.

- Read and strictly follow all precautions and instructions on the Bladex and Dual label.
- DO NOT apply tank mixture postemergence under extended cold (<50°F), wet weather conditions, or when cold, wet conditions are predicted. Bladex injury can occur under these conditions.
- DO NOT use this combination on sands or loamy sands with less than 1% organic matter.
- DO NOT apply Bladex 4L postemergence or Dual II postemergence.
- DO NOT apply Bladex by air.
- The maximum rate for Bladex 90DF for early postemergence applications is 2.2 lbs of product per acre.

Pendimethalin 3.3 EC plus Beacon (0.38 or .76 oz/A)

DO NOT use in California.

Preemergence followed by Early Postemergence - Apply Pendimethalin 3.3 EC after planting, before weeds or crops emerge. Apply Beacon postemergence before corn exceeds 20 inches tall and the weeds exceed the height limitations on the Beacon label.

Early Postemergence - Apply tank mix to corn through the 6-leaf (4th collared leaf) stage and before weeds exceed the height recommended on the Beacon label.

- Read and strictly follow all precautions and instructions on the Beacon label.
- Banvel, Buctril, Clarity or 2,4-D may be tank mixed with Pendimethalin 3.3 EC plus Beacon for improved broadleaf weed control.
- For early postemergence applications of Beacon on Pendimethalin 3.3 EC plus Beacon, add a non-ionic surfactant (NIS) at 0.25% vol/vol (1 quart per 100 gallons of spray solution) or a Crop Oil Concentrate (COC) at 1.0% vol/vol (1 gallon per 100 gallons of spray solution). With NIS, the addition of a liquid nitrogen fertilizer solution (28% nitrogen at 2-4 quarts/acre) or spray grade ammonium sulfate (2-4 lbs/acre) may improve the weed control of certain emerged species by Beacon. DO NOT use COC in combination with liquid fertilizer or ammonium sulfate. When used with an additional herbicide, select adjuvants based on the adjuvant limitations of the herbicide.
- DO NOT apply Beacon through any type of irrigations system.

Pendimethalin 3.3 EC plus Extrazine II DF (0.8 to 3.3 lbs/A) or Extrazine II 4L (0.75 to 3.0 qts/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and before weeds exceed 1" in height except for Texas panicum, which must be no larger than the 2-leaf stage.

- Read and strictly follow all precautions and instructions on the Extrazine label.
- DO NOT apply tank mixture postemergence under extended cold (<50°F), wet weather conditions, or when cold, wet conditions are predicted. Extrazine injury can occur under these conditions.
- DO NOT use this combination on sand or loamy sands with less than 1% organic matter.
- DO NOT apply Extrazine II 4L postemergence.
- DO NOT apply this tank mix by air.
- The maximum rate for Extrazine II DF for early postemergence applications is 2.2 lbs of product per acre.

Pendimethalin 3.3 EC plus Bicep or Bicep II (1.5 to 3.0 qts/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge. Preemergence applications may be made through center pivot irrigation systems.

Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and when weeds are no larger than the 1-2 leaf growth stage. For best results, destroy emerged weeds by cultivation prior to application.

- Read and strictly follow all precautions and instructions on the Bicep and the Bicep II labels.
- Add Pendimethalin 3.3 EC to the spray tank prior to the addition of Bicep.

Pendimethalin 3.3 EC plus Frontier (13 to 25 oz/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply after corn emergence but before corn exceeds 3 inches in height. Emerged weeds will not be controlled by this tank mix.

- Read and strictly follow all precautions and instructions on the Frontier label.

Pendimethalin 3.3 EC plus Guardsman (2.5 to 5.0 pts/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply up to 3 inch tall corn but before weeds exceed 1.5 inches in height.

- Read and strictly follow all precautions and instructions on the Guardsman label.

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Pendimethalin 3.3 EC plus Harness (1.25 to 3.0 pts/A)
DO NOT use in California.
Preemergence - Apply after planting, but before weeds or crops emerge. Apply within 5 days of last preplant tillage operation.
• Read and strictly follow all precautions and instructions on the Harness Plus label.

Pendimethalin 3.3 EC plus Harness Xtra (1.8 to 2.3 qts/A)
DO NOT use in California.
Preemergence - Apply after planting, but before weeds or crops emerge. Apply within 5 days of last preplant tillage operation.
• Read and strictly follow all precautions and instructions on the Harness Xtra label.

Pendimethalin 3.3 EC plus Hornet (1.6 -4.8 oz/A)
Preemergence - Apply after planting, but before weeds or crops emerge.
Early Postemergence - Apply up to 24 inch tall corn but before weeds exceed 8 inches in height.
• Read and strictly follow all precautions and instructions on the Hornet label.

Pendimethalin 3.3 EC plus Laddok S-12 (1 1/3 to 2 1/3 pts/A)
Early Postemergence - Apply up to 24 inch tall corn and before weeds exceed the height on the Laddok S-12 label.
• Read and strictly follow all precautions and instructions on the Laddok S-12 label.

Pendimethalin 3.3 EC plus Lariat (2.0 to 4.5 qts/A) or Bullet (2.0 to 4.5 qts/A)
DO NOT use in California.
Preemergence - Apply after planting, but before weeds or crops emerge. Preemergence applications may be made through center pivot irrigation systems.
Early Postemergence - Apply from spike through the 4-leaf (2nd collared leaf) stage and when weeds are no larger than 2-leaf growth stage. Apply with ground equipment in water only.
• Read and strictly follow all precautions and instructions on the Lariat and Bullet labels.
• DO NOT graze treated area or feed treated forage to livestock for 21 days following application.

Pendimethalin 3.3 EC plus Lasso (1.5 to 4.0 qts/A)
Preemergence - Apply after planting, but before weeds or crops emerge. This treatment must be applied within 5 days of the last preplant tillage operation. Preemergence applications may be made through center pivot irrigation systems.
Early Postemergence - Apply after corn emergence, but before corn exceeds 5 inches in height. Emerged weeds will not be controlled by this tank mix.
• Read and strictly follow all precautions and instructions on the Lasso label.

Pendimethalin 3.3 EC plus Marksman (2.0 to 3.5 pts/A)
DO NOT use in California.
Preemergence - Apply after planting, but before weeds or crops emerge. DO NOT use on furrow irrigated corn.
Early Postemergence - Apply after corn emergence but no later than when corn is in the 2-leaf stage of growth and weeds are no larger than 1 inch tall.
• Read and strictly follow all precautions and instructions on the Marksman label.
• Apply only on level planted corn.
• DO NOT apply preemergence on any soils with less than 2.0% organic matter.
• AVOID drift to soybeans or other sensitive crops.

Pendimethalin 3.3 EC plus Marksman (2.0 to 3.5 pts/A) plus Bladex 90DF (1.0 to 2.22 lbs ai/A) or Bladex 4L (1.0 to 2.0 qts/A)
DO NOT use in California.
Preemergence - Apply after planting, but before weeds or crops emerge. DO NOT use on furrow irrigated corn.
Early Postemergence - Apply after corn emergence but no later than when corn is in the 2-leaf (no collared leaves) stage of growth and weeds are no larger than 1 inch tall.
• Read and strictly follow all precautions and instructions on the Marksman and Bladex label.
• Apply only on level planted corn.
• DO NOT apply tank mixture postemergence under extended cold (<50°F), wet weather conditions, or when cold, wet conditions are predicted. Bladex injury can occur under these conditions.
• DO NOT apply preemergence on any soils with less than 2% organic matter.
• DO NOT use this tank mixture postemergence on any soils with less than 1% organic matter.
• AVOID drift to soybeans or other sensitive crops.
• DO NOT apply Bladex 4L postemergence.
• DO NOT apply Bladex by air.

(Change to 1.33 pts/A)
Pendimethalin 3.3 EC plus Python WDG (0.8 to 1.33 pts/A)
Preemergence - Apply after planting, but before weeds or crops emerge.
Early Postemergence - Apply up to 2 inch tall corn but before the first leaf is unfurled.
• Read and strictly follow all precautions and instructions on the Python WDG label.
• DO NOT apply to soils with less than 1.5 % organic matter.
• DO NOT apply to areas where the soil pH is greater than 7.8.

Pendimethalin 3.3 EC plus Surpass (1.0 to 3 3/4 pts/A)
DO NOT use in California.
Preemergence - Apply after planting, but before weeds or crops emerge.
• Read and strictly follow all precautions and instructions on the Surpass label.

Pendimethalin 3.3 EC plus Surpass 100 (1.6 to 3.3 qts/A)
DO NOT use in California.
Preemergence - Apply after planting, but before weeds or crops emerge.
• Read and strictly follow all precautions and instructions on the Surpass 100 label.

Directions for use on SR Sethoxydim - resistant Field Corn

Pendimethalin 3.3 EC plus Poast Plus (12 to 24 oz/A)
Early Postemergence - Apply after corn emergence but no later than when corn is in the 6-leaf (4 collared leaves) stage of growth. Refer to Poast Plus label for specific weed height, rate recommendations, and postemergence broadleaf tank-mix partners.
• Only SR corn hybrids are tolerant to Poast⁷ Plus applications. Severe crop injury will occur to corn hybrids not labeled as SR corn.
• A nonphytotoxic Crop Oil Concentrate (COC) should be used at a concentration of 1.0% v/v (2 pints per acre maximum) or as recommended by the manufacturer (if recommendation is less than 1.0%).
• DO NOT apply if rainfall is expected within 1 hour following application or weed control may be unsatisfactory.
• Read and follow all precautions and instructions on the Poast Plus label.

CULTI-SPRAY (POSTEMERGENCE INCORPORATED)

General Instructions

Pendimethalin 3.3 EC or Pendimethalin 3.3 EC plus atrazine tank mixtures applied as a Culti-Spray (postemergence incorporated) treatment will control most late season annual grasses and certain broadleaf weeds in field corn. Pendimethalin 3.3 EC treatments can be applied from the 4-inch growth stage to as late as the last cultivation (layby) of field corn. Pendimethalin 3.3 EC plus atrazine must be applied before the field corn reaches 12 inches in height. Pendimethalin 3.3 EC treatments will not control established weeds. DESTROY EMERGED WEEDS BY CULTIVATION PRIOR TO PENDIMETHALIN 3.3 EC APPLICATION.

Culti-Spray (postemergence incorporated) applications of Pendimethalin 3.3 EC or Pendimethalin 3.3 EC plus atrazine tank mixture can be applied in field corn previously treated with herbicides registered for use in field corn. Consult the labels of those herbicides for suggested treatments, rates to be used, and precautions or restrictions for use in field corn and for Follow Crop Restrictions.

Culti-Spray (Postemergence Incorporated) Applications Pendimethalin 3.3 EC alone or Pendimethalin 3.3 EC plus Atrazine

- Cultivate with a sweep-type or rolling cultivator operated at sufficient speed to throw at least one inch of soil over the bases of the field corn plants. This will kill small weed seedlings growing in the field corn row and will prevent direct contact of the zone of brace root formation by Pendimethalin 3.3 EC during application.
- Apply broadcast with a ground sprayer when corn is at least 4 inches tall up to layby (last cultivation). Use drop nozzles if crop foliage will prevent uniform coverage of the soil surface within the rows.
- Thoroughly and uniformly incorporate Pendimethalin 3.3 EC treatments into the soil (1) with a sweep-type or rolling cultivator set to provide thorough incorporation in the top 1 inch of soil OR (2) with adequate irrigation water or rainfall. For best results, incorporate Pendimethalin 3.3 EC treatments as soon as possible after application. Incorporation must be completed within 7 days after application. If adequate moisture is not received within 7 days after application, incorporate Pendimethalin 3.3 EC with a sweep-type or rolling cultivator.

Under situations of low rainfall or soil moisture, when deep germinating weeds such as shattercane or field sandbur are anticipated, mechanical incorporation will provide best results.

If cultivation is needed after application and incorporation of Pendimethalin 3.3 EC, the depth of cut should be no deeper than the depth of cut used to incorporate.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Culti-Spray (Postemergence Incorporated) in Field Corn (Pints per Acre)

Soil Texture	Southern States ¹	Northern States ¹
Coarse	1.2 to 1.8 pts	1.8 to 2.4 pts
Medium	1.8 to 2.4 pts	2.4 to 3.6 pts
Fine	1.8 to 3.6 pts	2.4 to 3.6 pts

For Pendimethalin 3.3 EC plus atrazine tank mixtures, do not exceed 1.2 lb a.i. per acre of atrazine.

¹ See map at end of this label for specific states.

NOTE: Livestock can graze or be fed forage from treated field corn after 21 days following application.

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SWEET CORN

For use in Alabama, Arizona, Idaho, California, Florida, Georgia, Illinois, Minnesota, Mississippi, Montana, Oregon, New York, Texas, Washington and Wisconsin.

General Instructions

Pendimethalin 3.3 EC herbicide may be applied preemergence only in sweet corn (all varieties) in Arizona, California, Montana, and Texas.

Pendimethalin 3.3 EC may be applied preemergence or early postemergence in sweet corn (processing varieties only) in Idaho, Illinois, Minnesota, New York, Oregon, Washington, and Wisconsin.

Pendimethalin 3.3 EC may be applied early postemergence only in sweet corn in Alabama, Florida, Georgia and Mississippi. Pendimethalin 3.3 EC can only be applied early postemergence with atrazine. DO NOT apply Pendimethalin 3.3 EC alone or with any other product in these states.

DO NOT APPLY PREPLANT INCORPORATED or serious corn injury can result.

Plant into a seedbed that is firm and free of clods and trash. Use only where adequate tillage is practiced to provide good soil coverage of the corn seed. **PLANT CORN AT LEAST 1 1/2 INCHES DEEP. CORN SEED MUST BE COMPLETELY COVERED WITH SOIL.**

Pendimethalin 3.3 EC or Pendimethalin 3.3 EC tank-mix combination treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after application. If cultivation is necessary because of soil crusting, soil compaction or weed germination before rain or irrigation, use shallow tillage (such as rotary hoe), and make certain corn seeds are below the tilled area.

When Pendimethalin 3.3 EC alone is used, if corn loss occurs due to weather conditions, corn or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted the same year without adverse effects. If corn is replanted, seeding depth must be below retiled area or crop injury may occur.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods and Timings

Preemergence - Apply Pendimethalin 3.3 EC after planting, but before weeds and crop emerge. Apply Pendimethalin 3.3 EC tank mixes as specified under the tank mix section.

Early Postemergence - Apply Pendimethalin 3.3 EC tank mixes postemergence according to corn height and weed size specified under the tank mix section. Pendimethalin 3.3 EC alone will not control emerged weeds. For maximum effectiveness, wait at least 7-10 days before cultivating early postemergence treatments.

Pendimethalin 3.3 EC may be applied postemergence to sweet corn in Alabama, Florida, Georgia, Illinois, Minnesota, Mississippi, New York and Wisconsin. DO NOT apply postemergence to sweet corn in states other than those listed above.

DO NOT APPLY PREPLANT INCORPORATED or serious corn injury can result.

Pendimethalin 3.3 EC Use Rates in Sweet Corn

Recommended use rates for Pendimethalin 3.3 EC alone and in tank mix applications are given in the following table.

Broadcast Rate¹ per Acre of Pendimethalin 3.3 EC Preemergence and Early Postemergence in Sweet Corn (Pints Per Acre)

Soil Texture	<1.5% Organic Matter		
	<1.5% Organic Matter	1.5-3.0% Organic Matter	>3.0% Organic Matter
Coarse	1.8 to 2.4 pts	2.4 to 3.6 pts	3.6 pts
Medium	2.4 to 3.6 pts	3.6 pts	3.6 to 4.8 pts
Fine	2.4 to 3.6 pts	3.6 to 4.8 pts	3.6 to 4.8 pts

¹ Use the high rate for each soil classification when using Pendimethalin 3.3 EC alone.

Pendimethalin 3.3 EC Tank Mixes in Sweet Corn

Pendimethalin 3.3 EC may be applied in a tank mix atrazine, Bicep, Bicep II, Dual, Dual II, Lariat or Bullet, or Lasso. Refer to the companion label for weeds controlled in addition to Pendimethalin 3.3 EC alone.

When using tank mixtures with Pendimethalin 3.3 EC, 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 precautions and restrictions including state and local use restrictions that may apply to specific products. Always follow the most restrictive label.

RESTRICTIONS FOR EARLY POSTEMERGENCE APPLICATIONS

To avoid serious crop injury with early postemergence applications observe the following restrictions:

- DO NOT apply following Pendimethalin 3.3 EC preemergence applications.
- DO NOT apply in liquid fertilizer.

Follow additional use directions in this table for Pendimethalin 3.3 EC tank mixes. (Refer to Pendimethalin 3.3 EC in Sweet Corn use rates.)

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Pendimethalin 3.3 EC plus Atrazine (1.0 to 2.0 lb ai/A)

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply from spike through the 4-leaf stage but before weeds exceed 1 inch in height except for *Texas panicum*, which must be no larger than the 2-leaf stage.

- Read and strictly follow all precautions and instructions on the atrazine label.
- In Alabama, Florida and Georgia, Pendimethalin 3.3 EC can only be applied with atrazine early postemergence. DO NOT apply Pendimethalin 3.3 EC alone or with any other product in these states.

Pendimethalin 3.3 EC plus Bicep or Bicep II (1.5 to 3.0 qts/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge.

Early Postemergence - Apply from spike through the 4-leaf stage and when weeds are no larger than the 1-2 leaf growth stage. For best results, destroy emerged weeds by cultivation prior to application. DO NOT apply Bicep II postemergence.

- Read and strictly follow all precautions and instructions on the Bicep label.
- Add Pendimethalin 3.3 EC to the spray tank prior to the addition of Bicep.

Pendimethalin 3.3 EC plus Dual or Dual II (1.25 to 2.5 pts/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge.

- Read and strictly follow all precautions and instructions on the Dual label.

Pendimethalin 3.3 EC plus Lariat (2.0 to 4.5 qts/A) or Bullet (2.0 to 4.5 qts/A)

DO NOT use in California.

Preemergence - Apply after planting, but before weeds or crops emerge.

- Read and strictly follow all precautions and instructions on the Lariat or Bullet label.
- DO NOT graze treated area or feed treated forage to livestock for 21 days following application.

Pendimethalin 3.3 EC plus Lasso (1.5 to 4.0 qts/A)

Preemergence - Apply after planting, but before weeds or crops emerge. This treatment must be applied within 5 days of the last preplant tillage.

Early Postemergence - Apply after planting but before corn exceeds 5 inches in height. Apply in ground equipment with water only. Emerged weeds will not be controlled by this tank mix.

- Read and strictly follow all precautions and instructions on the Lasso label.

COTTON

General Instructions

Pendimethalin 3.3 EC may be applied in conventional, minimum, stale seedbed or no-till as a preplant surface, preplant incorporated or preemergence application in cotton.

DO NOT use in no-till cotton in California.

Preplant surface and preemergence treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after application. A shallow cultivation is recommended if soil crusting or soil compaction occurs. If weeds begin to germinate or adequate moisture is not received within 7 days after application, use shallow tillage (rotary hoe or light harrow) and make sure cotton seeds are below tilled area. Otherwise, the use of a postemergence herbicide treatment may be required to control weed escapes at planting or following cotton emergence.

In the event of a crop loss due to weather conditions, cotton or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted without adverse effects the same year. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

DO NOT feed forage or graze livestock in treated cotton fields.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods and Timings

Preplant Surface - Apply Pendimethalin 3.3 EC up to 15 days prior to planting. Apply Pendimethalin 3.3 EC tank mixes and sequential programs as specified under the tank mix section.

Preplant Incorporated - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Apply Pendimethalin 3.3 EC tank mixes and sequential programs as specified under the tank mix section.

Preemergence - Apply Pendimethalin 3.3 EC at planting or up to 2 days after planting. Apply to a seedbed which is firm and free of clods. Apply Pendimethalin 3.3 EC tank mixes and sequential programs as specified under the tank mix section.

Preplant Incorporated followed by Preemergence - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Apply overlay application of Pendimethalin 3.3 EC at planting or up to 2 days after planting. **Total amount of Pendimethalin 3.3 EC applied per acre cannot exceed the highest labeled rate for a given soil type.** Preplant incorporated and preemergence applications of Pendimethalin 3.3 EC may be applied with labeled tank mix herbicide(s).

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Fall Application - Pendimethalin 3.3 EC may be applied for weed control in cotton in the fall, after October 15 (up to 140 days prior to planting cotton) in Arizona, California, Louisiana, New Mexico, Mississippi, Oklahoma and Texas. Apply Pendimethalin 3.3 EC at the broadcast rate of 1.8 pints on coarse soils, 2.4 pints on medium soils and 3.6 pints on fine soils.

Pendimethalin 3.3 EC Use Rates in Cotton

Recommended use rates for Pendimethalin 3.3 EC alone and in tank mix or sequential applications are given in the following table.

Broadcast Rate per Acre of Pendimethalin 3.3 EC in Cotton (Pints per Acre)

Soil Texture	Conventional or Minimum Tillage	No-Tillage ²
Coarse	1.2 to 2.4 ¹ pts	1.8 to 2.4 pts
Medium	1.8 to 2.4 pts	2.4 to 3.6 pts
Fine	2.4 to 3.6 pts	3.6 to 4.8 pts

¹ DO NOT exceed 1.8 pts/A on coarse textured soils in California.

² This use is not recommended for soils with more than 3% organic matter.

For heavy clay soils, apply Pendimethalin 3.3 EC at the broadcast rate of 3.6 pints per acre.

The high rates for each soil texture above should be used if heavy weed populations are anticipated, extensive crop residues were present prior to seedbed preparation or in no-till.

Pendimethalin 3.3 EC Tank Mixes and Sequential Programs in Cotton

Pendimethalin 3.3 EC may be applied in a tank mix with fluometuron (i.e. Cotoran) prometryn (i.e. Caparol) and Zorial. Pendimethalin 3.3 EC may be applied in a sequential application with fluometuron, Diuron (i.e. Karmex) or Zorial. Refer to the companion label for weeds controlled in addition to Pendimethalin 3.3 EC alone.

When using tank mixtures or sequential applications with Pendimethalin 3.3 EC, 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.

Follow additional use directions in this table for Pendimethalin 3.3 EC tank mixes. (Refer to the table above to determine Pendimethalin 3.3 EC use rate)

For no-till, Pendimethalin 3.3 EC alone or Pendimethalin 3.3 EC tank mixes may be used with Gramoxone Extra or Roundup herbicides to kill existing vegetation if present before planting. Refer to these labels for specific use recommendation, rates and weeds controlled.

Layby Use in Cotton Recommended For Use in Arizona, New Mexico, California, Oklahoma, and Texas Only

General Instructions

Pendimethalin 3.3 EC may be applied as a layby application in cotton. Layby applications can be applied in cotton previously treated with Pendimethalin 3.3 EC or any herbicide(s) registered for use in cotton. Consult the labels of those herbicides for suggested treatments, rates to be used, and precautions or restrictions for use in cotton and for follow crop restrictions.

Pendimethalin 3.3 EC is most effective in controlling weeds when adequate rainfall or irrigation is received within 7 days after application.

DO NOT APPLY AS A BROADCAST SPRAY OVER TOP OF COTTON, OR CROP INJURY MAY RESULT.

There must be an interval of at least 60 days between the last Pendimethalin 3.3 EC application and cotton harvest.

NOTE: Do Not feed forage or graze livestock in treated cotton fields. If loss of cotton crop occurs due to weather conditions, cotton or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted the same year without adverse effects. If replanting is necessary, a light reworking of the soil will retain the herbicidal activity of Pendimethalin 3.3 EC.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods And Timings

Applications At Last Cultivation (Layby) - Apply Pendimethalin 3.3 EC directly to the soil between rows as a directed spray following the last normal cultivation (layby). To reduce the potential for crop injury caused by herbicide contact with cotton foliage and stems, protective shields must be used. Pendimethalin 3.3 EC will not control emerged weeds. Destroy Existing Weeds Prior To Application.

Pendimethalin 3.3 EC Use Rates

Broadcast Rate Per Acre of Pendimethalin 3.3 EC for Layby Applications in Cotton

Soil Texture	Pendimethalin 3.3 EC (pints)
Coarse	1.2 to 1.8
Medium	1.8 to 2.4
Fine	2.4 to 3.6

For heavy clay soils, apply Pendimethalin 3.3 EC at the broadcast rate of 3.6 pints per acre.

The high rate for each soil texture above should be used if heavy weed populations are anticipated.

Pendimethalin 3.3 EC Tank Mixes

To extend the spectrum of weed control, Pendimethalin 3.3 EC may be tank-mixed with other herbicides labeled for layby use in cotton.

When Pendimethalin 3.3 EC is tank mixed with other herbicides, follow all cropping restrictions, precautionary statements and limitations in the tank mix partner leaflet label. Always follow the most restrictive label recommendations.

Pendimethalin 3.3 EC Plus Roundup[®] Ultra Tank-Mixtures For Layby Use in Cotton in Arizona, New Mexico, California, Oklahoma, and Texas Only

Roundup Ultra (or other glyphosate containing products) may be applied at layby with Pendimethalin 3.3 EC in a tank-mixture for enhanced weed control layby in cotton with the Roundup Ready[®] gene. DO NOT apply Roundup Ultra (or other glyphosate-containing products) at layby on non-Roundup Ready cotton.

DO NOT APPLY PENDIMETHALIN 3.3 EC AND ROUNDUP ULTRA TANK-MIX AS A BROADCAST SPRAY OVER TOP OF COTTON, OR CROP INJURY MAY RESULT.

Layby applications can be applied in cotton previously treated with Pendimethalin 3.3 EC or any herbicide(s) registered for use in cotton. Consult the labels of those herbicides for suggested treatments, rates to be used, and precautions or restrictions for use in cotton and for follow crop restrictions.

Pendimethalin 3.3 EC is most effective in controlling weeds when adequate rainfall or irrigation is received within 7 days after application.

There must be an interval of at least 60 days between Pendimethalin 3.3 EC application and cotton harvest.

NOTE: DO NOT feed forage or graze livestock in treated cotton fields. If loss of cotton crop occurs due to weather conditions, cotton or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted the same year without adverse effects. If replanting is necessary, a light reworking of the soil will retain the herbicidal activity of Pendimethalin 3.3 EC.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods And Timings

Applications At Last Cultivation (Layby) - Apply Pendimethalin 3.3 EC and Roundup tank-mixture directly to the soil between rows as a directed spray following the last normal cultivation (layby). To reduce the potential for crop injury caused by herbicide contact with cotton foliage and stems, protective shields must be used.

Pendimethalin 3.3 EC And Roundup Ultra Use Rates

Broadcast Rate Per Acre of Pendimethalin 3.3 EC and Roundup Ultra for Layby Applications in Cotton

Soil Texture	Pendimethalin 3.3 EC (pints)	Roundup Ultra (quarts)
Coarse	1.2 to 1.8	up to 1.0
Medium	1.8 to 2.4	up to 1.0
Fine	2.4 to 3.6	up to 1.0

For heavy clay soils, apply Pendimethalin 3.3 EC at the broadcast rate of 3.6 pints per acre.

For Pendimethalin 3.3 EC, the high rate for each soil texture above should be used if heavy weed populations are anticipated.

Refer to Mixing And Spraying Instructions for additional information. Refer to the Roundup Ultra or glyphosate-containing product label for additional information regarding application rates, restrictions, precautions, weeds controlled, adjuvant recommendations and other information.

When tank-mixing herbicides, always follow the most restrictive label recommendations.

Pendimethalin 3.3 EC plus fluometuron (i.e. Cotoran) (0.8 to 2.0 lbs ai/A)

Preplant Incorporated followed by preemergence - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Apply fluometuron as an overlay preemergence application as directed on the fluometuron label (use the fluometuron alone preemergence rates).

Preemergence - Apply immediately after planting (or crop injury may result) in water or nitrogen solution with ground equipment only. DO NOT apply tank mix preemergence in Arizona, California, Oklahoma, New Mexico and West Texas.

- Read and strictly follow all precautions and instructions on the fluometuron label.
- Plant cotton seeds 1 inch or deeper below the soil surface.
- The use of fluometuron as a preemergence application following the use of a systemic insecticide at planting, may result in injury to cotton. DO NOT plant crops other than cotton within 6 months of the last application of fluometuron or injury may result.
- Maintain good agitation at all times until spraying is completed.
- DO NOT feed foliage from treated cotton plants or gin trash to livestock.

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Pendimethalin 3.3 EC plus prometryn (i.e. Caparol) (1.2 to 2.4 lbs ai/A)
For use in Arizona, California, New Mexico, and the Upper and Lower El Paso Valley of Texas.
Preplant Incorporated - Apply with ground equipment prior to listing or over partially finished or finished beds. Incorporate immediately after application.
• Read and strictly follow all precautions and instructions on the prometryn label.
• DO NOT use on sands or loamy sands.
• DO NOT use this tank mix in cut areas of newly leveled fields, in areas of excess salt or in areas where flooding over the bed is likely to occur as crop injury may result. Cotton should not be planted in tractor wheel depressions or crop injury may result.
• DO NOT use this tank mixture when cotton is irrigated up as crop injury may result.
• On mulch planted cotton, water back only after cotton seedlings are well established.
• Maintain good agitation at all times until spraying is completed to keep the material in suspension. Mechanical agitation should be used in Arizona and California.
• If replanting is necessary, do not rework the soil.

Pendimethalin 3.3 EC plus prometryn (i.e. Caparol)
For use in specified areas of Oklahoma and Texas.
Preplant Surface - Apply up to 15 days before planting.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.
• Read and strictly follow all precautions and instructions on the prometryn label.
• See the prometryn label for use rates and specified areas of Oklahoma and Texas.

Pendimethalin 3.3 EC plus diuron (i.e. Karmex) (0.5 to 1.6 lbs ai/A)
Preplant Incorporated followed by preemergence - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Apply Diuron as an overlay preemergence application as directed on the Diuron label (use the Diuron alone preemergence rates).
• Read and strictly follow all precautions and instructions on the Diuron label.
• The use of Diuron as a preemergence application following the use of a systemic insecticide at planting, may result in injury to cotton.

Pendimethalin 3.3 EC plus Zorial Rapid 80 or 80WP (1.25 to 2.5 lbs/A)
DO NOT use in Arizona, California, New Mexico, Oklahoma and Texas.
Preplant Surface - Apply up to 15 days prior to planting.
Preplant Incorporated - Apply up to 30 days prior to planting and incorporate within 7 days of application. DO NOT incorporate deeper than 2-3 inches with commonly used equipment.
Preemergence - Apply tank mix with ground equipment immediately after planting or crop injury may result. Make sure cotton seeds are placed 1 inch or deeper below soil surface.
Preplant Incorporated followed by preemergence - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Apply Zorial as an overlay preemergence application as directed on the Zorial label (use the Zorial alone preemergence rates).
• Read and strictly follow all precautions and instructions on the Zorial label.
• If the cotton plant is stressed during early development, application of Pendimethalin 3.3 EC plus Zorial at the label rate may result in temporary bleaching or chlorosis of the leaves from which the plant will recover.
• Maintain good agitation at all times until application is complete.

Preplant Incorporated Application Pendimethalin 3.3 EC for Control of Rhizome Johnsongrass

Pendimethalin 3.3 EC applied preplant incorporated for two consecutive years will provide control of rhizome johnsongrass (*Sorghum halepense*) in cotton at the rates recommended for soil textures listed below. This use is not recommended for Arizona, New Mexico and California. Rhizome johnsongrass will be suppressed after the first year and controlled after the second year.

Before application, use a chisel plow or similar implement to bring johnsongrass rhizomes to the surface. Chip rhizomes into small pieces with a disk harrow set to cut 4 to 6 inches deep and operated in two different directions at 4 to 6 mph.

Pendimethalin 3.3 EC is to be incorporated into the soil within 7 days after application prior to planting. For maximum control of rhizome johnsongrass, incorporate Pendimethalin 3.3 EC as soon as possible after application. Deep and thorough incorporation of Pendimethalin 3.3 EC is necessary for control of rhizome johnsongrass. Mechanical incorporation can be achieved by the following methods:

- Disk harrow set to cut 4 to 6 inches deep and operated in two different directions at 4 to 6 mph.
- PTO-driven equipment (tillers, cultivators, hoes) set to cut 3 to 4 inches deep and operated one time at 4 mph or less.

For johnsongrass escapes during the crop season, cultivation and/or application of registered postemergence herbicides is recommended. Follow the directions for use on the labels of the respective herbicides.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Preplant Incorporated for Control of Rhizome Johnsongrass in Cotton
APPLY FOR TWO CONSECUTIVE YEARS

Soil Texture (Up to 3% organic matter ¹)	Pendimethalin 3.3 EC (pints)
Coarse	2.4
Medium	3.6
Fine	4.8

¹ This use is not recommended for soils with more than 3% organic matter.

NOTE: DO NOT feed forage or graze livestock in treated cotton fields.

If cotton crop loss occurs due to weather conditions, cotton or soybeans can be replanted the same year into treated soil without adverse effects. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

Aid In The Control Of Russian Thistle In Cotton In The State Of Arizona Only
In order to suppress Russian thistle (*Salsola iberica*), apply Pendimethalin 3.3 EC herbicide preplant incorporated. Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Refer to the Pendimethalin 3.3 EC leaflet label for soil type classifications.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC

Soil Type	Pendimethalin 3.3 EC (pints per acre)
Coarse	1.2 to 2.4 pts
Medium	1.8 to 2.4 pts
Fine	2.4 to 3.6 pts

The high rates for each soil texture above should be used if heavy weed populations are anticipated, or extensive crop residues are present prior to seed bed preparation.

Apply Pendimethalin 3.3 EC tank mixes and sequential programs as specified under the tank mix section of the leaflet label. When Pendimethalin 3.3 EC is tank mixed with other herbicides, follow all cropping restrictions, precautionary statements and limitations in the tank mix partner leaflet label. Always follow the most restrictive label recommendations. Refer to specific companion product label(s) to determine specific use rates and weeds controlled. In addition, follow all precautions and restrictions including State and local use restrictions that may apply.

Pendimethalin 3.3 EC will not control established weeds. Destroy existing weeds before or during application of Pendimethalin 3.3 EC. Unusually cold, excessively wet, or hot dry conditions that delay germination or extend germination over a long period of time may reduce weed control.

NOTE: If loss of crop occurs due to adverse weather conditions, cotton or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted the same year into Pendimethalin 3.3 EC treated soils without adverse effects. If replanting is necessary, DO NOT rework the soil deeper than the herbicide treated zone.

EDIBLE BEANS
DRY, LIMA, SNAP, CHICKPEAS (GARBANZO BEANS),
SOUTHERN PEAS (COWPEAS) AND SWEET LUPINES

General Instructions

Pendimethalin 3.3 EC may only be applied preplant incorporated in chickpeas (garbanzo beans), dry beans (such as navy, great northern, red kidney, black turtle, cranberry and small white type), lima beans, snap beans and southern peas (cowpeas).

Pendimethalin 3.3 EC may be applied preplant incorporated or preemergence in sweet lupines.

DO NOT feed lupine hay and forage or graze livestock in treated lupine fields.

In the event of a crop loss due to weather conditions, beans or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted without adverse effects the same year. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods and Timings

Preplant Incorporated - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Apply Pendimethalin 3.3 EC tank mixes as specified under the tank mix section.

Preemergence - Apply Pendimethalin 3.3 EC to sweet lupines only at planting or up to 2 days after planting. Apply to a seedbed which is firm and free of clods. DO NOT APPLY Pendimethalin 3.3 EC Preemergence (surface treatments) to chickpeas, dry beans, lima beans, snap beans and southern peas (cowpeas) after planting or serious crop injury can result.

Pendimethalin 3.3 EC Use Rates in Edible Beans

Recommended use rates for Pendimethalin 3.3 EC alone and in tank mix applications are given in the following table.

Broadcast Rate¹ per Acre of Pendimethalin 3.3 EC in Edible Beans (Pints per Acre)

Soil Texture	Southern States ¹		Northern States ¹	
	<3% Organic Matter	>3% Organic Matter	<3% Organic Matter	>3% Organic Matter
Coarse	1.2 to 1.8 pts	1.2 to 2.4 pts	1.2 to 2.4 pts	2.4 pts
Medium	1.8 to 2.4 pts	1.8 to 3.0 pts	1.8 to 3.0 pts	3.0 to 3.6 pts
Fine	1.8 to 3.6 pts	2.4 to 3.6 pts	2.4 to 3.6 pts	3.6 pts

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* See map at the end of this label for specific states.

Use the 3.6 pint rate for heavy clay soils.

Pendimethalin 3.3 EC Tank Mixes in Edible Beans

Pendimethalin 3.3 EC may be applied in a tank mix with Dual, Eptam, Lasso or Micro-Tech. Refer to the companion label for weeds controlled in addition to Pendimethalin 3.3 EC alone.

When using tank mixtures with Pendimethalin 3.3 EC, 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.

Follow additional use directions in this table for Pendimethalin 3.3 EC tank mixes. (Refer to the table above to determine Pendimethalin 3.3 EC use rate)

Pendimethalin 3.3 EC plus Dual (1.5 to 3.0 pts/A) 1.0 - 2.0
<p>For use in dry, lima or snap beans, chickpeas, and southern peas. Preplant Incorporated - Apply up to 14 days prior to planting and incorporate within 7 days of application.</p> <ul style="list-style-type: none"> • Read and strictly follow all precautions and instructions on the Dual label. • DO NOT apply preemergence to dry, lima or snap beans, chickpeas or southern peas. • DO NOT graze or feed forage or fodder. • DO NOT apply to sweet lupines.

Pendimethalin 3.3 EC plus Eptam (2.5 to 4.5 pts/A)
<p>For use on Dry and Snap Beans only. Preplant Incorporated - Apply with ground sprayer up to 2 days prior to planting. Incorporate immediately (within minutes) after application to prevent loss of Eptam. Whenever possible, application and incorporation should be done in the same application.</p> <ul style="list-style-type: none"> • Read and strictly follow all precautions and instructions on the Eptam label. • Incorporation Instructions - Use power driven cultivation equipment set to cut to a depth of 2 to 3 inches or tandem disks set to cut to a depth of 4 to 6 inches, operated at 4 to 6 mph, followed by a spike-toothed harrow or some other leveling device which extends beyond the ends of the disks. For thorough mixing, disk in two different directions (cross disk). • DO NOT exceed 3.5 pints Eptam per acre on small white beans on coarse textured soils. • DO NOT use this tank mixture on Adzuki beans, chickpeas, southern peas (cow peas, including blackeye peas, blackeye beans), soybeans, lima beans or other flat podded beans. • DO NOT feed bean hay, vines and forage or graze livestock in treated bean fields. • For nutsedge control, use 4.5 pints of Eptam per acre.

Pendimethalin 3.3 EC plus Lasso or Micro-Tech (2.5 to 3.0 qts/A) or Partner WDG (3.8 to 4.8 lbs/A)
<p>DO NOT use in California. For use only in Dry Beans west of the Mississippi river. Preplant Incorporated - Apply within 7 days prior to planting and incorporate within 7 days of application.</p> <ul style="list-style-type: none"> • Read and strictly follow all precautions and instructions on the Lasso or Micro-Tech label. • Apply in water with ground equipment only. • This tank mixture may delay crop maturity and/or reduce yield if cold, wet soil conditions occur after planting.

FORAGE LEGUMES

General Instructions

Pendimethalin 3.3 EC may be used in FORAGE LEGUMES USED AS A COVER CROP IN FEDERAL SET-ASIDE OR CONSERVATION RESERVE PROGRAM AREAS.

Some stand reduction to the legume cover crop may occur with this use. Consult local county extension service or the local ASC committee for recommended cover crops.

If loss of cover crop occurs due to adverse weather conditions, any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted the same year into Pendimethalin 3.3 EC treated soil without adverse effects. If replanting is necessary, DO NOT rework the soil deeper than the Pendimethalin 3.3 EC treated zone.

DO NOT feed or graze legume cover crops established following Pendimethalin 3.3 EC application.

The cover crop residue should ultimately be destroyed by tillage or left on the surface to retard erosion or as directed by the local ASC committee.

Use Methods and Timings

Pendimethalin 3.3 EC may be applied preplant incorporated or preemergence for weed control in legume cover crops. Refer to **Mixing, Application and Incorporation Instructions, Weeds Controlled and Follow Crop Restrictions** sections.

Pendimethalin 3.3 EC Use Rates in Forage Legumes

Recommended use rates for Pendimethalin 3.3 EC alone is given in the following table.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Preplant Incorporated in Forage Legumes (Pints per Acre)	
Soil Texture	Rate
Coarse	1.2 to 1.8 pts
Medium	1.8 to 2.4 pts
Fine	2.4 to 3.0 pts

GARLIC, DRY BULB SHALLOTS, AND DIRECTED-SEEDED AND TRANSPLANTED DRY BULB ONIONS

General Instructions

Uniformly apply in 10 or more gallons of water per acre with ground equipment, or 5 or more gallons of water per acre with aircraft. Chemigation: Pendimethalin 3.3 EC may only be applied through center pivot, solid set or hand move irrigation. DO NOT apply through other irrigation systems. Apply Pendimethalin 3.3 EC between the 2 to 9 true leaf stage (2 to 6 true leaf stage in California) only unless otherwise specified in the Additional Use sections below. DO NOT irrigate in excess of 0.5 inches of water. Refer to Chemigation section for chemigation directions.

Pendimethalin 3.3 EC treatments are most effective when adequate rainfall or overhead irrigation is received within 7 days after application.

DO NOT mechanically incorporate except as specified for use on dry bulb onions in Colorado and the Texas High Plains.

DO NOT apply to green (bunching) onion or leaks.

Use Directions for Mineral Soils

Broadcast Rate per Acre of Pendimethalin 3.3 EC Herbicide for Use on Mineral Soils in All States (Pints per Acre)

Soil Texture	Rate
Coarse	1.2 to 1.8 pts
Medium	1.8 to 2.4 pts
Fine	1.8 to 3.6 pts

DO NOT exceed 3.6 pints per acre per crop (except Idaho, Oregon and Washington). DO NOT apply within 60 days of harvest in California and within 45 days of harvest in all other states. DO NOT feed or graze these crops.

If loss of treated crop occurs due to adverse weather conditions, any crop registered for preplant incorporated use of Pendimethalin 3.3 EC can be replanted the same year. If replanting is necessary, DO NOT rework the soil deeper than 2 inches.

Garlic

Pendimethalin 3.3 EC may be applied to garlic in the following ways:

- Preemergence after planting but before crop and weeds emerge.
- Postemergence to the garlic at the 1 to 5 true leaf growth stage.
- As a split application, apply at both preemergence and postemergence timings.

Dry Bulb Shallots And Direct-Seeded And Transplanted Dry Bulb Onions In All States Except California:

Apply Pendimethalin 3.3 EC as a broadcast treatment when onions or shallots have 2 to 9 true leaves.

Additional Use in Colorado, Kansas and Nebraska:

Pendimethalin 3.3 EC may be applied sequentially in seeded onions. Apply first application of Pendimethalin 3.3 EC at loop stage. Apply sequential application of Pendimethalin 3.3 EC early postemergence (2 to 9 true leaf stage). DO NOT exceed the maximum labeled rate for a given soil texture. DO NOT apply Pendimethalin 3.3 EC at loop stage through the 9 true leaf stage if heavy rains are expected or severe crop injury may result.

Additional Use in Colorado and the Texas High Plains:

For transplanted onions only, apply and shallow incorporate (less than 2" deep) Pendimethalin 3.3 EC into preformed beds prior to transplanting.

Additional Use in Idaho, Oregon and Washington:

Apply Pendimethalin 3.3 EC as a broadcast treatment when onions or shallots are between the flag leaf to 9 true leaf stage.

Pendimethalin 3.3 EC may be used at 3.6 to 4.8 pints per acre for dodder control on medium and fine textured soils. DO NOT apply Pendimethalin 3.3 EC using chemigation at the dodder control rate.

Pendimethalin 3.3 EC may be applied in the fall or spring the furrow area of land bedded in the fall in preparation for planting seed of dry bulb onions the following spring. Apply Pendimethalin 3.3 EC as a banded application at rates based on appropriate soil texture. Band width should be approximately 1/2 the width of the row spacing. Keep Pendimethalin 3.3 EC away from the area where onion seed will be planted. Harrow-off tops of beds following Pendimethalin 3.3 EC furrow applications prior to planting onions. For selective weed control in the onion row, apply Pendimethalin 3.3 EC as a banded postemergence application to flag leaf onions at the labeled rates based on soil texture.

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Apply Pendimethalin 3.3 EC only once to the furrow area and once to the onion row as a postemergence application.

Additional Use in Michigan:

For mineral soils containing >10% organic matter, follow the directions for muck soils (see below).

In California:

Pendimethalin 3.3 EC may only be applied as a single application when onions or shallots have 2 to 6 true leaves.

Use Directions for Muck Soils (Onions Only)

On Muck Soils in All States Except California:

Pendimethalin 3.3 EC may be applied sequentially to ONIONS ONLY on muck soils as follows:

✓ **Broadcast Rate per Acre and Application Timing of Pendimethalin 3.3 EC
Herbicide for Muck Soils
(Pints per Acre)**

Application Timing and Growth Stage	Rate
Preemergence through loop stage	2.4 to 4.8 pts
Early Postemergence (2 to 6 true leaf stage)	3.6 to 4.8 pts
Late Postemergence (6 to 9 true leaf stage)	3.6 to 4.8 pts

DO NOT apply more than 14.4 pints per acre per growing season on muck soils. To maximize crop safety, ensure good soil coverage during planting or transplanting and delay preemergence applications to the loop stage if possible.

DO NOT apply Pendimethalin 3.3 EC preemergence through the loop stage if heavy rains are expected or else severe crop injury may result. If irrigating immediately after Pendimethalin 3.3 EC application at the preemergence through loop stage, DO NOT irrigate in excess of 0.5 inches of water.

DO NOT apply within 45 days of harvest.

DO NOT plant sugar beets, red beets, spinach, winter wheat, or winter barley as rotational crops on muck soils for 12 months from the time of last application if more than 3.6 pints per acre of Pendimethalin 3.3 EC is applied to the onion crop; see the Pendimethalin 3.3 EC leaflet label for additional crop restrictions.

If loss of onion crop occurs due to adverse weather conditions, DO NOT replant any crop other than onions in muck soil during the same cropping year and DO NOT rework the soil deeper than 2 inches.

DO NOT use on muck soils in California.

GRAIN SORGHUM

Pendimethalin 3.3 EC or Pendimethalin 3.3 EC plus atrazine may be applied as a Culti-Spray (postemergence incorporated) application in grain sorghum grown in all states.

In addition, Pendimethalin 3.3 EC plus atrazine may be applied early postemergence in grain sorghum grown in states East of the Mississippi River and in Arkansas, East Texas, Louisiana, and the Missouri "bootheel".

Culti-Spray (Postemergence Incorporated)

For use in all states

General Instructions

Pendimethalin 3.3 EC or Pendimethalin 3.3 EC plus atrazine tank mixtures applied as a Culti-Spray (postemergence incorporated) treatment will control most late season annual grasses and certain broadleaf weeds in grain sorghum.

Pendimethalin 3.3 EC treatments can be applied from the 4-inch growth stage to as late as the last cultivation (layby) of grain sorghum.

Pendimethalin 3.3 EC plus atrazine must be applied before the grain sorghum reaches 12 inches in height.

Pendimethalin 3.3 EC treatments will not control established weeds. DESTROY EMERGED WEEDS BY CULTIVATION PRIOR TO PENDIMETHALIN 3.3 EC APPLICATION.

Culti-Spray (postemergence incorporated) applications of Pendimethalin 3.3 EC or Pendimethalin 3.3 EC plus atrazine tank mixture can be applied in grain sorghum previously treated with herbicides registered for use in grain sorghum. Consult the labels of those herbicides for suggested treatments, rates to be used, and precautions or restrictions for use in grain sorghum and for Follow Crop Restrictions.

DO NOT APPLY Pendimethalin 3.3 EC in grain sorghum preplant incorporated or pre-emergence as serious crop injury can result.

DO NOT APPLY Pendimethalin 3.3 EC in grain sorghum which is planted in double row beds since this cultural practice does not permit adequate soils coverage of the bases of the grain sorghum plants with cultivation.

**Culti-Spray (Postemergence Incorporated) Applications
Pendimethalin 3.3 EC alone or Pendimethalin 3.3 EC
plus Atrazine Tank Mixtures**

1. Cultivate with a sweep-type or rolling cultivator operated at sufficient speed to throw

at least one inch of soil over the bases of the grain sorghum plants. This will kill small weed seedlings growing in the grain sorghum row and will prevent direct contact of the zone of brace root formation by Pendimethalin 3.3 EC during application.

2. Apply broadcast with a ground sprayer when grain sorghum is at least 4 inches tall up to layby or last cultivation (atrazine must be applied before grain sorghum reaches 12 inches tall). Use drop nozzles if crop foliage will prevent uniform coverage of the soil surface within the rows.
3. Thoroughly and uniformly incorporate Pendimethalin 3.3 EC treatments into the soil (1) with a sweep-type or rolling cultivator set to provide thorough incorporation in the top 1 inch of soil or (2) with adequate irrigation water or rainfall. For best results, incorporate Pendimethalin 3.3 EC treatments as soon as possible after application. Incorporation must be completed within 7 days after application. If adequate moisture is not received within 7 days after application, incorporate Pendimethalin 3.3 EC with a sweep-type or rolling cultivator.

Under situations of low rainfall or soil moisture, when deep germinating weeds such as shattercane or field sandbur are anticipated, mechanical incorporation will provide best results.

If cultivation is needed after application and incorporation of Pendimethalin 3.3 EC, the depth of cut should be no deeper than the depth of cut used to incorporate.

DO NOT APPLY Pendimethalin 3.3 EC in grain sorghum more than once per crop season.

**Broadcast Rate Per Acre of Pendimethalin 3.3 EC Culti-Spray
(Postemergence Incorporated) in Grain Sorghum
(Pints per Acre)**

Soil Texture	Southern States ¹	Northern States ¹
Coarse	1.2 to 1.8 pts	1.8 to 2.4 pts
Medium	1.8 to 2.4 pts	2.4 to 3.6 pts
Fine	1.8 to 3.6 pts	2.4 to 3.6 pts

¹ See map at end of this label for specific states.

For Pendimethalin 3.3 EC plus atrazine tank mixtures, apply 1.0 lb a.i. per acre of atrazine. DO NOT apply tank mixture on coarse textured soils.

NOTE: Livestock can graze or be fed forage from treated grain sorghum after 21 days following application. Observe all precautions, limitations, and follow crop restrictions on atrazine labels.

Early Postemergence

For use in states East of the Mississippi River, plus Arkansas, East Texas, Louisiana, and the Missouri "bootheel" only.

Application Instructions

The seedbed should be firm and free of clods and trash. Use only where adequate tillage is practiced to provide good seed coverage. Plant grain sorghum AT LEAST 1 1/2 inches deep to ensure good seed coverage.

Uniformly apply Pendimethalin 3.3 EC plus atrazine tank mix treatment in water by ground equipment or by aircraft. Apply Pendimethalin 3.3 EC plus atrazine tank mixture only after grain sorghum has reached the 2-leaf stage and when weeds are no more than 1 inch tall.

DO NOT APPLY Pendimethalin 3.3 EC in grain sorghum preplant incorporated or pre-emergence as serious crop injury can result.

DO NOT apply in liquid fertilizer.

Pendimethalin 3.3 EC plus atrazine treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after application. If cultivation is necessary because of soil crusting, soil compaction, or weed germination before rain or irrigation, use shallow tillage (such as a rotary hoe), and make certain grain sorghum seeds are below the tilled area. Wait 7 to 10 days after application before cultivating.

**Broadcast Rate per Acre for Early Postemergence Application
of Pendimethalin 3.3 EC Plus Atrazine in Grain Sorghum**

Soil Texture	Pendimethalin 3.3 EC + Atrazine
Coarse	DO NOT USE
Medium	1.8 to 2.4 pts + 1.0 to 1.2 lbs a.i.
Fine	2.4 pts + 1.0 to 1.2 lbs a.i.

The high rate for each soil texture above should be used if heavy weed populations are anticipated.

NOTE: DO NOT replant grain sorghum if crop loss occur due to weather conditions. Observe all precautions, limitations and follow crop restrictions on atrazine labels. Livestock can graze or be fed forage from Pendimethalin 3.3 EC plus atrazine treated grain sorghum fields after 21 days following application.

NONBEARING FRUIT AND NUT CROPS AND VINEYARDS

General Instructions

Pendimethalin 3.3 EC may be applied for preemergence control of most annual grasses and certain broadleaf weeds in several nonbearing fruit and nut crops and vineyards. Pendimethalin 3.3 EC may be used on the following nonbearing crops:

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Almond	Peach
Apple	Pear
Apricot	Pecan
Cherry	Pistachio
Citrus	Plum
Grape	Prune
Nectarine	Walnut, English

Pendimethalin 3.3 EC treatments are most effective in controlling weeds when adequate rainfall or irrigation is received within 21 days after application.

Precautions:

Apply the spray directly to the ground beneath the trees or vines. DO NOT apply over the top of trees or vines with leaves or buds. Contact with leaves, shoots or buds by the spray mixture may cause malformed plant tissues.

DO NOT apply to newly transplanted trees or vines until ground has settled and no cracks are present.

DO NOT feed forage or graze livestock in treated fields.

FOR NEWLY TRANSPLANTED AND ONE YEAR OLD GRAPEVINES: Apply only to dormant grapevines. DO NOT apply if buds have started to swell. Application after buds have started to swell may result in leaf distortion.

Use Methods and Timings

Preemergence - Uniformly apply in 20 or more gallons of water per acre (broadcast basis) with ground equipment. Applications may be band or broadcast.

Pendimethalin 3.3 EC Use Rates

Recommended use rates for Pendimethalin 3.3 EC alone and in tank mix applications are given in the following table.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC
Preemergence in Nonbearing Fruit and Nut Crops and Vineyards
(Quarts per Acre)

Short-term control (4 months)	2.4 qts
Long-term control (6 to 8 month)	4.8 qts

Pendimethalin 3.3 EC Tank Mixes

Pendimethalin 3.3 EC may be used in combination with a contact herbicide registered for use in the specific nonbearing crop to remove existing vegetation. Consult contact herbicide label for all directions, precautions and restrictions.

PEANUTS

General Instructions

Pendimethalin 3.3 EC may be applied preplant incorporated in peanuts.

DO NOT use in California.

In the event of a crop loss due to weather conditions, peanuts or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted without adverse effects the same year. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

Use Methods and Timings

Preplant Incorporated - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Apply Pendimethalin 3.3 EC tank mixes as specified under the tank mix section.

Pendimethalin 3.3 EC Use Rates in Peanuts

Recommended use rates for Pendimethalin 3.3 EC alone and in tank mix applications are given in the following table.

Broadcast Rate per Acre of Pendimethalin 3.3 EC in Peanuts
(Pints per Acre)

Region	Rate
Texas, Oklahoma and New Mexico	1.2 to 2.4 pts
Other peanut growing states	1.8 to 2.4 pts

For heavy weed infestations, especially of Texas panicum, up to 3.6 of Pendimethalin 3.3 EC can be used in Alabama, Georgia or Florida.

Peanuts Grown Under Overhead Irrigation In The States Of North Carolina, South Carolina, Virginia, Alabama, Florida, And Georgia

Preemergence Applications of Pendimethalin 3.3 EC Alone

For all soil types, Pendimethalin 3.3 EC may be applied as a broadcast preemergence application to peanuts at a rate of 1.8 to 2.4 pints. Apply Pendimethalin 3.3 EC with ground equipment or aircraft at planting or up to 2 days after planting and before crop emergence. Apply to a seedbed which is firm and free of clods. **To prevent decreased crop pegging, adequate incorporation must be achieved by applying a minimum of 0.75 inches of overhead irrigation or rainfall within 48 hours of application.**

NOTE: If loss of crop occurs due to adverse weather conditions, peanuts or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted the same year into Pendimethalin 3.3 EC treated soils without adverse effects. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

Apply 1.8 to 2.4 pints

Pendimethalin 3.3 EC Tank Mixes in Peanuts

Pendimethalin 3.3 EC may be applied in a tank mix with Pursuit, Dual or Vernam. Refer to the companion label for weeds controlled in addition to Pendimethalin 3.3 EC alone.

When using tank mixtures with Pendimethalin 3.3 EC, 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.

Follow additional use directions in this table for Pendimethalin 3.3 EC tank mixes. (Refer to the table above to determine Pendimethalin 3.3 EC use rate.)

Pendimethalin 3.3 EC plus Pursuit (4 oz/A) or Pursuit DG (1.4 oz/A)
Preplant Incorporated - Apply by ground equipment only up to 45 days prior to planting and incorporate within 7 days of application. If crop will be planted on beds, apply and incorporate after bed formation. • Read and strictly follow all precautions and instructions on the Pursuit label. • DO NOT apply tank mix preplant incorporated in West Texas, New Mexico and Arizona.

Pendimethalin 3.3 EC plus Dual (1.25 to 2.0 pts/A)
Preplant Incorporated - Apply up to 14 days prior to planting and incorporate within 7 days of application. If crop will be planted on beds, apply and incorporate after bed formation. • Read and strictly follow all precautions and instructions on the Dual label.

Pendimethalin 3.3 EC plus Vernam 7E (2 1/3 to 3.0 pts/A)
Preplant Incorporated - Apply with ground sprayer only up to 10 days prior to planting. Incorporate Immediately (within minutes) after application to prevent loss of Vernam herbicide. Whenever possible, application and incorporation should be done in the same operation. Incorporation Instructions - Use power driven cultivation equipment set to cut to a dept of 2 to 3 inches or tandem disks set to cut to a dept of 4 to 6 inches, operated at 4 to 6 mph, followed by a spike-toothed harrow or some other leveling device which extends beyond the ends of the disks. For thorough mixing, disk in two different directions (cross disk). Prior to second disking, raise the disk to prevent cutting deeper than 4 to 6 inches. • Read and strictly follow all precautions and instructions on the Vernam label. • DO NOT plant seed deeper than 2 inches.

POTATOES

General Instructions

Pendimethalin 3.3 EC may be applied preemergence, preemergence incorporated or early postemergence in potatoes. DO NOT apply to sweet potatoes or yams. Apply to a seedbed which is firm and free of clods and trash.

DO NOT apply prior to planting crop.

Pendimethalin 3.3 EC treatments are most effective in controlling weeds when adequate rainfall or irrigation is received within 7 days of application.

DO NOT make more than one application of Pendimethalin 3.3 EC per season.

In the event of a crop loss due to weather conditions, any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted without adverse effects the same year. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

Application of Pendimethalin 3.3 EC on White Rose variety potatoes during or followed by cool and/or wet weather conditions may result in crop injury.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods and Timings

Preemergence - Apply Pendimethalin 3.3 EC after planting but before potatoes and weeds emerge or after drag-off where this operation is practiced. Apply Pendimethalin 3.3 EC tank mixes as specified under the tank mix section.

Preemergence Incorporated - Apply Pendimethalin 3.3 EC and incorporate after planting but before potatoes and weeds emerge. Where drag-off is practiced, apply Pendimethalin 3.3 EC and incorporate before, at or after drag-off but before potatoes and weeds emerge. Incorporate Pendimethalin 3.3 EC within 7 days of application. Apply Pendimethalin 3.3 EC tank mixes as specified under the tank mix section.

Pendimethalin 3.3 EC must be thoroughly and uniformly incorporated into the top 1 to 2 inches of soil. Care must be taken so that incorporation equipment does not damage seed pieces or elongating sprouts.

Mechanical incorporation is not required if adequate rainfall for good crop and weed emergence occurs or irrigation is received within 7 days after application.

Early Postemergence - Apply Pendimethalin 3.3 EC from crop emergence to the 6-inch stage of growth. DO NOT apply Pendimethalin 3.3 EC postemergence if potatoes are under stress from cold/wet or hot/dry conditions or crop injury may occur. Pendimethalin 3.3 EC treatments will not control established weeds. Emerged weeds must be destroyed prior to applications. Apply Pendimethalin 3.3 EC tank mixes as specified under the tank mix section.

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Sprinkler Irrigation Systems - Apply Pendimethalin 3.3 EC alone preemergence after planting, but before potatoes and weeds have emerged, or after drag-off where this operation is practiced, or early postemergence through sprinkler irrigation systems. See Chemigation section for complete instructions.

Pendimethalin 3.3 EC Use Rates in Potatoes

Recommended use rates for Pendimethalin 3.3 EC alone and in tank mix applications are given in the following table:

**Broadcast Rate¹ per Acre of Pendimethalin 3.32 EC in Potatoes
(Pints per Acre)**

Soil Texture	<3% Organic Matter	>3% Organic Matter
Coarse	1.2 to 1.8 pts	1.2 to 1.8 pts
Medium	1.8 to 2.4 pts	2.4 to 3.6 pts
Fine	2.4 to 3.6 pts	3.6 pts

¹Use the high rate for Pendimethalin 3.3 EC alone applications.

Pendimethalin 3.3 EC Tank Mixes in Potatoes

Pendimethalin 3.3 EC may be applied in a tank mix with Eptam, Lorox, Sencor/Lexone or Eptam plus Sencor/Lexone. Refer to the companion label for weeds controlled in additions to Pendimethalin 3.3 EC alone.

When using tank mixtures with Pendimethalin 3.3 EC, 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.

Follow additional use directions in this table for Pendimethalin 3.3 EC tank mixes. (Refer to the table above to determine Pendimethalin 3.3 EC use rate.)

Pendimethalin 3.3 EC plus Eptam (3.0 to 3.5 pts/A)
Preemergence Incorporated - Apply and incorporate after planting but before potatoes and weeds emerge. In areas where potatoes are normally dragged-off, apply and incorporate following drag-off but before potatoes and weeds emerge. Incorporate immediately after application.
Incorporation Instructions - Thoroughly and uniformly incorporate into the top 1 or 2 inches of soil. Whenever possible, application and incorporation should be done in the same operation. Care must be taken so that incorporation equipment does not damage seed pieces or elongating sprouts.
Early Postemergence - Apply through SPRINKLER IRRIGATION SYSTEMS ONLY from crop emergence to the 6-inch stage of growth. Pendimethalin 3.3 EC plus Eptam will not control established weeds. EMERGED WEEDS MUST BE DESTROYED PRIOR TO APPLICATION. DO NOT apply if potatoes are under stress from cold/wet or hot/dry conditions or crop injury may result.
<ul style="list-style-type: none"> Read and strictly follow all precautions and instructions on the Eptam label. The Superior variety potato is sensitive to Eptam and under stress conditions, early season stunting may occur. For nutsedge control, use 4.5 to 7.0 pints of Eptam per acre.

Pendimethalin 3.3 EC plus Lorox L (1.5 to 4.0 lbs/A) or Lorox DF (1.5 to 4.0 lbs/A)
For use on potatoes grown East of the Rocky Mountains only.
Preemergence - Apply after planting but before potatoes and weeds emerge or after drag-off or hilling where these operations are practiced.
<ul style="list-style-type: none"> Read and strictly follow all precautions and instructions on the Lorox label. Plant seed pieces at least two inches deep. DO NOT use on sands and loamy sands (except in Wisconsin-Central Sands Area), gravelly soils or exposed subsoils or on soils containing less than 1% organic matter as injury to the treated crop or subsequent crops may result. Wisconsin-Central Sands Area Only: Pendimethalin 3.3 EC plus Lorox tank mixture may be used on sands and loamy sands. Sands - Apply 1.2 to 1.8 pints of Pendimethalin 3.3 EC plus 1 pound of Lorox DF or 1 pint of Lorox L per acre. Loamy Sand - Apply 1.2 to 1.8 pints of Pendimethalin 3.3 EC plus 2 pounds of Lorox DF or 2 pints of Lorox L per acre.

Pendimethalin 3.3 EC plus Sencor DF/Lexone DF (0.33 to 0.67 lbs/A) or Sencor F (0.5 to 1.0 pt/A)
Preemergence - Apply after planting but before potatoes and weeds emerge or after drag-off where this operation is practiced.
Early Postemergence - Apply from crop emergence to the 6-inch stage of growth. For optimum control of weeds apply before weeds are 1 inch tall. DO NOT apply within 24 hours of application of other pesticides. Do not apply within three days after period of cool, wet or cloudy weather or crop injury may result. DO NOT use on early maturing, smooth-skinned white or red-skinned varieties of potatoes.
<ul style="list-style-type: none"> Read and strictly follow all precautions and instructions on the Sencor or Lexone label. Observe organic matter restrictions on the labels. This combination may be applied through sprinkler irrigation systems.

Pendimethalin 3.3 EC plus Eptam (3.0 to 3.5 pts/A) plus Sencor/Lexone DF (0.33 to 0.67 lbs/A) or Sencor F (0.5 to 1.0 pt/A)
DO NOT use in California.
Early Postemergence - Apply through SPRINKLER IRRIGATION SYSTEMS ONLY from crop emergence to the 6-inch stage of growth. For optimum control of weeds apply before weeds are 1 inch tall.
<ul style="list-style-type: none"> Read and strictly follow all precautions and instructions on the Eptam and Sencor/Lexone labels. Observe organic matter restrictions on the Sencor/Lexone labels. DO NOT apply within 24 hours of application of other pesticides. DO NOT apply within three days after periods of cool, wet or cloudy weather or crop injury may result. DO NOT use on early maturing, smooth-skinned white or red-skinned varieties of potatoes. The Superior variety potato is sensitive to Eptam and under stress conditions, early season stunting may occur. DO NOT apply within 60 days of potato harvest. For nutsedge control, use 4.5 to 7.0 pints of Eptam per acre.

Pendimethalin 3.3 EC plus Eptam (3.0 to 3.5 pts/A) plus Sencor/Lexone DF (0.33 to 0.67 lbs/A) or Sencor F (0.5 to 1.0 pt/A)
For use in Idaho, Oregon and Washington only.
Preemergence - Apply with GROUND EQUIPMENT ONLY after planting but before potatoes and weeds emerge.
<ul style="list-style-type: none"> Read and strictly follow all precautions and instructions on the Sencor or Lexone label. Observe organic matter restrictions on the labels. The Superior variety potato is sensitive to Eptam and under stress conditions, early season stunting may occur. DO NOT make more than one application per season.

Pendimethalin 3.3 EC plus Eptam (3.0 to 3.5 pts/A) plus metribuzin (0.33 to 0.67 lbs/A)
For use in Idaho, Oregon and Washington only.
Preemergence - SPRINKLER IRRIGATION SYSTEMS - after planting but before potatoes and weeds emerge.
<ul style="list-style-type: none"> Read and strictly follow all precautions and instructions on the metribuzin label. Observe organic matter and variety restrictions on the label. Add metribuzin first and thoroughly mix before adding Eptam. After complete mixing, add Pendimethalin 3.3 EC. Maintain continuous agitation while adding herbicides and until spraying is completed. The Superior variety potato is sensitive to Eptam and under stress conditions, early season stunting may occur. DO NOT make more than one application per season.

Pendimethalin 3.3 EC plus Matrix (1. to 1.5 oz/A)
Preemergence - Apply after planting but before potatoes and weeds emerge or after drag-off where this operation is still practiced.
<ul style="list-style-type: none"> DO NOT apply by air. DO NOT use on potatoes grown for seed. Use the most restrictive rotations crop interval. To avoid injury to desirable crops, follow "Sprayer Tank Cleanout" instructions on the Matrix label. Read and follow all precautions on the Matrix label.

RICE

General Instructions

Pendimethalin 3.3 EC plus Facet 75 DF, propanil (or Arrosolo) or propanil plus Londax **must be applied as an early postemergence application in dry-seeded rice.**

Pendimethalin 3.3 EC alone or in a tank mix with Facet 75 DF, Bolero 8 EC or glyphosate may be applied as a delayed preemergence application in drilled, dry-seeded rice.

This pesticide is toxic to fish and aquatic organisms. Fish may be killed at application rates recommended on the label. DO NOT contaminate water by cleaning of equipment or disposal of wastes.

DO NOT apply to rice fields if fields are used for fish production, especially catfish or crayfish farming.

DO NOT exceed the maximum labeled rate for any soil type in one season.

DO NOT bale or use rice straw from treated fields for feed or bedding.

DO NOT use water containing Pendimethalin 3.3 EC residues from rice cultivation to irrigate food or feed crops which are not registered for use with Pendimethalin 3.3 EC.

DO NOT plant crops in Pendimethalin 3.3 EC treated fields unless Pendimethalin 3.3 EC is registered for use on those crops.

In case of a crop failure due to weather conditions or disease following treatment with Pendimethalin 3.3 EC alone or in a tank mixture, only drilled dry-seeded rice may be immediately replanted; however, the grower assumes all risks and consequences associated with replanting of rice because there is the potential for stand reduction or stunting. A 10 percent increase in seeding rate is recommended. Replant seed below the

Do NOT use this product on water-seeded rice

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herbicide layer because reduced stand or stunting may occur if Pendimethalin 3.3 EC contacts germinating rice seed. DO NOT replant with gebberellic acid-treated seed. DO NOT reapply Pendimethalin 3.3 EC alone or in a tank mixture.

When using tank mixes with Pendimethalin 3.3 EC, always read the companion product label(s) and follow all precautions and restrictions. Always follow the most restrictive label.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Early Postemergence Applications in Dry Seeded Rice Pendimethalin 3.3 EC plus Arrosoiro or propanil

Pendimethalin 3.3 EC plus Arrosoiro or propanil are postemergence treatments that combine the direct contact action of propanil and the residual activity of Pendimethalin 3.3 EC. Since the residual activity of Pendimethalin 3.3 EC provides preemergence control of certain annual grasses which can germinate after this tank-mix treatment is applied, flooding after application can be delayed.

For maximum weed control with this treatment, it is important to carefully follow the directions below for (1) adequate spray coverage of weeds and soil and (2) proper timing of application, when Barnyardgrass (watergrass) is in the 1 to 3 leaf stage of growth with an occasional 4 leaf plant (make application when Sprangletop is less than 1/2 inch in height).

The seedbed should be firm and free of clods and trash. The seedbed must be prepared to allow for good seed coverage. Previous crop residues should be thoroughly mixed into the soil to a depth of 4 to 6 inches by plowing or disking before planting rice.

Uniformly apply recommended Pendimethalin 3.3 EC plus Arrosoiro or Pendimethalin 3.3 EC plus propanil treatment by aircraft or ground equipment after rice emergence, according to spraying instructions, when Barnyardgrass is in the 1 to 3 leaf growth stage with an occasional 4 leaf plant (make application when Sprangletop is less than 1/2 inch). THE GROWER SHOULD INSPECT FIELDS FREQUENTLY TO CHECK GROWTH OF BARNYARDGRASS AND/OR SPRANGLETOP TO DETERMINE PROPER APPLICATION TIMING. Timing of applications should be based on the growth stage of Barnyardgrass and/or Sprangletop and not on the growth stage of rice. If rice is too small to maintain a flood on the field, the treatment can still be applied since flooding can be delayed because of the residual activity of Pendimethalin 3.3 EC.

While the residual activity of Pendimethalin 3.3 EC allows flooding to be delayed, proper water management practices must be followed for normal rice growth. Flooding should not be delayed if weeds begin to develop after application. Since soil and weeds must be completely exposed to spray coverage, no flood water should be on field at time of application. If necessary, fields may be flushed prior to treatment to produce vigorous rice and weed growth.

Since the residual activity of Pendimethalin 3.3 EC is activated by moisture, Pendimethalin 3.3 EC is most effective in controlling emerging weeds when adequate rainfall or irrigation (flush) is received within 7 days after application.

For maximum direct contact activity of propanil or Arrosoiro, delay application if there is a chance of rain within 6 to 8 hours.

DO NOT apply this tank mixture within 14 days before or after insecticide applications because serious damage to rice may occur.

Broadcast Rate per Acre of Pendimethalin 3.3 EC plus Arrosoiro or Propanil Tank Mixtures in Rice (Pints per Acre)

Soil Texture	Pendimethalin 3.3 EC	Arrosoiro or Propanil ¹
Coarse	1.8 pts	6.0 to 8.0 pts
Medium	1.8 to 2.4 pts	6.0 to 8.0 pts
Fine	1.8 to 2.4 pts	6.0 to 8.0 pts

¹ Based on 4 lb a.i. per gallon

Use the high rate of Arrosoiro or propanil if the following situations exist at the time of application: (1) unseasonably cool weather, (2) barnyardgrass has progressed to predominantly the 3 to 4 leaf stage, or (3) emerged sprangletop (less than 1/2 inch) is present.

Pendimethalin 3.3 EC plus propanil plus Londax Preflood Application

Pendimethalin 3.3 EC plus propanil (or Arrosoiro) may be tank mixed with Londax for early postemergence weed control. Londax will provide improved control of certain broadleaves and sedges when applied as a preflood postemergence application. Refer to the Londax label for specific weeds controlled. Apply Londax at 0.75 to 1.0 oz per acre with Pendimethalin 3.3 EC plus propanil 1 to 7 days prior to establishment of the permanent flood. Weeds should be actively growing at the time of application.

Preflood Sequential Applications

Pendimethalin 3.3 EC plus propanil (or Arrosoiro) plus Londax may be applied in a sequential application with Londax plus propanil (or Arrosoiro). Apply Londax at 0.50 to 0.75 oz per acre with Pendimethalin 3.3 EC plus propanil when broadleaf weeds are in the cotyledon to 4-leaf stage and the sedges are 3 to 6 inches tall. Apply the second application, if needed, of Londax plus propanil 1 to 7 days prior to establishment of the permanent flood.

Pendimethalin 3.3 EC plus Facet 75 DF

Pendimethalin 3.3 EC plus Facet 75 DF herbicides may be tank mixed for early post-emergence weed control in dry-seeded rice. This mixture will provide broad-spectrum grass and certain broadleaf weed control, especially where sprangletop (*Leptochloa* spp.) is a problem.

Facet 75 DF will control the emerged grasses and broadleaves listed on its label. Refer to the Facet 75 DF label for weed size limitations. Pendimethalin 3.3 EC will provide residual control of labeled grass weeds which can germinate after this tank mixture is applied and which Facet 75 DF does not control.

For maximum weed control, it is important to carefully follow the directions below for (1) adequate spray coverage of weeds and soil and (2) proper timing of application. Pendimethalin 3.3 EC will not control emerged weeds. Facet 75 DF does not control sprangletop. Therefore, schedule spraying before sprangletop has emerged.

Pendimethalin 3.3 EC plus Facet 75 DF tank mixtures may be applied early postemergence as follows:

1. Treatments may be applied to conventional, reduced or minimum tillage, and no-till (stale seed-bed) rice. The seedbed should be firm and free of clods. The seedbed must be prepared to allow for complete soil coverage of the rice seed. The use of a planter under conditions which do not allow good soil coverage of the rice seed can result in reduced stand or stunting if Pendimethalin 3.3 EC contacts germinating rice seed.
2. Apply when soil surface is dry, moist, or wet without standing water. If necessary, fields may be flushed prior to treatment to produce vigorous rice and weed growth. Since soil and weeds must be completely exposed to spray coverage, no flood water should be on the field at time of application. Cloddy soil, standing water (puddles) at the time of application, or cracks in the soil that form after application may result in reduced weed control.
3. Uniformly apply the recommended Pendimethalin 3.3 EC plus Facet 75 DF treatment after rice emergence (spiking) and at the correct timing for Facet 75 DF, by aircraft or ground equipment according to spraying instructions. Refer to timing instructions and illustrations in the Facet 75 DF label. THE GROWER SHOULD INSPECT FIELDS FREQUENTLY TO CHECK GROWTH OF SPRANGLETOP, OTHER LABELED WEEDS AND RICE TO DETERMINE PROPER APPLICATION TIMING.
4. For maximum direct contact activity of Facet 75 DF, delay application of the tank mix if there is a chance of rain within 6 to 8 hours.
5. Because the residual activity of the Pendimethalin 3.3 EC plus Facet 75 DF allows for delayed flooding, this treatment may be applied if rice is too small to maintain a flood on the field for weed control. However, proper water management practices must be followed for normal rice growth and activity of Pendimethalin 3.3 EC and Facet 75 DF. Refer to the Water Management sections of the Facet 75 DF label. Flooding should not be delayed if weeds begin to develop after application. Since the residual activity of Pendimethalin 3.3 EC and Facet 75 DF is activated by moisture, the tank mix is most effective in controlling emerging weeds when adequate rainfall or irrigation (flush) is received within 3-7 days after application or when new grass/weeds have emerged and are less than one inch tall.

Broadcast Rate per Acre of Pendimethalin 3.3 EC plus Facet 75 DF Early Postemergence Tank Mixture in Rice

Soil Texture	Pendimethalin 3.3 EC (pints)	Facet 75 DF (pounds)
Coarse	1.8 0	0.50
Medium	1.8 to 2.4	0.50
Fine	1.8 to 2.4	0.50

Use the higher rate of Pendimethalin 3.3 EC for each soil texture if heavy weed populations are anticipated.

Mixing Instructions

Refer to the Facet 75 DF label for sections on mixing/spraying and on adjuvant for post-emergence application. ADDITION OF CROP OIL CONCENTRATE IS REQUIRED WITH FACET 75 DF APPLICATION. DO NOT use liquid fertilizer solution. Add Facet 75 DF to a half-full spray tank of clean water with agitation running. After the Facet 75 DF is thoroughly mixed, add Pendimethalin 3.3 EC. Mix thoroughly and then add the recommended amount of crop oil concentrate (see Facet 75 DF label) and remaining volume of water. Constantly agitate during application.

Delayed (Late) Preemergence Applications

Pendimethalin 3.3 EC herbicide alone, or a tank mixture of Pendimethalin 3.3 EC plus Roundup (glyphosate), Facet 75 DF or Bolero 8 EC herbicides may be applied for delayed (late) preemergence weed control in grain-drilled, dry-seeded rice.

The tank mixtures will provide broad spectrum grass and certain broadleaf weed control. Tank mixtures are especially effective where Sprangletop (*Leptochloa* spp.) is a problem. Pendimethalin 3.3 EC alone will not control broadleaf weeds; a post-emergence application of propanil, Arrosoiro, Bolero, Facet 75 DF or Londax herbicide may be necessary for season-long weed control.

Glyphosate or Facet 75 DF will control the emerged grasses and broadleaves listed on their label. Pendimethalin 3.3 EC will provide residual control of labeled grass weeds which can germinate after the tank-mixture is applied and which Facet 75 DF does not control. Pendimethalin 3.3 EC will not control emerged weeds. Facet 75 DF does not control sprangletop. Therefore, schedule spraying before sprangletop has emerged.

For maximum weed control and rice stand, it is important to carefully follow the directions below for (1) adequate spray coverage of soil and (2) proper timing of application.

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- Treatments may be applied to conventional, reduced or minimum tillage, and no-till (stale seed-bed) rice. The seedbed should be firm and free of clods, and must be prepared to allow for good seed coverage. Plant rice with a grain drill at a depth that provides complete soil coverage of the rice seed. The use of a planter under conditions which do not allow good soil coverage of the rice seed can result in reduced stand or stunting of Pendimethalin 3.3 EC contact germinating rice seed.
- Apply Pendimethalin 3.3 EC alone or in tank mixture to levees after levees are pulled and planted. Exposed seeds that come in contact with Pendimethalin 3.3 EC or Facet 75 DF may be injured.
- Uniformly apply the recommended Pendimethalin 3.3 EC plus glyphosate after rice planting (as described below) and before rice emergence (spiking), by aircraft or ground equipment according to spraying instructions. **THE GROWER SHOULD INSPECT FIELDS FREQUENTLY TO CHECK GROWTH OF RICE TO DETERMINE PROPER APPLICATION TIMING.** Uniformly apply the recommended rate of Pendimethalin 3.3 EC alone, Pendimethalin 3.3 EC plus Facet 75 DF or Pendimethalin 3.3 EC plus Bolero 8 EC after rice planting (as described below) and before rice and weed emergence (spiking), by aircraft or ground equipment according to spraying instructions. **THE GROWER SHOULD INSPECT FIELDS FREQUENTLY TO CHECK GROWTH OF RICE TO DETERMINE PROPER APPLICATION TIMING.**
- APPLY ONLY** when growing conditions favor vigorous rice growth. The seedbed should have adequate moisture for seed germination. If there is insufficient moisture, flushing is recommended before Pendimethalin 3.3 EC application to supply moisture for the root (radicle) initiation and for vigorous rice and weed growth. **DO NOT** apply Pendimethalin 3.3 EC and then flush for germination. **DO NOT** apply to stressed rice. Stress factors include cold or hot temperature extremes, excessive moisture or drought, problem soils, poor field drainage or deep water after application. **DO NOT** apply early preemergence nor preplant incorporated as severe rice injury is possible.
- Apply when soil surface is dry, moist or wet without standing water. Since soil and weeds (only for glyphosate) must be completely exposed to spray coverage, no flood water should be on the field at time of application. Cloddy soil, standing water (puddles) at the time of application, or cracks in the soil that form after application may result in reduced weed control.
- Apply after the rice has absorbed water and germinated and after the soil has been previously sealed over the seed by at least 1 inch of rainfall or by irrigation (flush). If the soil has not been sealed by rain or flush, apply when 80 percent of germinated seeds have a primary root (radicle) or shoot at least 1/2 inch long. If applied to soil prior to these conditions, or to cracked soil, then stand reduction or stunting of rice may occur; Facet DF may cause buggywhipping. Under some conditions, use of gibberellic acid-treated seed, **HEAVY RAINFALL AFTER APPLICATION, OR FLUSHING AFTER APPLICATION** may result in herbicide injury to rice. Rice can overcome moderate injury with appropriate cultural practices.
- For maximum direct contact activity of glyphosate, delay application of the tank mix if there is a chance of rain within or 8 hours.
- Because the residual activity of Pendimethalin 3.3 EC alone, Pendimethalin 3.3 EC plus Facet 75 DF or Pendimethalin 3.3 EC plus Bolero 8 EC tank mix allows for delayed flooding, this treatment may be applied if rice is too small to maintain a flood on the field for weed control. However, proper water management practices must be followed for normal rice growth and activity of Pendimethalin 3.3 EC, Facet 75 DF or Bolero 8 EC. Refer to the Water Management section of the Facet 75 DF label. Flooding should not be delayed if weeds begin to develop after application. Residual activity of Pendimethalin 3.3 EC, Facet 75 DF and Bolero 8 EC are most effective when applied to moist soil. Soil should be kept moist after application and not be allowed to crust or crack.

Broadcast Rate per Acre of Pendimethalin 3.3 EC Alone, Pendimethalin 3.3 EC plus Facet 75 DF, Pendimethalin 3.3 EC plus Bolero 8 EC or Pendimethalin 3.3 EC plus Glyphosate Tank Mixture for Delayed Preemergence Application in Rice

Soil Texture	Pendimethalin 3.3 EC (pints)	Facet 75 DF (pounds)	Bolero 8 EC (pints)
Sands, loamy sands	DO NOT USE	DO NOT USE	DO NOT USE
Sandy loams	1.8	0.33 to 0.44	2 to 3
Loams, silt loams, silts, sandy clay loams	1.8 to 2.4	0.44 to 0.5	3 to 4
Silty clay loams, clay loams, sandy clays, silty clays, clays	1.8 to 2.4	0.5 to 0.67	3 to 4

Use the higher rate of Pendimethalin 3.3 EC for each soil texture if heavy weed populations are anticipated.

See the glyphosate label for recommended rates.

Mixing Instructions

Pendimethalin 3.3 EC plus glyphosate tank mix. Refer to Mixing Instructions in the Pendimethalin 3.3 EC leaflet label and to Mixing, Additives and Application Instructions in the glyphosate label. **ADDITION OF NONIONIC SURFACTANT MAY BE REQUIRED WITH GLYPHOSATE APPLICATION** (see product label) and use of ammonium sulfate may increase performance.

Pendimethalin 3.3 EC plus Facet 75 DF tank mix. Refer to the Pendimethalin 3.3 EC and Facet 75 DF labels for sections on mixing and spraying. **DO NOT** use liquid fertilizer solution. Add Facet 75 DF to a half-full spray tank of clean water with agitation running. After the Facet 75 DF is thoroughly mixed, add Pendimethalin 3.3 EC. Mix thoroughly and then add remaining volume of water. Constantly agitate during application.

Pendimethalin 3.3 EC plus Bolero 8 EC tank mix. Add Pendimethalin 3.3 EC to the half-full spray tank of clean water with agitator running. After Pendimethalin 3.3 EC is

thoroughly mixed, add Bolero 8 EC and mix thoroughly. Then add the remaining volume of water. Constantly agitate during application.

Spraying Instructions

Spray drift can cause injury to sensitive crops. See the propanil or Arrosolo, Facet 75 DF, Bolero 8 EC and glyphosate labels for sensitive crops: follow all recommendations to minimize drift.

DO NOT apply Pendimethalin 3.3 EC through any type of irrigation system.

DO NOT apply in liquid fertilizer.

Aerial Applications

For aerial application, apply the recommended rate in 5 to 10 (10 to 12 for propanil and Arrosolo) gallons of water per acre to ensure adequate coverage. To minimize drift, **DO NOT** apply during periods of gusty winds or when wind conditions favor drifting. It is recommended that a flagman or an automatic mechanical flagging unit on the aircraft be used to avoid overlapping and possible crop injury.

Ground Applications

For ground equipment, apply the recommended rate in 10 to 20 (15 to 25 for propanil and Arrosolo) gallons of water per acre to ensure adequate coverage. Use a properly calibrated low-pressure (20 to 40 psi) sprayer equipped with 8002 or larger size Tee-Jet or comparable nozzles to achieve uniform spray distribution and minimize drift. Keep the bypass line on or near the bottom of the tank to minimize foaming. Nozzle screens must be no finer than 50 mesh. **DO NOT** apply Pendimethalin 3.3 EC during periods of gusty winds or when wind velocity is greater than 20 mph.

SOYBEANS

General Instructions

Pendimethalin 3.3 EC may be applied in conventional, minimum or no-till as a fall surface, fall incorporated, preplant surface, preplant incorporated or preemergence application in soybeans, including Roundup Ready® Soybeans.

DO NOT APPLY POSTEMERGENCE or serious crop injury can result.

DO NOT use Pendimethalin 3.3 EC in soybeans in California.

Preplant surface and preemergence treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after application. If moisture is insufficient to activate Pendimethalin 3.3 EC, a shallow cultivation (preferably with a rotary hoe) should be made after emergence of soybeans, but while weeds are small enough to be controlled by mechanical cultivation. Otherwise, the use of a post-emergence herbicide treatment may be required to control weed escapes at planting or following soybean emergence.

In the event of a crop loss due to weather conditions, soybeans or any crop registered for preplant incorporated use can be replanted without adverse effects the same year. If replanting is necessary, **DO NOT** rework the soil deeper than the treated zone.

Livestock can graze or be fed forage from treated soybean fields.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods and Timings

Fall Applied - Pendimethalin 3.3 EC may be surface applied or incorporated in the fall, October 1 to December 31, in states North of I-80 and the entire states of Illinois, Iowa, Oklahoma and Texas. Fall applications of Pendimethalin 3.3 EC will not provide season long weed control. For season long weed control, fall applications of Pendimethalin 3.3 EC should be followed by a postemergence program using Pursuit, Raptor or other registered postemergence herbicide.

Preplant Surface - Apply Pendimethalin 3.3 EC up to 15 days prior to planting. Pendimethalin 3.3 EC may be applied up to 45 days prior to planting when used in a tank mix or applied sequentially with Pursuit or Scepter herbicides. Preplant surface applications of Pendimethalin 3.3 EC alone should be followed by a postemergence program using Raptor or Pursuit herbicide. Apply Pendimethalin 3.3 EC tank mixes and sequential programs as specified under the tank mix section.

Preplant Incorporated - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Apply Pendimethalin 3.3 EC tank mixes and sequential programs as specified under the tank mix section.

Preemergence - Apply Pendimethalin 3.3 EC at planting or up to 2 days after planting. Apply to a seedbed which is firm and free of clods.

Preemergence Soybeans Grown North of I-80 in Indiana, Michigan and Ohio. (DO NOT follow in any other state.)

A preemergence application of Pendimethalin 3.3 EC may be applied at planting or up to 2 days after planting of soybeans. **DO NOT APPLY POSTEMERGENCE** to soybeans. Apply to a seedbed which is firm and free of clods. Pendimethalin 3.3 EC may be applied in conventional, minimum and no-tillage systems. Observe all other instructions in the section on Pendimethalin 3.3 EC Tank Mixtures In Minimum And No-Till Systems.

Preemergence treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after application. If moisture is insufficient to activate the herbicides, a shallow cultivation (preferably with a rotary hoe) should be made after emergence of soybeans, but while weeds are small enough to be controlled by mechanical cultivation, otherwise a postemergent herbicide treatment may be required.

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A shallow, thorough mixing of soil after herbicide application with a rotary hoe or similar implement will improve consistency of performance and reduce dependency on rainfall to activate herbicides. If at least 1 inch of rainfall or mechanical incorporation does not occur before soybean emergence, crop injury may occur.

DO NOT overlap spray by aerial or ground equipment. Always check tank-mix compatibility with tank mix partners prior to filling spray tank.

Tank Mixtures and Sequential Applications

Pendimethalin 3.3 EC may be preemergence applied north of I-80 using the rates below in tank mixture with the following products: 2,4-DB (Butyrac[®] brand 200), Roundup[®], Gramoxone Extra[®], Scepter[®], Scepter 70 DG, Pursuit[®], Pursuit DG, Sencor[®] Lexone[®], Lorox[®], Lasso[®], Dual[®], Canopy[®], and Preview[®]. Refer to the Pendimethalin 3.3 EC leaflet label and tank-mix partner labels for all other use directions, restrictions and additional weeds controlled for these mixtures.

Pendimethalin 3.3 EC may be preemergence applied north of I-80 using the rates below in sequential application followed by a postemergence product such as Scepter, Scepter 70DG, Pursuit, or Pursuit DG herbicides. Refer to the Pendimethalin 3.3 EC leaflet label and sequential product label for all other use directions, restrictions and additional weeds controlled.

Pendimethalin 3.3 EC Application Rates

Use the following rate table for all Pendimethalin 3.3 EC preemergence treatments applied north of I-80. **Limitation:** Note that the maximum Pendimethalin 3.3 EC application rate is 2.4 pints per acre for medium and fine texture soils.

Broadcast Rate per Acre of Pendimethalin 3.3 EC Herbicide or in Tank Mixture Applied Preemergence in Soybeans Grown North of I-80 in Indiana, Michigan, and Ohio

Soil Texture	Pendimethalin 3.3 EC (pints)	Pendimethalin 3.3 EC (pints)
	Up to 3.0% Organic Matter*	More than 3.0% Organic Matter*
Course	1.2 to 1.8	1.8
Medium	1.8 to 2.4	1.8 to 2.4
Fine	1.8 to 2.4	2.4

*NOTES: Use the higher rate of Pendimethalin 3.3 EC if heavy weed populations are anticipated, or if hard-to-control weed species will be present, or if extensive crop residues were present following seedbed preparation (minimum or no-till systems), or if soil organic matter falls in the high end of the range. Refer to the Pendimethalin 3.3 EC leaflet label section on Soil Texture for soil type classifications. Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Apply Pendimethalin 3.3 EC tank mixes and sequential programs as specified under the tank mix section.

DO NOT apply Pendimethalin 3.3 EC postemergence or serious crop injury can result.

Pendimethalin 3.3 EC Use Rates in Soybeans

Recommended use rates for Pendimethalin 3.3 EC alone and in tank mix combinations or sequential applications with other herbicides are given in the following tables.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Fall Surface, Fall Incorporated, Preplant Surface or Preplant Incorporated in Soybeans (Pints per Acre)

Soil Texture	<3% Organic Matter	>3% Organic Matter
	Coarse	1.2 to 1.8 pts
Medium	1.8 to 3.0 pts	3.0 to 3.6 pts
Fine	2.4 to 3.6 pts	3.6 pts

1 Do not exceed 2.4 pts/A for southern states. SEE MAP AT THE END OF THIS LABEL FOR SPECIFIC STATES.

For heavy clay soils, apply Pendimethalin 3.3 EC at the broadcast rate of 3.6 pints per acre.

The high rates for each soil texture above should be used if heavy weed populations are anticipated, extensive crop residues were present prior to seedbed preparation or in no-till.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Preemergence in Soybeans (Pints per Acre)

Soil Texture	<3% Organic Matter	>3% Organic Matter
	Coarse	1.2 to 1.8 pts
Medium	1.8 to 2.4 pts	1.8 to 2.4 pts
Fine	2.4 to 2.4 pts	2.4 to 3.0 pts

The high rates for each soil texture above should be used if heavy weed populations are anticipated, extensive crop residues were present prior to seedbed preparation or in no-till.

Pendimethalin 3.3 EC Tank-Mixes and Sequential Programs in Soybeans

Pendimethalin 3.3 EC may be applied in a tank mix with Pursuit, Scepter, Command, Canopy, Dual, Lasso, Lorox, Lorox Plus, Preview, and Sencor/Lexone. Pendimethalin 3.3 EC may be applied in a sequential application with Pursuit, Raptor, Scepter, Scepter

O.T., Lorox and Sencor/Lexone. Refer to the companion label for weeds controlled in addition to Pendimethalin 3.3 EC alone.

When using tank mixtures or sequential applications with Pendimethalin 3.3 EC, 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.

For no-till, Pendimethalin 3.3 EC alone or Pendimethalin 3.3 EC tank mixes may be used with Gramoxone Extra, Roundup, 2,4, D or Butyrac 200 (2,4-DB) to kill existing vegetation, if present prior to planting. Refer to these labels for specific use recommendations, restrictions, rates and weeds controlled. Pendimethalin 3.3 EC alone will control weeds as they germinate, but it will not control emerged weeds.

Follow additional use directions in this table for Pendimethalin 3.3 EC tank Mixes. (Refer to Pendimethalin 3.3 EC in Soybeans use rates.)

Pendimethalin 3.3 EC plus Pursuit (4 oz/A) or Pursuit DG (1.4 oz/A)
Preplant Surface - Apply up to 45 days prior to planting.
Preplant Incorporated - Apply up to 45 days prior to planting and incorporate within 7 days of application.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.
Preplant Surface, preplant incorporated or preemergence followed by Early Postemergence - Apply Pendimethalin 3.3 EC as described above. Follow with an early postemergence treatment of Pursuit as directed on the Pursuit label.
• Read and strictly follow all precautions and instructions on the Pursuit label.
• Preplant surface applications of Pendimethalin 3.3 EC alone should be followed by a postemergence program using Pursuit herbicide.
• DO NOT graze or feed treated soybean forage, hay or straw to livestock.

Pendimethalin 3.3 EC followed by Raptor (4 oz/A)
Preplant Surface followed by Early Postemergence - Apply Pendimethalin 3.3 EC up to 15 days prior to planting. Follow with an early postemergence treatment of Raptor as directed on the Raptor label.
Preplant Incorporated followed by Early Postemergence - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Follow with an early postemergence treatment of Raptor as directed on the label.
Preemergence followed by Early Postemergence - Apply Pendimethalin 3.3 EC at planting or up to 2 days after planting. Follow with a postemergence treatment of Raptor as directed on the Raptor label.
• Read and strictly follow all precautions and instructions on the Raptor label.

Pendimethalin 3.3 EC plus Scepter (0.67 pt/A) or Scepter 70 DG (2.8 oz/A)
Preplant Surface - Apply up to 45 days prior to planting (30 days in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee and Texas) and incorporate within 7 days of application.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.
Preplant Surface, preplant incorporated or preemergence followed by Early Postemergence - Apply Pendimethalin 3.3 EC as described above. Follow with an early postemergence treatment of Scepter as directed on the Scepter label.
• Read and strictly follow all precautions and instructions on the Scepter label.
• DO NOT graze or feed treated soybean forage, hay or straw to livestock.

Pendimethalin 3.3 EC followed by Scepter O.T. (1.0 pt/A)
Preplant Surface followed by Early Postemergence - Apply Pendimethalin 3.3 EC up to 15 days prior to planting. Follow with an early postemergence treatment of Scepter O.T. as directed on the Scepter O.T. label.
Preplant Incorporated followed by Early Postemergence - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Follow with an early postemergence treatment of Scepter O.T. as directed on the Scepter O.T. label.
Preemergence followed by Early Postemergence - Apply Pendimethalin 3.3 EC at planting or up to 2 days after planting. Follow with a postemergence treatment of Scepter O.T. as directed on the Scepter O.T. label.
• Read and strictly follow all precautions and instructions on the Scepter O.T. label.

Pendimethalin 3.3 EC plus Command 4EC (0.75 to 1.5 pts/A)
Preplant Incorporated - Apply to the soil surface and uniformly incorporate. See the Command label for incorporation requirements and instructions.
• Read and strictly follow all precautions and instructions on the Command label.
• Apply with calibrated ground equipment in 10 to 40 gallons of water per acre. The use of an agriculturally approved drift reduction agent is required at finished spray volumes of 10 to 15 gallons per acre.
• Do not apply this tank mix to overly moist or wet soils.
• Command is a volatile compound. Off-site movement of spray drift or vapors of Command can cause foliar whitening or yellowing of some plant parts.
• DO NOT allow livestock to graze on soybean vines or use the vines for feed. Cover crops may be planted anytime but stand reductions may occur. DO NOT graze or use the cover crop for feed.

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Pendimethalin 3.3 EC plus Canopy (6 to 12 oz/A)

Preplant Surface - Apply up to 30 days before planting.
Preplant Incorporated - Apply up to 14 days prior to planting and incorporate within 7 days of application.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.

- Read and strictly follow all precautions and instructions on the Canopy label. Observe all soil type, soil pH and soybean variety restrictions.
- DO NOT apply to soils with less than 0.5% organic matter.
- Continuous agitation in the spray tank is required to keep the material in suspension.
- Avoid overlap and shut off spray booms while starting, turning, slowing or stopping, or crop injury may result.

Pendimethalin 3.3 EC plus Dual (1.5 to 3.0 pts/A)

Preplant Surface - Apply up to 15 days before planting.
Preplant Incorporated - Apply up to 14 days prior to planting and incorporate within 7 days of application. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application is expected. If soybeans are planted on beds, apply and incorporate after bed formation.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.

- Read and strictly follow all precautions and instructions on the Dual label.

Pendimethalin 3.3 EC plus Lasso (2.5 to 4.0 qts/A)

Preplant Surface - Apply up to 15 days before planting.
Preplant Incorporated - Apply up to 7 days prior to planting and incorporate within 7 days of application.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge. This treatment must be applied within 5 days of the last preplant tillage.

- Read and strictly follow all precautions and instructions on the Lasso label.
- Apply with ground equipment.
- Incorporation on coarse soils may reduce length of control due to leaching of Lasso with rainfall or irrigation.
- Incorporation is not recommended on coarse soils in the Southeastern States.
- High intensity or excessive rainfall or excessive irrigation after preemergence application may reduce weed control.

Pendimethalin 3.3 EC plus Lorox DF (1.0 to 2.5 lbs/A) or Lorox L (1.0 to 2.5 lbs/A) or Lorox L (1.0 to 2.5 pts/A)

Preplant Surface - Apply up to 15 days before planting.
Preplant Incorporated followed by Preemergence - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Follow with a preemergence treatment of Lorox as directed on the Lorox label.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.

- Read and strictly follow all precautions and instructions on the Lorox label.
- Do not use on sands, loamy sands, gravelly soils or soils containing less than ½% organic matter.

Pendimethalin 3.3 EC plus Lorox Plus (12 to 18 oz/A)

Preplant Surface - Apply up to 30 days before planting.
Preplant Incorporated - Apply up to 30 days prior to planting and incorporate within 7 days of application.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.

- Read and strictly follow all precautions and instructions on the Lorox Plus label. Observe all soil type, soil pH and soybean variety restrictions.
- DO NOT apply to soils with less than 0.5% organic matter.
- Continuous agitation in the spray tank is required to keep the material in suspension.
- Avoid overlap and shut off spray booms while starting, turning, slowing or stopping, or crop injury may result.

Pendimethalin 3.3 EC plus Preview (6 to 10 oz/A)

Preplant Surface - Apply up to 30 days before planting.
Preplant Incorporated - Apply up to 14 days prior to planting and incorporate within 7 days of application.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.

- Read and strictly follow all precautions and instructions on the Preview label. Observe all soil type, soil pH and soybean variety restrictions.
- DO NOT apply to soils with less than 0.5% organic matter.
- Continuous agitation in the spray tank is required to keep the material in suspension.
- Avoid overlap and shut off spray booms while starting, turning, slowing or stopping, or crop injury may result.

Pendimethalin 3.3 EC plus Sencor/Lexone DF (0.33 to 0.67 lbs/A) or Sencor F (0.5 to 1.0 pt/A)

Preplant Surface - Apply up to 15 days before planting.
Preplant Incorporated - Apply up to 7 days prior to planting and incorporate within 7 days of application.
Preplant Incorporated followed by Preemergence - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application. Follow with a preemergence treatment of Sencor/Lexone as directed on the Sencor or Lexone label.
Preemergence - Apply at planting or up to 2 days after planting before weeds and crops emerge.

- Read and strictly follow all precautions and instructions on the Sencor/Lexone label. Observe all soil type, soil pH, soybean variety and incorporated restrictions.
- DO NOT use on sands. DO NOT use on loamy sands or on sandy loams that contain less than 0.5% organic matter as crop injury may result. This tank mixture is not recommended for use on soils with less than 2% organic matter in the Coastal Plain of New Jersey or the Delmarva Peninsula.
- Soybean seed should be planted at least 1.5 inches below the soil surface.
- If replanting is necessary, DO NOT rework the soil.

Special Weeds

1. Shattercane/Woolly Cupgrass

Preplant incorporated treatments of Pendimethalin 3.3 EC alone, Pendimethalin 3.3 EC plus Sceptor or Pendimethalin 3.3 EC plus Sencor/Lexone preplant incorporated tank mixtures, or preplant incorporated Pendimethalin 3.3 EC applications followed by registered sequential preemergence or postemergence herbicides will control shattercane (wild cane) (*Sorghum bicolor*).

Preplant incorporated treatments of Pendimethalin 3.3 EC plus Pursuit® or preplant incorporated Pendimethalin 3.3 EC applications followed by an early post-emergence application of Pursuit herbicide or other registered sequential pre-emergence or postemergence herbicides will control woolly cupgrass (*Eriochloa villosa*).

Shattercane and woolly cupgrass are difficult to control in many soybean growing areas because of their ability to germinate from a greater depth in the soil than most other weeds. Shattercane and woolly cupgrass can emerge throughout the growing season depending on soil temperature, moisture, and seed dormancy.

Thoroughly mix previous crop residues into the soil and destroy any existing vegetation prior to herbicide application. Apply Pendimethalin 3.3 EC or Pendimethalin 3.3 EC combinations at the recommended rates listed in tables following. See **Incorporation Instructions** sections for incorporation directions. Thoroughly and uniformly mechanically incorporate Pendimethalin 3.3 EC into top 2 inches of soil. Acceptable results CANNOT be expected if Pendimethalin 3.3 EC is applied preemergence. Cultivation may be necessary to control escapes and late germinating shattercane or woolly cupgrass during the crop season.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Preplant Incorporated for Control of Shattercane or Woolly Cupgrass in Soybeans (Pints per Acre)

Soil Texture	<3% Organic Matter	>3% Organic Matter
Coarse	2.4 pts	2.4 pts
Medium	3.0 pts	3.6 pts
Fine	3.6 pts	3.6 pts

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Plus Sencor/Lexone Preplant Incorporated Tank Mixture for Control of Shattercane in Soybeans¹

Soil Texture ¹	Pendimethalin 3.3 EC + Sencor/Lexone DF 0.5% to 3% Organic Matter	Pendimethalin 3.3 EC + Sencor/Lexone ² DF More than 3 % Organic Matter
Coarse	1.8 pts + 0.5 lb	1.6 pts + 0.5 lb
Medium	2.4 pts + 0.5 lb	2.4 pts + 0.5 to 0.67 lb
Fine	2.4 pts + 0.5 to 0.67 lb	3.0 pts + 0.67 lb

¹DO NOT USE on sands. DO NOT USE on loamy sands or on sandy loams that contain less than 1% organic matter, or on other soils with less than ½% organic matter as crop injury may result.

²Read and strictly follow all precautions and instructions on the Sencor/Lexone label. Observe all soil type, pH and soybean variety restrictions.

2. Red Rice, Itchgrass

Pendimethalin 3.3 EC applied preplant incorporated will provide control of red rice (*Oryza sativa*) and aid in the control of and reduce competition from Itchgrass (*Rottboellia exaltata*) at the rates listed in the following table.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Preplant Incorporated for Control of Red Rice and Suppression of Itchgrass in Soybeans (Pints per Acre)

Soil Texture	Up to 3% Organic Matter ¹
Coarse	2.4 to 3.6 ² pts
Medium	3.6 pts
Fine	4.8 pts

¹ This use is not recommended for soils with more than 3% organic matter.

² The higher rate should be used if heavy red rice or Itchgrass populations are anticipated.

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NOTE: Livestock can graze or be fed forage from treated soybean fields. If soybean crop loss occurs due to weather conditions, cotton or soybeans can be replanted the same year into treated soil without adverse effects. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

3. Rhizome Johnsongrass

Pendimethalin 3.3 EC applied preplant incorporated for two consecutive years will provide control of rhizome johnsongrass (*Sorghum halepense*) in soybeans at the rates recommended for soil textures listed in the following table. This use is not recommended for Arizona, New Mexico and California. Rhizome johnsongrass will be suppressed after the first year and controlled after the second year.

Before application, use a chisel plow or similar implement to bring johnsongrass rhizomes to the surface. Chop rhizomes into small pieces with a disk harrow set to cut 4 to 6 inches deep and operate in two different directions at 4 to 6 mph.

Pendimethalin 3.3 EC is to be incorporated into the soil within 7 days after application prior to planting. For maximum control of rhizome johnsongrass, incorporate Pendimethalin 3.3 EC as soon as possible after application. Deep and thorough incorporation of Pendimethalin 3.3 EC is necessary for control of rhizome johnsongrass. Mechanical incorporation can be achieved by the following methods:

- Disk harrow set to cut 4 to 6 inches deep and operated in two different directions at 4 to 6 mph.
- PTO-driven equipment (tillers, cultivators, hoes) set to cut 3 to 4 inches deep and operated one time at 4 mph or less.

For johnsongrass escapes during the crop season, cultivation and/or application of registered postemergence herbicides are recommended. Follow the directions for use on the labels of the respective herbicides.

Broadcast Rate Per Acre of Pendimethalin 3.3 EC Preplant Incorporated for Control of Rhizome Johnsongrass APPLY FOR TWO CONSECUTIVE YEARS (Pints per Acre)

Soil Texture	Up to 3% Organic Matter*
Coarse	2.4 pts
Medium	3.6 pts
Fine	4.8 pts

*This use is not recommended for soils with more than 3% organic matter.

SUGARCANE (EXCEPT HAWAII)

General Instructions

Pendimethalin 3.3 EC may be applied to newly planted or ratoon sugarcane preemergence through layby and again in late summer or early fall to the newly planted sugarcane.

DO NOT apply through irrigation systems on sugarcane.

DO NOT make aerial applications at close-in because complete and uniform coverage cannot be obtained.

DO NOT apply more than 14.4 pints per acre of Pendimethalin 3.3 EC during one growing season.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

DO NOT apply within 90 days of harvest.

DO NOT graze treated fields or feed treated forage or fodder to livestock.

Use Methods and Timings

Pendimethalin 3.3 EC may be applied preemergence through layby, to newly planted or ratoon sugarcane, and again in late summer or early fall to the newly planted sugarcane. Applications may be made band or broadcast. Although there may be adequate crop tolerance for postemergence applications at layby, the spray must be directed under the sugarcane canopy in order to obtain effective weed control.

Pendimethalin 3.3 EC Use Rates

Broadcast Rate of Pendimethalin 3.3 EC for use in Sugarcane (except Hawaii)
Apply 4.8 to 7.2 pints of Pendimethalin 3.3 EC but DO NOT exceed 14.4 pints per acre in one growing season. See spraying instructions for calculation of band treatment rate.

Use the 7.2 pint rate:

- heavy clay soils;
- if no mechanical incorporation is planned;
- if heavy weed populations are anticipated;
- if Itchgrass infestation is anticipated;
- or if no shaving is planned.

Incorporation Instructions

Pendimethalin 3.3 EC must be thoroughly and uniformly incorporated into the soil with either (a) mechanical incorporation equipment as outlined below, or (b) with rainfall or irrigation, if rainfall or irrigation is adequate for good crop and weed emergence and received within 7 days after application. If rainfall or irrigation is not obtained, Pendimethalin 3.3 EC should be mechanically incorporated.

Mechanical Incorporation

Pendimethalin 3.3 EC herbicide should be applied to loosened beds and incorporated into the top 1 to 2 inches of soil within 7 days after application. Ratoon sugarcane must be lightly shaved in early spring to remove the old stubble before incorporation over the line of sugarcane is possible. Carefully adjust equipment to incorporate without causing excessive damage to emerging shoots. Mechanical incorporation can be achieved by the following:

- Rolling cultivator (Lilliston type - Lely Roterra) set to cut 2 or 3 inches deep and operated two times at 6 to 8 mph. This technique may be used to incorporate between sugarcane lines (rows) at layby only.
- Rolling disc cultivator (Hipper) set to cut 2 to 3 inches deep and operated two times at 6 to 8 mph. This technique may be used to incorporate between sugarcane lines (rows) at layby only.

Pendimethalin 3.3 EC Tank Mixes

Pendimethalin 3.3 EC may be used in combination with any registered herbicide. Consult labels for all directions, precautions and restrictions. Always check compatibility when applying in a tank mix and follow the most restrictive label.

SUGARCANE FOR USE IN HAWAII

General Instructions

Pendimethalin 3.3 EC may be applied preemergence through layby in plant or ratoon sugarcane.

DO NOT apply through irrigation systems on sugarcane.

DO NOT make aerial applications at close-in because complete and uniform coverage cannot be obtained.

DO NOT apply more than 14.4 pints per acre of Pendimethalin 3.3 EC during one growing season.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

DO NOT apply within 90 days of harvest.

DO NOT graze treated fields or feed treated forage or fodder to livestock.

Use Methods and Timings

Pendimethalin 3.3 EC may be applied twice per season, preemergence through layby, in plant or ratoon sugarcane. Applications may be made band or broadcast. Although there may be adequate crop tolerance for postemergence applications at layby, the spray must be directed under the sugarcane canopy in order to obtain effective weed control.

Pendimethalin 3.3 EC Use Rates

Broadcast Rate of Pendimethalin 3.3 EC for Sugarcane Grown in Hawaii
Apply 4.8 to 9.7 pints per acre of Pendimethalin 3.3 EC but DO NOT exceed 14.4 pints per acre in one growing season. See spraying instructions for calculation of band treatment rate.

Use the higher rates:

- for dark clay soils;
- if no mechanical incorporation is planned;
- if heavy weed populations are anticipated;
- or if no shaving is planned.

Pendimethalin 3.3 EC Tank Mixes

Pendimethalin 3.3 EC may be used in combination with any registered herbicide. Consult labels for all directions, precautions and restrictions. Always check compatibility when applying in a tank mix and follow the most restrictive label.

SUNFLOWERS

General Instructions

Pendimethalin 3.3 EC may be applied preplant incorporated in the spring in sunflowers in all states.

Pendimethalin 3.3 EC alone may be applied preplant incorporated in the fall in sunflowers in the states of North Dakota, South Dakota, and Minnesota only.

Pendimethalin 3.3 EC plus Eptam tank mixtures may be applied preplant incorporated in the fall in sunflowers in the states of North Dakota and Minnesota only.

Pendimethalin 3.3 EC may be applied as preplant surface or preemergence application in no-till sunflowers in the states of Colorado, Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, South Dakota and Texas.

In the event of a crop loss due to weather conditions, sunflowers or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted without adverse effects the same year. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

DO NOT feed forage or graze livestock in treated sunflower fields.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods and Timings

Preplant Incorporated (Spring) - Apply Pendimethalin 3.3 EC up to 60 days prior to planting and incorporate within 7 days of application.

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Preplant Incorporated (Fall) - Apply Pendimethalin 3.3 EC or Pendimethalin 3.3 EC plus Eptam and immediately incorporate in late fall prior to planting sunflowers the following spring. Refer to Incorporation Instructions section for incorporation directions and the Eptam label for incorporation instructions. Destroy existing weeds before applying Pendimethalin 3.3 EC or Pendimethalin 3.3 EC tank mixture. The soil should be dry enough to permit good incorporation.

DO NOT apply Pendimethalin 3.3 EC plus Eptam tank mixture by air.

Apply Pendimethalin 3.3 EC or Pendimethalin 3.3 EC plus Eptam tank mixture in the late fall when soil temperatures are 45°F or below but before the ground freezes. DO NOT apply when the air temperature is below 45°F.

Prior to sunflower planting in the spring, fields treated with Pendimethalin 3.3 EC or Pendimethalin 3.3 EC plus Eptam 7E should receive at least one shallow additional incorporation. Spring incorporation should be at an angle to the last tillage operation.

Pendimethalin 3.3 EC Use Rates in Sunflowers

Recommended use rates for Pendimethalin 3.3 EC are given in the following tables.

**Broadcast Rate per Acre of Pendimethalin 3.3 EC
For Spring Preplant Incorporated in Sunflowers
(Pints per Acre)**

Soil Texture	Southern States ¹		Northern States ¹	
	<3% Organic Matter		>3% Organic Matter	
Coarse	1.2 to 1.8 pts	1.2 to 2.4 pts	2.4 pts	
Medium	1.8 to 2.4 pts	1.8 to 3.0 pts	3.0 to 3.6 pts	
Fine	1.8 to 3.6 pts	2.4 to 3.6 pts	3.6 pts	

¹See map at the end of this label for specific states.

Use the 3.6 pint rate for heavy clay soils.

**Broadcast Rate per Acre of Pendimethalin 3.3 EC
For Fall Preplant Incorporated Application in Sunflowers¹
(Pints per Acre)**

Soil Texture	<3% Organic Matter	>3% Organic Matter
Coarse	1.8 to 3.0 pts	3.0 pts
Medium	2.4 to 3.6 pts	3.6 to 4.2 pts
Fine	3.0 to 4.2 pts	4.2 pts

¹For use in North Dakota, South Dakota and Minnesota only.

Use the high rate for each soil texture if heavy weed pressure is anticipated.

**Broadcast Rate per Acre of Pendimethalin 3.3 EC Plus Eptam 7E
For Fall Preplant Incorporated Tank Mixture Application in Sunflowers¹
(Pints per Acre)**

Soil Texture	Pendimethalin 3.3 EC plus Eptam 7E	
	<3% Organic Matter	>3% Organic Matter
Coarse	1.2 to 2.4 + 2.25	2.4 + 2.25
Medium	2.8 to 3.0 + 2.25	3.0 to 3.6 + 2.25
Fine	2.4 to 3.6 + 2.25	3.6 + 2.25

¹For use in North Dakota and Minnesota only.

Use the high rate for each soil texture if heavy weed pressure is anticipated.

Read and strictly follow all precautions and instructions on the Eptam label.

No-Till Sunflowers for use in Colorado, Kansas, Minnesota, Nebraska, North Dakota, Oklahoma, South Dakota and Texas.

Pendimethalin 3.3 EC may be applied immediately after planting, or up to 30 days before planting. DO NOT apply Pendimethalin 3.3 EC postemergence since sunflowers exposed at the time of application will be killed. Pendimethalin 3.3 EC is most effective in controlling weeds when adequate rainfall or irrigation is received within 7 days after application. Otherwise, a registered postemergence grass herbicide treatment may be required.

Uniformly apply Pendimethalin 3.3 EC alone or in combination with other herbicides registered for gallonage for fields with history of heavy weed infestations or if the field has excessive crop residues.

Existing living vegetation must be controlled at or before the application of Pendimethalin 3.3 EC. A registered contact herbicide for use in sunflowers may be applied sequentially or in a tank mix with Pendimethalin 3.3 EC. Consult the contact herbicide label for all directions, precautions and restrictions.

**Broadcast Rate per Acre of Pendimethalin 3.3 EC
Applied Preplant Surface or Preemergence
In No-Till Sunflowers
(Pints per Acre)**

Soil Texture	<3% Organic Matter	>3% Organic Matter
Coarse	3.0 to 3.6 pts	3.6 pts
Medium	3.6 pts	3.6 pts
Fine	3.6 pts	DO NOT USE

TOBACCO

General Instructions

Pendimethalin 3.3 EC may be applied preplant incorporated or as a layby application in transplanted tobacco.

In the event of a crop loss due to weather conditions, transplanted tobacco or any crop registered for Pendimethalin 3.3 EC preplant incorporated use can be replanted without adverse effects the same year. If replanting is necessary, DO NOT rework the soil deeper than the treated zone.

Pendimethalin 3.3 EC is not recommended for use on peat or muck soils.

Use Methods and Timings

Preplant Incorporated - Apply Pendimethalin 3.3 EC with ground sprayer up to 60 days prior to transplanting tobacco and incorporate within 7 days of application.

Applied according to directions and under normal growing conditions, Pendimethalin 3.3 EC will not harm transplanted tobacco. Under stress conditions for plant growth such as cold/wet or hot/dry weather, Pendimethalin 3.3 EC can produce a temporary retardation of tobacco development.

Layby - Pendimethalin 3.3 EC may be applied as a directed spray following the last normal cultivation (layby), usually 4 to 6 weeks after transplanting tobacco. Apply Pendimethalin 3.3 EC in a 16 to 24-inch band in the middle of the row between the crop rows. The spray should not contact tobacco plants. If the spray nozzles on the ends of the spray boom pass over the same row middle twice, use nozzles which apply one-half (1/2) the normal number of gallons per acre to prevent over-application.

Layby applications can be applied in tobacco previously treated with herbicides registered for use in tobacco. Consult the labels of those herbicides for suggested treatments, rates to be used, and precautions or restrictions for use in tobacco and for following crop restrictions.

Pendimethalin 3.3 EC is most effective in controlling weeds when adequate rainfall or irrigation is received within 7 days after application.

Pendimethalin 3.3 EC will not control established weeds. DESTROY EMERGED WEEDS PRIOR TO APPLICATION.

DO NOT APPLY AS A BROADCAST SPRAY OVER TOP OF TOBACCO LEAF. CONTACT MAY CAUSE MALFORMED LEAVES.

Pendimethalin 3.3 EC Use Rates in Transplanted Tobacco

Recommended use rates for Pendimethalin 3.3 EC alone is given in the following table.

**Broadcast Rate¹ per Acre of Pendimethalin 3.3 EC
alone is given in the following table.
in Transplanted Tobacco
(Pints per Acre)**

Region	Soil Texture	Pendimethalin 3.3 EC (pints)
Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida	COARSE	1.8 to 2.4
	MEDIUM	
	sandy clay loams, loams	1.8 to 2.4
	silt loams, silts	2.4 to 3.0
	FINE	2.4 to 3.0
Other tobacco growing states	COARSE	1.8 to 2.4
	MEDIUM	3.0 to 3.6
	FINE	3.0 to 3.6

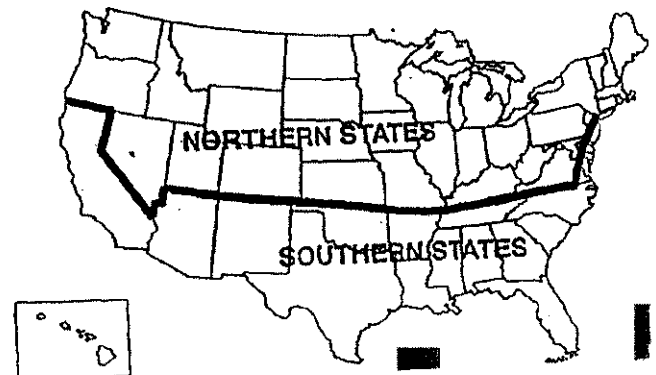
**Broadcast Rate¹ per Acre of Pendimethalin 3.3 EC Layby Application
in Transplanted Tobacco
(Pints per Acre)**

Soil Texture	Rate ²
Coarse	1.2 to 1.8 pts
Medium	1.8 to 2.4 pts
Fine	1.8 to 2.4 pts

¹ For calculation of band treatment rate, see Spraying Instructions section.

² The high rate for each soil texture above should be used if a registered herbicide treatment was not applied prior to layby.

REGIONAL MAP FOR RATE DETERMINATION



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