



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505T)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

EPA Reg. Number:

83100-81

Date of Issuance:

7/24/25

NOTICE OF PESTICIDE:

☒ Registration
☐ Reregistration
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Pendimethalin 3.8LB

Name and Address of Registrant (include ZIP Code):

Albaugh, LLC
1525 NE 36th Street
Ankeny, IA 50021

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 under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

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 unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.
2. Make the following label changes before you release the product for shipment:
 - Revise the EPA Registration Number to read, "EPA Reg. No. 83100-81."

Continues page 2

Signature of Approving Official:

Emily Schmid, Product Manager 25
Herbicide Branch, Registration Division (7505T)

Date:

7/24/25

3. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

The record for this product currently contains the following CSFs:

- Basic CSF dated 02/14/2024
- Alternate CSF 1 dated 02/14/2024

If you have any questions, please contact Jamie Millard at (202) 566-2726 or by email at millard.jamie@epa.gov.

Enclosure

PENDIMETHALIN 3.8LB(Alternate brand name *PENDALIN H2O*)**ACTIVE INGREDIENT:****Pendimethalin:** N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine..... 38.7%**Other Ingredients:** 61.3%**TOTAL:** 100.00%

Contains 3.8 pounds of pendimethalin per gallon formulated as an aqueous capsule suspension.

KEEP OUT OF REACH OF CHILDREN

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

HOTLINE NUMBER:

For non-emergency questions regarding exposure to this product, call 1-888-347-6732 (7 days/week, 24-hr/day).

For medical emergencies, call the poison control center at 1-800-222-1222.

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

{Optional language that may appear on product label:}

[See [inside] booklet for [additional/complete] [Precautionary Statements/Directions For Use/Storage and Disposal/ and/Conditions of Sale and Warranty].]

For 24-hour chemical spill, leak, fire, or accident response information, call CHEMTREC toll free at 1-800-424-9300.

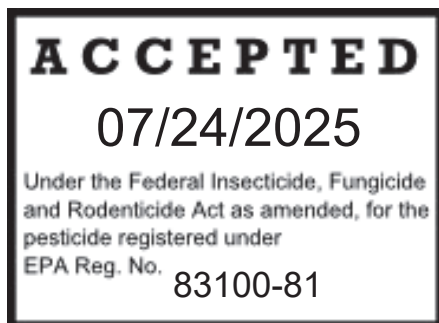
EPA Reg. No. 83100-XX

EPA Est. No. _____

MANUFACTURED [FOR][BY]:
 Albaugh, LLC
 1525 NE 36th Street
 Ankeny, IA 50021


NET CONTENTS: ____ gal (____ L)

[NOTE TO REVIEWER: Optional Text in Brackets]

**SELECTIVE HERBICIDE****SELECTIVE HERBICIDE**

PRECAUTIONARY STATEMENTS

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them.

ENGINEERING CONTROLS

When handlers use closed systems or enclosed cabs that meet the requirements listed in the Worker Protection Standards (WPS) for agricultural pesticides [40 CFR 170.607(d-e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

This product is toxic to fish. **DO NOT** apply directly to water, to areas where surface water is present, or to inter-tidal 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 washwater or rinsate.

PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow contact with an oxidizing agent. Hazardous chemical reaction may occur.

Non-Target Organism Advisory Statement: This product is toxic to plants and may adversely impact the forage and habitat of nontarget organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of nontarget organisms by following label directions intended to minimize spray drift.

ENDANGERED SPECIES PROTECTION REQUIREMENTS

This product may have effects on federally listed threatened or endangered plant species or their critical habitat. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult <http://www.epa.gov/espp/>, or call 1-844-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will be available from the above sources 6 months before their effective dates.

If endangered plant species occur in proximity to the application site, the following mitigation measures are required:

- If applied by ground, leave an untreated buffer zone of 200 feet. The product must be applied using a low boom (20 inches above the ground) and ASAE fine to medium/coarse nozzles.
- If applied by air, leave an untreated buffer zone of 170 feet. Must use straight-stream nozzles (D-6 or larger); wind can be no more than 8 mph, and release height must be 15 feet or less.

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 precautions and restrictions in this label and the labels of products used in combination with **Pendimethalin 3.8lb**. Use of **Pendimethalin 3.8lb** 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 regulation.

This product may not be used for manufacturing products for application to turf and ornamentals.

DO NOT enter or allow other people (or pets) to enter the treated area until sprays have dried.

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, greenhouses, and handlers of agricultural insecticides. 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 area if there will be no contact with anything that has been treated.

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

- Coveralls
- Chemical-resistant gloves including made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

PRODUCT INFORMATION

Pendimethalin 3.8lb is a selective herbicide for controlling most annual grasses and certain broadleaf weeds as they germinate. Refer to **Table 1** for crop uses. Refer to **Table 2** for a complete list of controlled weeds. **Pendimethalin 3.8lb** will not control established weeds.

Table 1. Crop Uses

African marigold	lentil and peas
alfalfa	melons
artichoke asparagus	mint
berries, low-growing	monarda
Brassica head and stem vegetables	nut trees, bearing and nonbearing
bushberries, bearing and nonbearing	olive trees, bearing and nonbearing
caneberries, bearing and nonbearing	onions and shallots (dry bulb, green)
carrot	peanut
celery (and other leaf petiole vegetables in Group 22B)	perennial grasses grown for seed
citrus fruit trees, bearing and nonbearing	pome fruit trees, bearing and nonbearing
corn (field, field seed, fresh sweet, popcorn, popcorn seed)	pomegranate
cotton	potato
date palm trees, nonbearing edible beans	rice
fallow	rosemary
fig trees, nonbearing	safflower
forage grasses (cool-season)	small fruit climbing vines, bearing and nonbearing
forage grasses (warm-season)	soybean
fruiting vegetables	stone fruit trees, bearing and nonbearing
garlic	strawberry
grain sorghum	sugarcane
grape, bearing and nonbearing vineyards	sunflower (and other Group 20B oilseeds)
hops	tobacco
leaf lettuce	triticale
leafy Brassica greens	vegetable soybean (edamame)
leek	wheat

Table 2. Weeds Controlled (see crop sections for additional weeds controlled)

Weeds Controlled with Pendimethalin 3.8lb Applied up to 4pts/A			
Grass Weeds			
Annual ryegrass*	Downy brome*	Italian ryegrass*	Sandbur, field
Barnyardgrass	Foxtail, giant	Japanese brome* ¹	Shattercane*
Canarygrass* ²	Foxtail, green	Johnsongrass (seedling)	Signalgrass*
Cheat* ²	Foxtail, yellow	Jointed goatgrass* ¹	Wild proso millet*
Crabgrass	Goosegrass	Oat, wild*	Witchgrass
Crowfootgrass	Hairy chess* ¹	Panicum, fall	Woolly cupgrass*
Cupgrass	Itchgrass*	Panicum, Texas	
Broadleaf Weeds			
Amaranth, Palmer	Henbit	Mustard, black ²	Shepherdspurse*
Bittercress ^[2]	Kochia	Pigweed species	Smartweed, Pennsylvania*
Black nightshade	Lady's thumb	Prickly sida	Spurge, annual
Bugloss, small ¹	Lambsquarters, common	Prostrate knotweed ^[2]	Velvetleaf*
Carpetweed	Lambsquarters, slimleaf ²	Purslane	Waterhemp species
Chickweed, common*	London rocket*	Pusley, Florida	Wild mustard
Common groundsel		Redstem filaree	
* Suppression, but controlled when Pendimethalin 3.8lb use rate exceeds 4 pts/A.			
¹ Not suppressed or controlled in California			
² Not controlled in California			
Weeds Controlled with Pendimethalin 3.8lb Applied at 4pts/A or More			
Grass Weeds			
Annual bluegrass	Grass, Guinea ²	Lovegrass	Sprangletop, red
Browntop panicum	Junglerice	Sprangletop, Mexican	Swollen fingergrass
Broadleaf Weeds			
Dodder [†]	Morningglory**	Prostrate knotweed	Redmaids rockpurslane
Fiddleneck	Prickly lettuce	Puncturevine	
[†] For optimum dodder control, use the highest labeled rate of Pendimethalin 3.8lb specified in the specific crop.			
** Suppression			
² Not controlled in California			

MODE OF ACTION

Pendimethalin, the active ingredient in **Pendimethalin 3.8lb** is a **Group 3 (WSSA)/Group K1 (HRAC)** herbicide belonging to the dinitroaniline chemistry class. **Pendimethalin 3.8lb** is a meristematic inhibitor that interferes with meristematic plant cell division or mitosis inhibiting germinating seedling growth.

HERBICIDE RESISTANCE MANAGEMENT

Pendimethalin 3.8lb is a **Group 3** herbicide. Any weed population may contain or develop plants naturally resistant to **Pendimethalin 3.8lb** and other **Group 3** herbicides. Weed species with resistance to **Group 3** may eventually dominate the weed population if **Group 3** herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by **Pendimethalin 3.8lb** or other **Group 3** herbicides.

To delay herbicide resistance, consider:

- Avoiding the consecutive use of Pyroxasulfone 500 g/L or other target-site-of-action Group 15 herbicides that have a similar target site of action on the same weed species.
- Using tank mixes or premixes with herbicides from different target-site-of-action groups as long as the involved products are all registered for the same use, have different sites of action, and are both effective at the tank mix or prepack rate on the weed(s) of concern.
- Basing herbicide use on a comprehensive IPM (Integrated Pest Management) program including cultural and mechanical methods.
- Monitoring treated weed populations for loss of field efficacy, and control of escapes with effective alternative herbicides or mechanical methods.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed- control program needs to consider all of the weeds present.
- Scout fields prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective.
- Scout fields after application to verify the treatment was effective.
- Suspected herbicide-resistance weeds may be identified by these indicators:
 - Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;

- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.
- If resistance is suspected, treat weed escapes with an herbicide with a different MOA and/or use non-chemical methods to remove escapes, as practical, with the goal of preventing further seed production.
- Report any incidence of non-performance of this product against a particular weed species to your local ALBAUGH, LLC representative.
- Contacting your local extension specialist, certified crop advisors, and/or manufacturer for herbicide resistance management and/or integrated weed management directions for specific crops and resistant weed biotypes.

GENERAL USE DIRECTIONS

APPLICATION RATE

Use rates for **Pendimethalin 3.8lb** when used alone, in tank mix, or for sequential applications are given in Crop-Specific Information. Use rates of this product vary by soil texture and organic matter. See **Table 3** for soil texture groupings used in this label.

DO NOT apply more than the maximum labeled rate of **Pendimethalin 3.8lb** for any soil type.

Table 3. Soil Texture Groups

Coarse	Sand, Loamy Sand, Sandy Loam
Medium	Loam, Silt Loam, Silt, Sandy Clay Loam*
Fine	Sandy Clay, Silty Clay Loam*, Silty Clay, Clay Loam, Clay
* Sometimes considered transitional soils and may be classified as medium-texture or fine-texture soils.	

For **peat** and **muck** soils: **Pendimethalin 3.8lb** may be used on peat and muck soils but weed control may be inconsistent and/or reduced. Use maximum labeled use rate allowed in the specific crop.

APPLICATION TIMING

Pendimethalin 3.8lb will provide most effective weed control when applied by ground or aerial equipment and subsequently incorporated into soil by rainfall, sprinkler irrigation, or mechanical tillage before weed seedling germination.

Pendimethalin 3.8lb can also be applied through chemigation, including flooded basin irrigation systems. **Pendimethalin 3.8lb** may be applied preplant surface, preplant incorporated, surface incorporated, preemergence, early postemergence, postemergence incorporated (CULTI-SPRAY), or by layby treatment. See Crop-Specific Information for specific application directions and restrictions by crop.

Preplant Surface Application: For use in minimum-tillage or no-tillage production systems, apply **Pendimethalin 3.8lb** alone or in tank mixes within 45 days of planting. When making early preplant surface application (15 to 45 days before planting), **Pendimethalin 3.8lb** should be tank mixed or followed by a postemergence herbicide application. Rainfall or sprinkler irrigation after application is required to move this product into the upper soil surface where weed seeds germinate.

Preplant Incorporated (PPI) Application: Apply **Pendimethalin 3.8lb** and incorporate into the upper (1 inch to 2 inches) soil surface within 60 days of planting. Use an implement capable of giving uniform incorporation; two-pass incorporation usually results in a more consistent result.

Surface Incorporated Application: Uniformly apply **Pendimethalin 3.8lb** as broadcast or banded treatment to soil surface underneath established trees and/or in ground areas between tree rows. Incorporate into upper (1 inch to 2 inches) soil surface using rainfall, sprinkler irrigation, or shallow mechanical incorporation using an implement capable of giving uniform incorporation; two-pass mechanical incorporation usually results in a more consistent result.

Preemergence Surface Application: Broadcast treatment uniformly to the soil surface at planting and up to 2 days after planting (refer to Crop-Specific Information section for exceptions). Rainfall, sprinkler irrigation, or shallow mechanical incorporation after application is required to move this product into the upper soil surface where weed seeds germinate. If adequate rainfall or irrigation does not occur, or soil crusting or soil compaction has occurred, and weed seedling emergence begins, a shallow cultivation or rotary hoeing or light harrow will improve performance. Make sure that crop seeds are below the tilled soil surface area.

Early Postemergence Application: **Pendimethalin 3.8lb** must be applied before weed seedling emergence or in a tank mix with products that control the emerged weeds. Refer to Crop-Specific Information for specific postemergence application instructions by crop.

Postemergence Incorporated Application (CULTI-SPRAY): Before application, crop must be cultivated in such a manner as to throw at least 1 inch of soil over the base of the crop plants. This will prevent direct contact of **Pendimethalin 3.8lb**

and the zone of brace root formation. **Pendimethalin 3.8lb** must be applied broadcast with a ground sprayer when crop is at least 4 inches tall up to layby. Use drop nozzles if crop foliage will prevent uniform coverage of the soil surface within the rows. Thoroughly and uniformly incorporate **Pendimethalin 3.8lb** 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 overhead irrigation water or rainfall. See Crop-Specific Information (Corn and Grain Sorghum) for more details on (CULTI-SPRAY) application.

Layby Application: Apply **Pendimethalin 3.8lb** directly to the soil between rows as a directed spray after the last normal cultivation (layby). See Crop-Specific Information for more details on layby application.

Split Application: **Pendimethalin 3.8lb** may be applied preplant incorporated within 60 days of planting and followed by a preemergence application at planting or up to 2 days after planting (refer to Crop-Specific Information section for exceptions). The total amount of **Pendimethalin 3.8lb** applied per acre per season cannot exceed the highest labeled rate for any given soil type. See Crop-Specific Information for more details on split applications.

Fall Application: **Pendimethalin 3.8lb** may be used in fall application programs in certain crops. See Crop-Specific Information for details on fall application timing.

APPLICATION INSTRUCTIONS

Pendimethalin 3.8lb may be applied using water or sprayable fluid fertilizer (including straight 32-0-0 or 28-0-0) as the spray carrier. **DO NOT** apply **Pendimethalin 3.8lb** after crop emergence (postemergence) in sprayable liquid fertilizers. Additionally, **Pendimethalin 3.8lb** may be impregnated on dry bulk fertilizer. For all applications, avoid overlapping that could result in possible crop injury.

SPRAY MIX COMPATIBILITY TEST

If a liquid fertilizer and/or herbicide(s) mixture separates in the spray tank, clogged equipment and uneven application can result. Always predetermine the compatibility of **Pendimethalin 3.8lb** alone or with other herbicides based on the following compatibility jar test:

1. Add 1 pint of fertilizer to a quart jar.
2. Add 1 to 4 teaspoon(s) of the dry flowable (DF), wettable powder (WP), aqueous solution (AS), flowable (F), or liquid (L) formulation (depending on mixing ratio required) to the liquid fertilizer. To calculate teaspoons of the formulation to add:

$$\frac{\text{pounds or pints of product per acre}}{\text{gallons of fertilizer per acre}} \times 11.4 = \text{teaspoons of herbicide to add to 1 pint of fertilizer}$$

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, add appropriate number of teaspoons of **Pendimethalin 3.8lb** to the jar and shake well. Add water soluble concentrate herbicides to the mixture last and agitate. Let the mixture stand for 30 minutes; then observe the results. Look for signs of separation: an oily layer or globules, sludge, flakes or other precipitates.
5. Evaluate compatibility.
 - a. If the herbicide(s) and liquid fertilizer mixture does not separate, use this mixture in your spray tank.
 - b. If the mixture separates but mixes readily with shaking, the mixture can be used if 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, Albaugh, LLC recommends the following procedure: Using a clean quart jar, repeat step 1 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 3.8lb** with that specific liquid fertilizer.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications

- **DO NOT** release spray at a height greater than 10ft above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site. If the wind speed is greater than 10 mph, the boom length must not exceed 65% of the wingspan for fixed wing aircraft or 75% of the rotor diameter for helicopters. Otherwise, the boom length must not exceed 75% of the wingspan for fixed wing aircraft or 90% of the rotor diameter for helicopters.
- Applicators must use 1/2 swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.

- **DO NOT** apply during temperature inversions.

Ground Applications

- Applicators must only apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature conversions.

AERIAL APPLICATION

Uniformly apply in 5 or more gallons of water per acre.

GROUND APPLICATION (BROADCAST)

Uniformly apply in 10 or more gallons of water per acre or 20 or more gallons of liquid fertilizer per acre. 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.

GROUND APPLICATION (BAND)

Uniformly apply the broadcast equivalent rate and volume per acre. Calculate:

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{band rate per acre}$$

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast volume per acre} = \text{band volume per acre}$$

GROUND APPLICATION (DRY BULK FERTILIZER)

Apply **Pendimethalin 3.8lb**/dry bulk fertilizer mixtures only with ground equipment. See Crop-Specific Information for crops suitable for dry bulk fertilizer applications. **DO NOT** impregnate **Pendimethalin 3.8lb** 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 3.8lb**. A minimum of 200 pounds of impregnated dry bulk fertilizer, excluding the weight of ammonium nitrate or limestone, must be applied per acre.

Calculate the amount of **Pendimethalin 3.8lb** impregnated on a ton of dry bulk fertilizer based on the rate of fertilizer to be applied per acre:

$$\frac{2000}{\text{pounds of dry fertilizer per acre}} \times \text{Pendimethalin 3.8lb (rate per acre)} = \text{Pendimethalin 3.8lb per ton of fertilizer}$$

To impregnate **Pendimethalin 3.8lb** on bulk fertilizer, use a closed rotary-drum mixer or other commonly used dry bulk fertilizer blender equipped with suitable spray equipment. Spray nozzles must be placed to provide uniform coverage of **Pendimethalin 3.8lb** onto the fertilizer during mixing.

Apply the **Pendimethalin 3.8lb**/dry bulk fertilizer mixture with a calibrated dry fertilizer spreader. The **Pendimethalin 3.8lb**/dry bulk fertilizer mixture must be spread uniformly on the soil surface.

CHEMIGATION APPLICATION VIA SPRINKLER IRRIGATION AND DRIP IRRIGATION SYSTEMS

Pendimethalin 3.8lb may be applied as a chemigation treatment through sprinkler irrigation and drip irrigation systems. Refer to Crop-Specific Information sections for individual crops. **DO NOT** apply **Pendimethalin 3.8lb** via chemigation to crops unless specified in Crop-Specific Information section.

Apply this product **ONLY** through a sprinkler irrigation system of the following type: center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move.

Apply this product **ONLY** through a drip irrigation system that has emitters above the soil surface.

DO NOT apply this product through any other type of sprinkler irrigation or drip irrigation system.

Uniform distribution of **Pendimethalin 3.8lb**-treated irrigation water is the sole responsibility of the applicator and is required to avoid crop injury, lack of herbicide effectiveness, or illegal pesticide residues in the crop. If you have any questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.

The system must be calibrated (with water only) to ensure the amount of **Pendimethalin 3.8lb** applied corresponds to the specified rate. Apply **Pendimethalin 3.8lb** in 1/2 to 3/4 inch of water during the first sprinkler set (use at least 1 inch of water in the states of New Mexico, Oklahoma, and Texas). Albaugh, LLC recommends mixing **Pendimethalin 3.8lb** with water at

a 1:1 ratio in the injection nurse tank to assist with product flowability. Maintain agitation in the injection nurse tank to keep a uniform herbicide suspension during application. When application is complete, flush the system with water.

CHEMIGATION INSTRUCTIONS (FOR LOW-VOLUME MICRO SPRINKLERS)

Output of low-volume sprinkler equals 4 to 50 gallons per hour (gph) per emitter. Point of application **MUST** be above ground.

Irrigation system must run a sufficient amount of time before **Pendimethalin 3.8lb** injection to have all emitters functioning properly. After system is operating properly, length of injection should be such that at one period of time during the injection, the first and last emitters in the system contain **Pendimethalin 3.8lb**-treated water. Add **Pendimethalin 3.8lb** to the supply tank already filled with the volume of water required for the injection period. Maintain agitation in **Pendimethalin 3.8lb** injection tank. Mix **Pendimethalin 3.8lb** in clean water and inject down-line from filters. After **Pendimethalin 3.8lb** injection, flush system for a period of time sufficient to clear the line of **Pendimethalin 3.8lb**. (If **Pendimethalin 3.8lb** is applied during a normal irrigation cycle, make injection during the last stage.)

CHEMIGATION CALIBRATION (FOR LOW-VOLUME MICRO SPRINKLERS)

Calculation of use rate is based on wetted area around emitters – **NOT** on tree acres. To calculate amount of **Pendimethalin 3.8lb**:

1. Treated area per each emitter = A $A = 3.14 \times (\text{radius} \times \text{radius})$
2. The area in square feet wet in each acre = B $B = \frac{A \times \text{emitters per acre}}{144}$
3. The total area (in square feet) wet by your system = C $C = B \times \text{acres covered by system}$
4. Rate per treated acre of **Pendimethalin 3.8lb** (based on length of control desired) = R
5. Amount of **Pendimethalin 3.8lb** to inject = S $S = \left(\frac{C}{43,560}\right) \times R = \text{qts of Pendimethalin 3.8lb}$

Example:

If the average distance from emitter to perimeter of wetted area measured 1 inch below soil surface is 13 inches, then:

$$A = 3.14 \times (13 \text{ inches} \times 13 \text{ inches}) \rightarrow A = 530.7$$

If there are 300 emitters per acre, then:

$$B = \frac{530.7 \times 300}{144} \rightarrow B = 1105.6 \text{ square feet per wetted acre}$$

If the system covers 20 acres, then:

$$C = 1105.6 \text{ square feet per wetted acre} \times 20 \text{ acres} \rightarrow C = 22,112 \text{ square feet wetted by system}$$

If the desired application rate per treated acre is 2.0 qts of **Pendimethalin 3.8lb**, then:

$$S = \left(\frac{22,112}{43,560}\right) \times 2.0 \rightarrow S = 1.0 \text{ qt (amount of Pendimethalin 3.8lb to inject into system)}$$

SPECIAL INSTRUCTIONS FOR CHEMIGATION

1. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.
2. **DO NOT** connect an irrigation system used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.
3. 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.
4. Recirculate and/or contain tail water (runoff water) from chemigation that contains **Pendimethalin 3.8lb** in the field in a cistern or holding reservoir from the initial application and/or use only on adjacent, approved crops for which **Pendimethalin 3.8lb** is registered for this type of application.
5. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. It 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 automatically or manually shut down.
6. 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 backflow. In addition, systems must use a metering pump, including 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.

7. The sprinkler chemigation 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.
8. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

1. 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.
2. 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 needs 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.
3. All chemigation systems connected to public water systems must also follow restrictions listed in the preceding sections involving Chemigation.

APPLICATION VIA FLOOD, FLOODED BASIN, OR GRAVITY FLOW IRRIGATION SYSTEMS

Pendimethalin 3.8lb may be applied via flood, flooded basin, or gravity flow irrigation systems, but only to the following crops: alfalfa, bearing and nonbearing fruit and nut trees, bearing and nonbearing bushberries and caneberries, bearing and nonbearing olive trees, bearing and nonbearing vineyards, bearing and nonbearing small fruit climbing vines, nonbearing date palm, and nonbearing fig trees.

USE INSTRUCTIONS AND RESTRICTIONS FOR FLOOD, FLOODED BASIN, AND GRAVITY FLOW IRRIGATION

1. **Pendimethalin 3.8lb** may be applied through flood, flooded basin, or gravity flow irrigation systems designed to uniformly distribute irrigation water along the soil surface. Solid set systems using tall riser for overhead application are excluded.
2. Follow all label directions for **Pendimethalin 3.8lb** regarding rates per acre, timing of application, and crop-specific restrictions and precautions.
3. **DO NOT** connect an irrigation system used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.
4. 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.
5. Albaugh, LLC recommends that **Pendimethalin 3.8lb** is mixed with water at a 1:1 ratio in the injection nurse tank to assist with product flowability. Maintain agitation in the injection nurse tank to keep a uniform herbicide suspension during application. When application is complete, flush the system with water.
6. Systems using a gravity-flow pesticide dispensing system must meter the pesticide in the water at the head of the field downstream of a hydraulic discontinuity, including a drop structure or weir box, to decrease potential for water source contamination from backflow water.
7. Tail water (runoff water) from flood, flooded basin, or gravity flow irrigation that contains **Pendimethalin 3.8lb** must be recirculated and/or contained in the field in a cistern or holding reservoir from the initial application and/or used only on adjacent approved crops for which **Pendimethalin 3.8lb** is registered for this type of application.
8. Systems using a pressurized water and pesticide injection system must meet the following requirements:
 - The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located in the irrigation pipe to prevent water source contamination from backflow.
 - The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent flow of fluids 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 automatically or manually shut down.
 - The system must contain a functional interlocking control to automatically shut off the pesticide injection pump when the water pump stops.
 - The irrigation pipe or water pump must include a functional pressure switch, which will stop the pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
 - Systems must use a metering pump, including a positive displacement injection pump (e.g. diaphragm pump) of effective design and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
 - Any alternative to the above safety devices must conform to the list of EPA-approved alternative devices.
9. Regularly measure the flow in the field to ensure the correct amount of **Pendimethalin 3.8lb** is metered into irrigation water and also regularly monitor to ensure treated water is uniformly distributed across the field. Flow

rates through metering devices and distribution of **Pendimethalin 3.8lb** can vary with water temperature and speed of water flow across the field.

10. Uniform distribution of **Pendimethalin 3.8lb**-treated irrigation water is the sole responsibility of the applicator and is required to avoid crop injury, lack of herbicide effectiveness, or illegal pesticide residues in the crop.
11. For questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.

SPRAY DRIFT ADVISORIES

The applicator is responsible for avoiding off-site spray drift. Be aware of nearby non-target sites and environmental conditions.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

Volume: Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.

Pressure: Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.

Spray Nozzle: Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

Adjust Nozzles: Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

Boom Height – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

Release Height – Aircraft

Higher release heights increase the potential for spray drift. When applying aurally to crops, **DO NOT** release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is necessary for pilot safety.

Shielded Sprayers: Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

Temperature and Humidity: When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

Temperature Inversion: Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

Wind: Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

ADDITIVES

Spray adjuvants have little or no influence on performance of **Pendimethalin 3.8lb** when applications are made before weed emergence. However, several tank mixes with **Pendimethalin 3.8lb** require adjuvants to improve burndown of emerged weeds. Therefore, surfactants, liquid fertilizer (28%, 30%, or 32% UAN [urea ammonium nitrate] or AMS [ammonium sulfate]), or crop oil concentrate (COC) may be used with **Pendimethalin 3.8lb** tank mixes applied preplant, pre-emergence, or early postemergence to the crop. Follow the adjuvant directions on the tank mix partner's label. The adjuvants must contain ingredients accepted by the Environmental Protection Agency.

When an adjuvant is to be used with this product, Albaugh, LLC recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

TANK MIXING INFORMATION

It is the pesticide user's responsibility to ensure that all products in the mixtures are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Pendimethalin 3.8lb may be tank mixed or applied sequentially with other herbicide products registered for use in any labeled crop found in this label for a broader spectrum of residual weed control and/or control of emerged weeds. Refer to the tank mix product labels to confirm that the respective tank mix products are registered for use on the labeled crop. Read and follow tank mix product labels for application instructions, use restrictions and precautions, and rotational cropping guidance. The most restrictive labeling applies to tank mixes. Always perform a mixing test to check the compatibility of **Pendimethalin 3.8lb** with all potential tank mix partners.

MIXING INSTRUCTIONS

1. Fill tank 1/2 to 3/4 full with clean water or liquid fertilizer and agitate. Before mixing **Pendimethalin 3.8lb** or **Pendimethalin 3.8lb** tank mixes in liquid fertilizer, refer to appropriate label sections for specified uses in liquid fertilizer, application instructions, and compatibility determinations.

NOTE: **Pendimethalin 3.8lb** will **NOT** mix in high salt formulation fertilizers, including 10-34-0. When using high salt formulation fertilizers as the spray carrier, use one of the following:

- a. Pre-slurry **Pendimethalin 3.8lb** in water before adding to tank; use 1:1 ratio of water to **Pendimethalin 3.8lb**.
 - b. Add water to fertilizer solution before adding **Pendimethalin 3.8lb**. The amount of water should be equal to or more than the amount of **Pendimethalin 3.8lb** to be used.
2. **Pendimethalin 3.8lb Alone:** When using **Pendimethalin 3.8lb** alone, add **Pendimethalin 3.8lb** to the partially filled tank while agitating; then fill the remainder of the tank with water or liquid fertilizer.
 3. **Pendimethalin 3.8lb Tank Mixes:** Add the tank mix ingredients in the following order before adding **Pendimethalin 3.8lb**:
 - a. **Wettable Powder (WP) formulations.** Make a slurry of the WP in water (1:2 ratio). Add the slurry slowly into the partially filled tank while agitating.
 - b. **Dry Flowable (DF)/Water-dispersible Granule (WDG) formulations.** Add the granules to the partially filled tank while agitating. Make a slurry of the granules in water before adding to liquid fertilizer.
 - c. **Flowable (F) formulations.** Add the F formulation to the partially filled tank while agitating.
 - d. Add **Pendimethalin 3.8lb** to the partially filled tank while agitating.
 - e. **Water-soluble Concentrate (WSC) formulations.** Add the WSC formulation to the partially filled tank while agitating.
 - f. **Emulsifiable Concentrate (EC) formulations.** Add the EC formulation to the partially filled tank while agitating.

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

4. Thorough and continuous sprayer-tank agitation **MUST** be maintained during mixing and spraying of **Pendimethalin 3.8lb**. 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.

CLEANING SPRAY EQUIPMENT

Clean application equipment thoroughly by using a strong detergent or commercial spray cleaner according to the manufacturer's directions; then triple rinse the equipment before and after applying this product.

USE PRECAUTIONS

- **Pendimethalin 3.8lb** will not control established weeds. Destroy emerged weeds before application.
- **Pendimethalin 3.8lb** is most effective in controlling weeds when mechanically incorporated or when incorporated into the weed germination zone by adequate rainfall or overhead irrigation after application.
- In the event of a crop loss because of adverse weather conditions or other reasons, any crop registered for a preplant incorporated application of **Pendimethalin 3.8lb** can be replanted without adverse effects the same year (see Crop-Specific Information for exceptions). If replanting is necessary, **DO NOT** work the soil deeper than the treated zone.
- Refer to Crop-Specific Information for crop-specific preharvest intervals and feeding and grazing restrictions.

ROTATIONAL CROP RESTRICTIONS

- Use of **Pendimethalin 3.8lb** in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors, including arid conditions, make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible. Soil characteristics and environmental conditions which may contribute to crop stress that may be

accentuated by the use of **Pendimethalin 3.8lb** include: coarse soils, compaction, high salinity, eroded knolls/hilltops, cold and/or wet soils, drought, and heavy rainfall soon after application.

- When **Pendimethalin 3.8lb** is used in tank mix or sequential combinations, refer to label of other herbicides for additional rotational crop restrictions.
- After harvest of furrow-irrigated crops, thoroughly mix the soil by plowing or deep disking to minimize the potential for herbicide carryover to the following crop.
- Refer to Crop-Specific Information for specific rotational restrictions when **Pendimethalin 3.8lb** is applied to specific crops.
- **Restrictions for rotational cropping after the use of Pendimethalin 3.8lb depend on the application use rate of Pendimethalin 3.8lb in the primary crop. The user must thoroughly read the following restrictions to determine the rotational crops for the specific situation, according to application use rate. For field and row crops, see the table following.**

ORCHARD, GROVE, AND VINEYARD CROPS

In the growing season after application of **Pendimethalin 3.8lb** to bearing fruit and nut trees, bushberries, caneberries, or grapes, plant only those crops for which **Pendimethalin 3.8lb** is labeled for preplant incorporated treatment or crop injury may occur. **DO NOT** rotate to other crops (except for fruit and nut trees, bushberries, caneberries, or grapes) for 24 months after **Pendimethalin 3.8lb** application.

FIELD AND ROW CROPS

Rotational Crops	States	Application Rate (pts/A)	Rainfall + Irrigation Amount (inches) between application and rotational crop planting	Rotational Planting Interval (months) after application	
				Spring	Fall
All crops labeled for preplant incorporated application	All	> 4.0	—	the next growing season	
All other crops			—	24	
Cotton, Edible beans, Fruiting vegetables, Lentil, Peas, Peanut, Safflower, Soybean, Sunflower (and other Group 20B Oilseeds), Vegetable soybean	All	≤ 4.0	—	0	
Alfalfa stand establishment	All	≤ 4.0	> 12	6	
Wheat*, Barley*	CO, ID, KS, MT, NE, NV, OR, UT, WA, WY	≤ 3.2	—	4	
		> 3.2 but ≤ 4.0	> 12	4	
			< 12	12	14
	All other states	≤ 4.0	> 12	4	
			< 12	12	14
Proso millet, Grain sorghum, Annual or perennial grass crops or mixtures	MN, ND, SD	≤ 4.0	—	18	20
	All other states	≤ 4.0	> 20	10	12
			< 20	18	20
Red beet**, Spinach**	All	≤ 4.0	> 12	12	14
			< 12	18	20
Sugar beet**	NE, and WY counties: Goshen, Laramie, Platte	≤ 2.6	> 12 only if cropland is under center pivot irrigation	10	14
		> 2.6 but ≤ 4.0		12	14
		≤ 4.0		18	20
	All other states and other counties in WY	≤ 4.0	> 12	12	14
			< 12	18	20
All other crops	All	≤ 4.0	> 12	12	12
			< 12	18	20

* In dryland areas and/or areas where irrigation is necessary to produce the crop, **DO NOT** plant winter wheat or barley as a follow crop if crop failure/destruction occurs and land is fallowed during the summer.

** To ensure thorough mixing of soil before planting sugar beet, red beet, and spinach, land should be plowed using a moldboard plow to a depth of 12 inches.

CROP-SPECIFIC INFORMATION

Crop Injury: Pendimethalin 3.8lb use may result in crop injury, loss or damage to certain crops under a number of conditions, including but not limited to agronomic, cultural, mechanical, and environmental. Numerous risks of loss or damage to certain crops may be associated with the use of **Pendimethalin 3.8lb** even when directions for use are followed completely. The user or grower should take all such risks into consideration before deciding to apply the product. Albaugh, LLC recommends testing on a small portion of the target crop to determine if damage is likely to occur. Each grower who is considering the product for such use should test **Pendimethalin 3.8lb** to determine its suitability. A grower should use **Pendimethalin 3.8lb** only to the extent that, in his sole opinion, the benefit of **Pendimethalin 3.8lb** use outweighs the potential injury to the grower's crop.

In addition, many factors can affect crop growth and/or yield, including but not limited to insects, diseases, weed competition, poor seed quality, improper planting depth, mechanical cultivation, poor weather (including freezing or excessive wind, rain, heat, or cold), lack of or excessive moisture, crusting, fertility, or hardpans. Risk of loss or damage to crops may be associated with the use of **Pendimethalin 3.8lb** and contribute to poor stands because of failure of crop to emerge, swelling of roots or other below-ground plant parts, less vigorous plant growth and development, and reduction in yield potential. **Pendimethalin 3.8lb** may also cause injury to sensitive rotational crops.

AFRICAN MARIGOLD

Pendimethalin 3.8lb is only registered for use in African marigold grown for the purpose of lutein and zeaxanthin extraction.

Pendimethalin 3.8lb may be applied by ground, chemigation, or on dry bulk fertilizer.

Plant African marigold 1/4-inch to 3/4-inch deep and completely cover with soil. Make sure that crop seeds are below the tilled soil surface area.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied in a single application or sequentially with an interval of 30 days or more.

Uniformly apply **Pendimethalin 3.8lb** up to 4.2 pints (2.0 lb ai) per acre as a broadcast treatment before target-weed germination.

Preplant Incorporated: Apply **Pendimethalin 3.8lb** within 60 days of planting and incorporate.

Preemergence: Apply **Pendimethalin 3.8lb** at planting or up to 2 days after planting, but before crop emerges. Apply to a seedbed that is firm and free of clods.

Postemergence: Apply **Pendimethalin 3.8lb** over-the-top postemergence after crop emergence for residual weed control.

Postemergence-Directed: Apply **Pendimethalin 3.8lb** as a postemergence-directed spray on the soil at the base of established plants, beneath plants, and between rows for residual weed control. Avoid direct contact with foliage or stems.

Postemergence and postemergence-directed treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received after application. If sufficient rainfall or irrigation does not occur to activate the herbicide, mechanically incorporate. Apply **Pendimethalin 3.8lb** before weeds germinate or after clean cultivation to remove existing weeds because **Pendimethalin 3.8lb** will not control emerged weeds. Apply a postemergence herbicide to control emerged weeds.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 4.2 pints of **Pendimethalin 3.8lb** (2.0 lb ai) per acre in a single application.
- **DO NOT** apply more than a maximum cumulative total of 8.4 pints of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.
- **DO NOT** graze livestock in treated fields or feed treated plant materials to animals.

CROP-SPECIFIC PRECAUTIONS

- Avoid overlapping spray patterns because crop injury can occur.
- Avoid heavy residue on soil surface from previous year's crops.
- Avoid applying **Pendimethalin 3.8lb** to open furrows with exposed seed.

ALFALFA (Grown for Forage, Hay, or Seed)

Pendimethalin 3.8lb may be applied by ground; air; chemigation; flood, flooded basin, and gravity flow irrigation systems; or on dry bulk fertilizer.

USE METHOD, RATE, AND TIMING

Established Alfalfa for Forage/Hay and Seed Production: Apply to established alfalfa grown for forage or hay or seed production (defined as alfalfa planted in the fall or spring which has gone through a first cutting/ mowing). Apply in a single application or in sequential applications. Uniformly apply **Pendimethalin 3.8lb** at a broadcast rate of 1.1 to 4.2 quarts (1.0 to 4.0 lb ai) per acre before weed germination. Application can be made in the fall after the last cutting/ mowing, during winter dormancy, in the spring, or between cuttings. Apply before alfalfa reaches 6 inches in regrowth.

Seedling Alfalfa: Apply to seedling alfalfa grown for forage or hay or seed production (defined as alfalfa planted in the fall or spring which has **NOT** gone through a cutting/mowing/seed harvest). Uniformly apply **Pendimethalin 3.8lb** at a broadcast rate of 1.1 to 2.1 pints (0.5 to 1.0 lb ai) per acre before weed germination. Application can be made when seedling alfalfa has reached the second trifoliate growth stage. Apply before alfalfa reaches 6 inches in growth.

Alfalfa Stand Establishment: Apply **Pendimethalin 3.8lb** at a broadcast rate of 1.0 to 1.5 pints (0.5 to 0.71 lb ai) per acre as a preplant incorporated or preemergence treatment in direct-seeded alfalfa. Some crop stand reduction and stunting may occur with this use of **Pendimethalin 3.8lb**; however, reduced weed competition will allow establishment of a quality stand. Use lower rates on coarse-texture soil or in lower rainfall areas (receiving less than 20 inches of rainfall and irrigation a year).

Preplant Incorporated: Uniformly incorporate **Pendimethalin 3.8lb** into the top 2 to 3 inches of the final seedbed before planting.

Preemergence: Apply directly after drill seeding alfalfa. Alfalfa should be planted into a seedbed that is firm and free of clods.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems: **Pendimethalin 3.8lb** may be applied in flood, flooded basin, and gravity flow irrigation systems. Follow all directions, special instructions, and restrictions about flood, flooded basin, and gravity flow irrigation systems in the **Application Instructions** section of this label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) in a single application.
- For multiple applications, **DO NOT** apply more than a maximum cumulative total of 6.3 quarts of **Pendimethalin 3.8lb** (6.0 lb ai) per acre in any one year.
- [Alternate text: • Maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** per acre in any one year in California.]
- Retreatment interval for sequential applications between the last cutting/mowing of the year and spring green-up of the following year - 28 days
- **Preharvest Interval (PHI) For The Maximum Dormant Period Application Of 4.2 Quarts Per Acre:** 50 days
- **Preharvest Interval (PHI) for Alfalfa Forage and Hay:** 14 days
- **Preharvest Interval (PHI) for Alfalfa Seed:** 90 days

CROP-SPECIFIC PRECAUTIONS

- Some stunting and chlorosis of the alfalfa may occur with postemergence applications.
- Application made after alfalfa exceeds 6 inches in height may result in poor weed control because of possible reduced spray coverage to the soil.

ARTICHOKE

Pendimethalin 3.8lb may be applied by ground or air.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb must be applied pre-transplant, at least 1 to 2 days before transplanting artichoke. For a single application, uniformly apply **Pendimethalin 3.8lb** up to 3.0 pints (1.4 lb ai) per acre as a broadcast spray to the soil surface at least 60 days before harvest, or uniformly apply 3.1 to 8.2 pints (1.5 to 4.0 lb ai) per acre as a broadcast spray to the soil surface at least 200 days before harvest.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply postemergence over the top of or to foliage of artichoke because severe injury may occur.
- **DO NOT** apply more than 3.0 pints of **Pendimethalin 3.8lb** (1.4 lb ai) per acre per year when using the 60-day preharvest interval.
- If more than 3.0 pints (1.4 lb ai) per acre (up to 8.2 pints (4.0 lb ai) per acre) of **Pendimethalin 3.8lb** is applied, **DO NOT** harvest artichoke until 200 days after application.
- **DO NOT** apply more than 8.2 pints (4.0 lb ai) per acre per year.
- **DO NOT** feed forage or graze livestock in treated fields.

ASPARAGUS

Pendimethalin 3.8lb may be applied by ground or air.

USE METHOD, RATE, AND TIMING

Apply **Pendimethalin 3.8lb** only to established asparagus or to newly planted crown asparagus. **DO NOT** apply to newly seeded asparagus. When applying to newly planted crown asparagus, assure crowns are fully covered with 2 to 4 inches of soil.

With a single application, uniformly apply **Pendimethalin 3.8lb** to asparagus up to 8.2 pints (4.0 lb ai) per acre as a broadcast spray to the soil surface at least 14 days before the first spear harvest or after seasonal harvest is complete.

Application must be made before spear emergence or remove emerged spears before making the application. If asparagus is grown on sandy soils, **DO NOT** apply **Pendimethalin 3.8lb** at more than 2.4 pints (1.15 lb ai) per acre.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply postemergence over the top of emerged spears or severe injury may occur.
- **DO NOT** apply more than 8.2 pints (4.0 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 14 days
- **DO NOT** feed forage or graze livestock in treated fields.
- **DO NOT** apply by chemigation methods.

BEARING AND NONBEARING FRUIT AND NUT TREES

Pendimethalin 3.8lb may be applied in the following individual crops within the fruit tree and tree nut crop groups:

Citrus Fruit Crop Group			
Australian desert lime	Grapefruit	New Guinea wild lime	Tachibana orange
Australian finger lime	Japanese summer grapefruit	Orange, sour	Tahiti lime
Australian round lime	Kumquat	Orange, sweet	Tangelo
Brown River finger lime	Lemon	Pummelo	Tangerine (mandarin)
Calamondin	Lime	Russell River lime	Tangor
Citron	Mediterranean mandarin	Satsuma mandarin	Trifoliate orange
Citrus hybrids	Mount White lime	Sweet lime	Uniq fruit
Tree Nuts Crop Group			
African nut-tree	Cashew	Hickory nut	Pequi
Almond	Chestnut	Japanese horse-chestnut	Pili nut
Beech nut	Chinquapin	Macadamia nut	Pine nut
Brazil nut	Coconut	Mongongo nut	Pistachio
Brazilian pine	Coquito nut	Monkey-pot	Sapucaia nut
Bunya	Dika nut	Monkey puzzle nut	Tropical almond
Bur oak	Ginkgo	Okari nut	Walnut, black
Butternut	Guiana chestnut	Pachira nut	Walnut, English
Cajou nut	Hazelnut (filbert)	Peach palm nut	Yellowhorn
Candlenut	Heartnut	Pecan	
Pome Fruits Crop Group			
Apple	Loquat	Pear	Quince, Chinese
Azarole	Mayhaw	Pear, Asian	Quince, Japanese
Crabapple	Medlar	Quince	Tejocote
Stone Fruits Crop Group			
Apricot	Cherry, tart	Plum, beach	Plum, Japanese
Apricot, Japanese	Jujube, Chinese	Plum, Canada	Plum, Klamath
Capulin	Nectarine	Plum, cherry	Plum, prune
Cherry, black	Peach	Plum, Chickasaw	Plumcot
Cherry, Nanking	Plum	Plum, Damson	Sloe
Cherry, sweet	Plum, American		
Other Fruit Trees			
Olive	Pomegranate	Date Palm*	Fig* (nonbearing only)

* Not for use in California [except as directed in supplemental labeling]

Pendimethalin 3.8lb may only be applied by ground; chemigation; or flood, flooded basin, and gravity flow irrigation systems.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied in a single application or sequentially with an interval of 30 days or more. Apply **Pendimethalin 3.8lb** at 2.1 to 6.3 quarts (2.0 to 6.0 lb ai) per acre per application depending on the grower's weed control program, level of weed infestation, and desired use strategy, but not more than a total of 4.2 quarts (4.0 lb ai) per acre per year in olive, pome, pomegranate, and stone fruit trees, and not more than a total of 6.3 quarts (6.0 lb ai) per acre per year in citrus and nut trees, and nonbearing date palm and nonbearing fig trees.

GROUND APPLICATION (BEARING)

Pendimethalin 3.8lb may be applied **surface incorporated** or **(surface) preemergence**.

Apply **Pendimethalin 3.8lb** broadcast or banded using ground equipment before weed germination. Apply spray directly to the ground beneath trees and/or in areas between rows. **DO NOT** apply over the top of trees with leaves, buds, or fruit. Contact by the spray mixture with leaves, shoots, or buds may cause injury or result in illegal pesticide residues on fruit.

GROUND APPLICATION (NONBEARING)

Pendimethalin 3.8lb may be applied for preplant incorporated, pre-plant surface, surface incorporated, or preemergence weed control in several nonbearing fruit and nut tree crops. **Pendimethalin 3.8lb** may be used before or after transplanting nonbearing crops.

Preplant Surface: Before transplanting, uniformly apply with ground equipment. Avoid root contact with treated soil when placing transplants into the hole or injury may occur.

Preplant Incorporated: Uniformly apply **Pendimethalin 3.8lb** before transplanting but before weeds germinate. Incorporate **Pendimethalin 3.8lb** to a depth of 1 to 2 inches. Application and incorporation must be made before transplanting to avoid mechanical injury to the crop. Avoid root contact with treated soil when placing transplants into the hole or injury may occur.

Preemergence: Application may be in a band or broadcast.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label. **DO NOT** apply **Pendimethalin 3.8lb** -treated irrigation water over the top of trees with leaves, buds, or fruit. Contact with leaves, shoots, or buds by spray mixture may cause injury or result in illegal pesticide residues on fruit.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems: **Pendimethalin 3.8lb** may be applied in flood, flooded basin, and gravity flow irrigation systems. Follow all directions, special instructions, and restrictions about flood, flooded basin, and gravity flow irrigation systems in the **Application Instructions** section of this label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year in olive, pome, pomegranate, and stone fruit trees.
- **DO NOT** apply more than 6.3 quarts of **Pendimethalin 3.8lb** (6.0 lb ai) per acre per year in citrus and nut trees, and nonbearing date palm and nonbearing fig trees.
- **DO NOT** apply by air.
- **DO NOT** feed forage or graze livestock in treated groves or orchards.
- **Preharvest Interval (PHI) for Citrus Fruit:** 1 day
- **Preharvest Interval (PHI) For Fig (Fresh And Dried):** 30 days
- **Preharvest Interval (PHI) for Olive, Pome, Pomegranate, Stone Fruit, and Nut Trees:** 60 days
- **DO NOT** apply to newly seeded nursery stock.

BEARING AND NONBEARING BUSHBERRIES AND CANEBERRIES

Pendimethalin 3.8lb may be applied in the following individual crops within the bushberry and caneberry groups:

Bushberries			
Aronia berry	Cranberry, highbush	Gooseberry	Lingonberry
Blueberry, highbush	Currant, black	Honeysuckle, edible	Native currant
Blueberry, lowbush	Currant, red	Huckleberry	Salal
Buffalo currant	Elderberry	Jostaberry	Sea buckthorn
Chilean guava	European barberry	Juneberry (Saskatoon berry)	
Caneberries			
Blackberry	Raspberry, black	Raspberry, red	Raspberry, wild
Loganberry			

Pendimethalin 3.8lb may only be applied by ground; chemigation; or flood, flooded basin, and gravity flow irrigation systems.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied in a single application or sequentially with an interval of 30 days or more. Apply **Pendimethalin 3.8lb** at 2.1 to 6.3 quarts (2.0 to 6.0 lb ai) per acre depending on the grower's weed control program, level of weed infestation, and desired use strategy. For newly (less than 1 year) transplanted bushberry and caneberry plants, apply **Pendimethalin 3.8lb** at between 2.1 and 3.2 quarts (2.0 to 3.0 lb ai) per acre after transplanting. For established (at least 1 year after trans- planting) plants, apply **Pendimethalin 3.8lb** at between 2.1 and 6.3 quarts (2.0 to 6.0 lb ai) per acre.

Ground Application (Bearing): **Pendimethalin 3.8lb** may be applied surface incorporated or (surface) preemergence.

Apply **Pendimethalin 3.8lb** as a broadcast or banded treatment using ground equipment before weed germination. Apply spray directly to the ground beneath the bushes or canes and/or in areas between rows or trellised rows. **DO NOT** apply over the top of bushes, canes, or primocanes with leaves, buds, or fruit. Contact by the spray mixture with leaves, shoots, or buds may cause injury.

Pendimethalin 3.8lb may also be broadcast applied to (wild) low- bush blueberry after pruning in fall or spring but before new growth/emergence in spring, or broadcast applied over the top of dormant bushes before new growth/emergence in spring. **DO NOT** apply broadcast over the top of (wild) lowbush blueberry if new spring growth/ emergence is imminent.

Ground Application (Nonbearing): **Pendimethalin 3.8lb** may be applied for preplant incorporated, pre-plant surface, surface incorporated, or preemergence weed control in nonbearing bushberry and caneberry crops. **Pendimethalin 3.8lb** may be applied before transplanting or applied after transplanting and the establishment of the nonbearing crops. **Pendimethalin 3.8lb** may be used after transplanting the nonbearing crops and after the ground is settled and no soil cracking is present at 2.1 to 3.2 quarts (2.0 to 3.0 lb ai) per acre.

Preplant Surface: Before transplanting, uniformly apply with ground equipment. Avoid root contact with treated soil when placing transplants into the hole or injury may occur.

Preplant Incorporated: Uniformly apply **Pendimethalin 3.8lb** before transplanting but before weeds germinate. Incorporate **Pendimethalin 3.8lb** to a depth of 1 to 2 inches. Application and incorporation must be made before transplanting to avoid mechanical injury to the crop. Avoid root contact with treated soil when placing transplants into the hole or injury may occur.

Preemergence: Application may be in a band or broadcast.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label. **DO NOT** apply **Pendimethalin 3.8lb**-treated irrigation water over the top of bushes, canes, or primocanes with leaves, buds, or fruit. Contact with leaves, shoots, or buds by spray mixture may cause injury.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems Application: **Pendimethalin 3.8lb** may be applied in flood, flooded basin, and gravity flow irrigation systems. Follow all directions, special instructions, and restrictions about flood, flooded basin, and gravity flow irrigation systems in the **Application Instructions** section of this label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 6.3 quarts of **Pendimethalin 3.8lb** (6.0 lb ai) per acre per year.
- **DO NOT** apply by air.
- **DO NOT** apply to newly (less than 1 year) transplanted bushberries and caneberries until ground is settled and no soil cracking is present.
- **DO NOT** apply more than 3.2 quarts of **Pendimethalin 3.8lb** (3.0 lb ai) per acre per year in newly (less than 1 year) transplanted bushberries and caneberries.
- **DO NOT** feed forage or graze livestock in treated field or planting.
- **Preharvest Interval (PHI):** 30 days
- **DO NOT** apply to newly seeded nursery stock.

CROP-SPECIFIC PRECAUTIONS

- **Pendimethalin 3.8lb** inhibits root growth and development and should not be used if bushberry and caneberry roots are shallow or if root growth is inhibited or stressed due to pathogens, insects, or environmental factors.

BEARING AND NONBEARING GRAPE

Pendimethalin 3.8lb herbicide may be only applied by ground; chemigation; or flood, flooded basin, and gravity flow irrigation systems.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied in a single application or sequentially with an interval of 30 days or more. Uniformly apply **Pendimethalin 3.8lb** in grape vineyards at 2.1 to 6.3 quarts (2.0 to 6.0 lb ai) per acre depending on the grower's weed control program, level of weed infestation, and desired use strategy.

Pendimethalin 3.8lb may be applied anytime after fall harvest, during winter dormancy, in spring, and in season before harvest.

Ground Application (Bearing): **Pendimethalin 3.8lb** may be applied surface incorporated or (surface) preemergence.

Apply **Pendimethalin 3.8lb** broadcast or banded using ground equipment before weed germination. Apply spray directly to the ground beneath grape vines and/or in areas between rows. **DO NOT** apply over the top of grape vines with leaves, buds, or fruit. Contact with leaves, shoots, or buds by the spray mixture may cause injury or result in illegal pesticide residues on fruit.

Ground Application (Nonbearing): **Pendimethalin 3.8lb** may be applied for preplant incorporated, pre-plant surface, surface incorporated, or preemergence weed control in nonbearing vineyards. **Pendimethalin 3.8lb** may be used before or after transplanting.

Preplant Surface: Before transplanting, uniformly apply with ground equipment. Avoid root contact with treated soil when placing transplants into the hole or injury may occur.

Preplant Incorporated: Uniformly apply **Pendimethalin 3.8lb** before transplanting but before weeds germinate. Incorporate **Pendimethalin 3.8lb** to a depth of 1 to 2 inches. Application and incorporation must be made before transplanting to avoid mechanical injury to the crop. Avoid root contact with treated soil when placing transplants into the hole or injury may occur.

Preemergence: Application may be in a band or broadcast.

Nonbearing Grape

Newly Transplanted and One-year-old Grapevines:

- **DO NOT** allow spray to contact buds or leaves or leaf distortion may occur.
- **DO NOT** apply to newly transplanted vines until ground has settled and no cracks are present.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label. **DO NOT** apply **Pendimethalin 3.8lb**-treated irrigation water over the top of grape vines with leaves, buds, or fruit. Contact with leaves, shoots, or buds by spray mixture may cause injury or result in illegal pesticide residues on fruit.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems: **Pendimethalin 3.8lb** may be applied in flood, flooded basin, and gravity flow irrigation systems. Follow all directions, special instructions, and restrictions about flood, flooded basin, and gravity flow irrigation systems in the **Application Instructions** section of this label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply over the top of grape vines with leaves, buds, or fruit.
- **DO NOT** apply by air.
- **DO NOT** apply more than 6.3 quarts **Pendimethalin 3.8lb** (6.0 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 21 days
- **Pendimethalin 3.8lb**-treated vineyards (post-harvest) may be grazed by livestock.

BEARING AND NONBEARING SMALL FRUIT CLIMBING VINES

Pendimethalin 3.8lb may be applied in the following small fruit climbing vines: Amur river grape, gooseberry, fuzzy kiwi-fruit, hardy kiwifruit, maypop, and Schisandra berry.

Pendimethalin 3.8lb may be only applied by ground; chemigation; flood, flooded basin, and gravity flow irrigation systems.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied in a single application or sequentially with an interval of 30 days or more. Uniformly apply **Pendimethalin 3.8lb** in small fruit climbing vines at 2.1 to 4.2 quarts (2.0 to 4.0 lb ai) per acre depending on the grower's weed control program, level of weed infestation, and desired use strategy.

Pendimethalin 3.8lb may be applied anytime after fall harvest, during winter dormancy, and in spring.

Ground Application: **Pendimethalin 3.8lb** may be applied **surface incorporated** or **(surface) preemergence**.

Apply **Pendimethalin 3.8lb** broadcast or banded using ground equipment before weed germination. Apply spray directly to the ground beneath small fruit climbing vines and/or in areas between rows. **DO NOT** apply over the top of small fruit climbing vines with leaves, buds, or fruit. Contact with leaves, buds, or fruit by the spray mixture may cause injury or result in illegal pesticide residues on fruit.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label. **DO NOT** apply **Pendimethalin 3.8lb** -treated irrigation water over the top of small fruit climbing vines with leaves, buds, or fruit. Contact with leaves, buds, or fruit by the spray mixture may cause injury or result in illegal pesticide residues on fruit.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems: **Pendimethalin 3.8lb** may be applied in flood, flooded basin, and gravity flow irrigation systems. Follow all directions, special instructions, and restrictions about flood, flooded basin, and gravity flow irrigation systems in the **Application Instructions** section of this label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply over the top of small fruit climbing vines with leaves, buds, or fruit.
- **DO NOT** apply by air.
- **DO NOT** apply more than 4.2 quarts **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 60 days
- **DO NOT** feed forage or graze livestock in treated vines.
- **DO NOT** apply **Pendimethalin 3.8lb** when impregnated onto dry bulk fertilizer in small fruit climbing vines.

BRASSICA HEAD AND STEM VEGETABLES

Pendimethalin 3.8lb may only be applied to the following Brassica head and stem vegetables: broccoli, Chinese broccoli, Brussel sprouts, cabbage, Chinese cabbage (napa), Chinese mustard cabbage, cauliflower, cavalo broccoli, kohlrabi

Pendimethalin 3.8lb may be applied by ground or air.

USE METHOD, RATE, AND TIMING

Uniformly apply **Pendimethalin 3.8lb** to Brassica head and stem vegetables by ground or air as a preplant surface application before transplanting or as a postemergence application.

Uniformly apply **Pendimethalin 3.8lb** only by ground as a postemergence-directed application to transplanted or established direct-seeded Brassica head and stem vegetables.

DO NOT apply before direct-seeded Brassica head and stem vegetables.

With a single application, apply up to 2.1 pints (1.0 lb ai) per acre of **Pendimethalin 3.8lb** to Brassica head and stem vegetables as a broadcast or banded spray to the soil surface at pretransplant time, as a broadcast postemergence foliar spray, or as a postemergence-directed spray between vegetable rows. Apply postemergence or postemergence-directed to 2-leaf to 4-leaf vegetable transplants at 1 to 3 days after transplanting, or to the 2-leaf to 4-leaf stage of direct-seeded vegetable plants.

Apply **Pendimethalin 3.8lb** as a postemergence-directed spray on the soil, beneath plants, and between vegetative rows.

DO NOT spray foliage or stems because crop injury will occur. Roots of transplants must be established. Following the postemergence-directed application if sufficient rainfall or irrigation does not occur, mechanically incorporate to activate the herbicide. Apply **Pendimethalin 3.8lb** before weed germination. Emerged weeds will not be controlled by this treatment.

Application Timing	Broadcast Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Pretransplant	1.0 – 1.5 (0.48 – 0.71 lb ai)	1.5 – 2.1 (0.71 – 1.0 lb ai)	1.5 – 2.1 (0.71 – 1.0 lb ai)
Postemergence			
Postemergence-Directed			

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 2.1 pints **Pendimethalin 3.8lb** (1.0 lb ai) per acre per year.
- **Preharvest Interval (PHI) for broccoli:** 60 days
- **Preharvest Interval (PHI) for cabbage and other brassica head and stem vegetables:** 70 days
- **DO NOT** feed forage or graze livestock in treated fields.
- **DO NOT** apply via chemigation methods.

CROP-SPECIFIC PRECAUTIONS

- Avoid root contact with **Pendimethalin 3.8lb**-treated soil when placing transplants into furrow or hole, or crop injury may occur.
- Avoid overlapping spray patterns because crop injury can occur.
- Not for use in California.

CARROT

Pendimethalin 3.8lb may be applied by ground, air, or chemigation.

USE METHOD, RATE, AND TIMING

Preemergence: Make a single broadcast application by ground, air, or chemigation at 2.0 pints (0.95 lb ai) per acre of **Pendimethalin 3.8lb** as a postplant treatment before emergence of the crop and before weed germination. Apply as a preemergence treatment within 2 days after planting.

Layby: **Pendimethalin 3.8lb** may be applied only by ground equipment at layby (last mechanical cultivation) at 2.0 pints (0.95 lb ai) per acre as a directed spray to the soil between rows. Apply **Pendimethalin 3.8lb** before weed germination. Emerged weeds will not be controlled by this treatment. **DO NOT** allow the spray to contact carrot plants or injury may occur. **DO NOT** apply layby applications by chemigation or air.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label. **DO NOT** allow **Pendimethalin 3.8lb** -treated irrigation water to contact carrot plants.

DO NOT apply tank mixes through any type of irrigation system unless the label instructions on chemigation of all products are followed.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 2.0 pints **Pendimethalin 3.8lb** (0.95 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 60 days
- **DO NOT** feed forage or graze livestock in treated fields.
- **DO NOT** apply as a broadcast spray over top of carrots or crop injury may result.
- **DO NOT** apply layby applications by chemigation or air.

CARROT GROWN FOR SEED PRODUCTION

Pendimethalin 3.8lb may be applied only by layby with ground equipment.

USE METHOD, RATE, AND TIMING

Last Cultivation (Layby). Apply **Pendimethalin 3.8lb** after the last normal mechanical cultivation (layby) at a rate of 1.0 to 4.0 pints (0.48 to 1.9 lb ai) per acre (on a broadcast basis). Uniformly apply as a directed spray to the soil between rows. **DO NOT** allow the spray to contact carrot plants or injury may occur. Use protective shields to avoid contact with carrot foliage. Use calibrated nozzles and equipment.

Layby application can be made to carrots previously treated with herbicides registered in/on carrots. Consult the labels of those herbicides for suggested treatments, rates, and precautions or restrictions for use in carrots and for rotational crop restrictions.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply as a broadcast spray over top of carrots or crop injury may result.
- **DO NOT** apply layby applications by chemigation or air.
- **DO NOT** apply within 60 days before carrot seed harvest.
- **DO NOT** feed forage or graze livestock in treated fields.
- **DO NOT** harvest carrots for food or feed use.

SPECIAL CROP USE RESTRICTIONS

The pesticide applicator, the producer of the crop, and the seed conditioner must be aware that use of this product according to this labeling is deemed a nonfeed/nonfood use. If the applicator of this pesticide is not the producer, the applicator must provide a copy of this labeling to the producer of the crop. Producers of this crop who use this product, or cause the product to be used on a field they operate, shall provide a copy of this pesticide label to the seed conditioner.

Consequently, no portion of this carrot seed crop, including but not limited to green chop, hay, pellets, meal, whole seed, cracked seed, roots, bulbs, foliage, and seed screenings, may be used or distributed for food or feed purposes.

Processed carrot seed from a field treated with this product must bear a specific tag or conspicuous container labeling, or if shipped in bulk, on the shipment invoice or bill of lading, with the following statement: "Not for human consumption or animal feed." All seed screenings from seed processing shall be disposed of in such a manner that the screenings cannot be distributed or used for human food or animal feed purposes.

The seed conditioner shall keep records of screening disposal for three years from the date of disposal and shall furnish the records immediately upon request. Conditioner disposal records shall consist of documentation of on-farm disposal, disposal at a controlled dumpsite, incinerator, composter, or other equivalent disposal site and shall include the lot numbers, amount of material disposed of, the grower(s), and the date of disposal.

CELERY (and other leaf petiole vegetables in Group 22B)

Pendimethalin 3.8lb may be applied to celery and the following other leaf petiole vegetables of subgroup 22B: cardoon, Chinese celery, fuki, rhubarb, udo, zuiki

Pendimethalin 3.8lb may only be applied by ground or air.

USE METHOD, RATE, AND TIMING

Pre-transplant: Uniformly apply **Pendimethalin 3.8lb** as a broad- cast spray to celery and other leaf petiole vegetables as a preplant surface application before transplanting. **DO NOT** incorporate **Pendimethalin 3.8lb** into soil before transplanting. **DO NOT** apply before direct-seeded celery and other leaf petiole vegetables.

Post-transplant: Uniformly apply **Pendimethalin 3.8lb** as a postemergence broadcast spray to celery and other leaf petiole vegetables 1 or more days after transplanting until no less than 60 days before harvest.

Sequential applications: **Pendimethalin 3.8lb** may be applied in sequential applications with pretransplant followed by post-transplant. Separate applications by at least 21 days and **DO NOT** exceed the maximum cumulative rate for soil type per year.

Application Timing	Use Rate by Soil Texture (pt/A)			
	Coarse (mineral)	Medium (mineral)	Fine (mineral)	Muck
Pre-transplant & Post-transplant	2.1 – 3.2 (1.0 – 1.5 lb ai)	2.1 – 3.2 (1.0 – 1.5 lb ai)	2.1 – 3.2 (1.0 – 1.5 lb ai)	4.0 (1.9 lb ai)

CROP-SPECIFIC RESTRICTIONS – Mineral Soils

- **DO NOT** apply more than 3.2 pints of **Pendimethalin 3.8lb** (1.5 lb ai) per acre in a single application.
- **DO NOT** apply more than 6.4 pints of **Pendimethalin 3.8lb** (3.0 lbs ai) per acre per year.
- **Preharvest Interval (PHI):** 60 days

CROP-SPECIFIC RESTRICTIONS – Muck Soils

- **DO NOT** apply more than 4.0 pints of **Pendimethalin 3.8lb** (1.9 lb ai) per acre in a single application.
- **DO NOT** apply more than 8.0 pints of **Pendimethalin 3.8lb** (3.8 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 60 days

CROP-SPECIFIC PRECAUTIONS

- Avoid root contact with **Pendimethalin 3.8lb**-treated soil when placing transplants into furrow or hole, or crop injury may occur.
- Before applying **Pendimethalin 3.8lb** to transplanted celery and other leaf petiole vegetables, roots of plants must be established, and plants must have regained full turgidity.

CORN (field, field seed, fresh sweet, popcorn and popcorn seed)

Pendimethalin 3.8lb may be applied by ground, air, chemigation, or on dry bulk fertilizer. **Pendimethalin 3.8lb** may be applied in conventional tillage, minimum tillage, or no-till as a preemergence, postemergence, or postemergence incorporated (CULTI-SPRAY) application in field corn.

Pendimethalin 3.8lb may be applied in conventional tillage as a preemergence or postemergence application in field seed corn, popcorn, popcorn seed corn, and fresh sweet corn.

Regardless of tillage system, plant corn at least 1-1/2 inches deep and completely cover with soil.

In conventional-tillage systems, plant into a seedbed that is firm and free of clods and trash. Use only where tillage provides good soil coverage of corn seed.

In no-till systems, use a no-till planter capable of planting through crop residue. Use of no-till planters under conditions that do not allow good soil coverage of the corn seed can result in reduced crop stand or injury if **Pendimethalin 3.8lb** contacts the germinating corn seed. Check equipment to ensure good seed coverage.

Additional Weeds Controlled: In addition to weeds listed in **Table 2**, **Pendimethalin 3.8lb** controls the following weeds in corn with CULTI-SPRAY application: wild proso millet and shattercane.

USE METHOD, RATE, AND TIMING

Preemergence: Apply after planting but before weeds germinate and crop emerges.

Postemergence: Apply postemergence until field corn is 30-inches tall (20-inches to 24-inches tall for popcorn, popcorn seed, field seed, and fresh sweet corn) or in the V8 growth stage, whichever is more restrictive. If the corn canopy prevents applications from reaching the soil, use drop nozzles and apply as a directed spray.

CULTI-SPRAY: Apply **Pendimethalin 3.8lb** alone or **Pendimethalin 3.8lb** plus atrazine when field corn is at least 4-inches tall until last cultivation (layby). **Pendimethalin 3.8lb** plus atrazine must be applied before the field corn reaches 12 inches in height. See specific directions for (CULTI-SPRAY) application under **Application Timings**.

DO NOT apply more than 1.2 lbs ai per acre of atrazine, as specified on the atrazine label. Under situations of low rainfall or soil moisture, when deep germinating weeds like shattercane or field sandbur are anticipated, mechanical incorporation provides the best results. If cultivation is needed after application and incorporation of **Pendimethalin 3.8lb**, the depth of cut should be no deeper than the depth of cut used to incorporate.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

Use Rates for Preemergence and Postemergence Application

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
<1.5%	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)
1.5% to 3.0%	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)	4.0 (1.9 lb ai)
>3.0%	3.0 (1.4 lb ai)	4.0 (1.9 lb ai)	4.0 (1.9 lb ai)

Use Rates for CULTI-SPRAY Application (Field Corn ONLY)

States	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Southern States ¹	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)
Northern States ²	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

¹ Southern States: CA, AZ, NM, TX, OK, AR, LA, MS, TN, AL, GA, NC, SC, FL, HI

² Northern States: AK, WA, OR, ID, MT, CO, NV, UT, WY, ND, SD, MN, NE, KS, IA, MO, WI, IL, MI, IN, KY, OH, WV, VA, MD, PA, NJ, CT, DE, PA, NY, RI, VT, NH, ME

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply **Pendimethalin 3.8lb** in reduced-tillage, minimum-tillage, or no-till fresh sweet corn, seed corn, or popcorn.
- **DO NOT** apply **Pendimethalin 3.8lb** in no-till in California.
- **DO NOT** apply preplant incorporated.
- **DO NOT** apply postemergence in liquid fertilizer.
- Livestock can graze or be fed forage from treated corn 21 days or more after application.

CROP-SPECIFIC PRECAUTIONS

- **Pendimethalin 3.8lb** may be applied sequentially in a single crop season as long as the total use rate applied in the crop season does not exceed the highest rate per acre for any given soil type.

COTTON

Pendimethalin 3.8lb may be applied by ground, air, chemigation, or on dry bulk fertilizer to cotton (including those varieties with a herbicide-resistant trait) grown under conventional-tillage, minimum-tillage, or no-till systems, or on stale seedbeds.

Additional Weeds Suppressed: In addition to weeds listed in **Table 2**, **Pendimethalin 3.8lb** will suppress Russian thistle in the state of Arizona.

USE METHOD, RATE, AND TIMING

Fall Application: **Pendimethalin 3.8lb** may be applied for weed control in cotton in the fall, after October 15 (up to 140 days before planting cotton) in Arizona, California, Louisiana, Mississippi, New Mexico, Oklahoma, and Texas. Apply **Pendimethalin 3.8lb** at the broadcast rate of 2.0 pints (0.95 lb ai) per acre on coarse or medium soils and 3.0 pints (1.4 lb ai) per acre on fine soils.

Preplant Surface: Apply **Pendimethalin 3.8lb** within 15 days of planting.

Preplant Incorporated: Apply **Pendimethalin 3.8lb** within 60 days of planting and incorporate.

Preemergence: Apply **Pendimethalin 3.8lb** at planting or up to 2 days after planting. Apply to a seedbed that is firm and free of clods.

Preplant Incorporated followed by Preemergence: Apply **Pendimethalin 3.8lb** within 60 days of planting and incorporate. Apply overlay application of **Pendimethalin 3.8lb** at planting or up to 2 days after planting. Total amount of **Pendimethalin 3.8lb** applied per acre cannot exceed the highest labeled rate for a given soil type. Preplant incorporated and preemergence applications of **Pendimethalin 3.8lb** may be applied with the labeled tank mix herbicide(s).

Layby Application (at last cultivation): Apply **Pendimethalin 3.8lb** directly to the soil between rows as a directed spray after the last normal cultivation (layby). Layby applications can be applied in cotton previously treated with **Pendimethalin 3.8lb** or any herbicide(s) registered for use in cotton. The total amount of **Pendimethalin 3.8lb** applied per acre per year cannot exceed the highest labeled rate for a given soil type. **Pendimethalin 3.8lb** may also be applied at layby in cotton with herbicide-resistant traits.

Postemergence: **Pendimethalin 3.8lb** may be applied by ground or air as a broadcast over-the-top postemergence application in cotton, including those varieties with a herbicide-resistant trait. Postemergence treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received after application. Apply **Pendimethalin 3.8lb** before weeds germinate or after clean cultivation to remove existing weeds because **Pendimethalin 3.8lb** will not control emerged weeds. Apply a postemergence herbicide to control emerged weeds.

Apply **Pendimethalin 3.8lb** broadcast postemergence (in water) over the top of cotton after cotton reaches the 4-leaf growth stage, but not after the 8-leaf growth stage. Over-the-top applications made before the 4-leaf growth stage or after the 8-leaf growth stage may result in crop injury and/or yield loss.

Pendimethalin 3.8lb may also be tank mixed with herbicide products registered for use on cotton varieties with a herbicide-resistant trait. When tank mixing **Pendimethalin 3.8lb** with another herbicide product, always follow the most restrictive labeling pertaining to application rates, methods, timings and precautions. **DO NOT** tank mix and apply over-the-top postemergence with prometryn-containing herbicides, fluometuron-containing herbicides, s-metolachlor-containing herbicides, glyphosate + s-metolachlor combination herbicides, or pyriithiobac-sodium-containing herbicides.

Dry ammonium sulfate (AMS) at 17 lbs/100 gallons of spray solution must be used when tank mixing **Pendimethalin 3.8lb** with glyphosate-containing products. Liquid AMS may also be used, but must be used at an equivalent rate to 17 lbs of dry weight AMS/100 gallons of spray solution. A nitrogen replacement should not be used with this tank mix unless specified as acceptable from Albaugh, LLC in writing. An appropriate mixing order is as follows: fill tank to at least 1/2 full with water; then add in order: AMS, **Pendimethalin 3.8lb**, glyphosate; then fill the tank to capacity with water.

Over-the-top postemergence application of **Pendimethalin 3.8lb** can be applied in cotton previously treated with at-planting soil applications of **Pendimethalin 3.8lb** or any other soil-applied herbicide(s) registered for use in cotton. Consult the labels of those herbicides for suggested treatments, rates, precautions, or restrictions for use in cotton, and for rotational crop restrictions. Follow the most restrictive label instructions when using products in combination with soil-applied **Pendimethalin 3.8lb**.

Precautions: Postemergence application of **Pendimethalin 3.8lb** may cause temporary growth reduction and/or leaf discoloration or malformation of cotton after application.

DO NOT apply over the top in fluid fertilizer.

DO NOT apply in tank mix with any adjuvant, surfactant, oil, or other pesticide (except for cotton insecticides).

DO NOT apply in any manner except as described in this label or crop injury and/or yield reduction may occur.

DO NOT apply if cotton is under stress (including stress related to previous pesticide treatments, poor fertilization, environmental conditions, and/or pest damage) at time of application. If cotton is under stress (including stress related to previous pesticide treatments, poor fertilization, environmental conditions, and/or pest damage) at time of application, **Pendimethalin 3.8lb** may retard cotton recovery and/or adversely affect yield.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

Use Rates for Preplant, Preemergence, and Layby Applications

Tillage	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Conventional, Minimal Tillage	1.0 – 2.0* (0.48 – 0.95 lb ai)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)
No-till**	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	4.0 (1.9 lb ai)

* **DO NOT** exceed 1.6 pints (0.76 lb ai) per acre on coarse-texture soils in California

** **DO NOT** use on soils with more than 3% organic matter.

Use Rates for Postemergence Applications (Pendimethalin 3.8lb Alone or in Tank Mix)

Tillage	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Conventional, Minimal, No Tillage	1.0 – 2.0* (0.48 – 0.95 lb ai)	1.5 – 2.0 (0.72 – 0.95 lb ai)	2.0 (0.95 lb ai)

* **DO NOT** exceed 1.6 pints (0.76 lb ai) per acre on coarse-texture soils in California.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply postemergence in cotton in California.
- **DO NOT** apply **Pendimethalin 3.8lb** in no-till in California.
- **DO NOT** apply more than the highest yearly rate per acre for any given soil type.
- **DO NOT** apply more than 2.0 pints of **Pendimethalin 3.8lb** (0.95 lb ai) per acre when applied postemergence to cotton for any given soil type.
- **Preharvest Interval (PHI):** 60 days
- In treated cotton fields, forage may be fed to or grazed by livestock.
- **DO NOT** apply more than the maximum cumulative annual rate of 4.2 pts of **Pendimethalin 3.8lb** (2 lbs ai) per acre for combined preplant/preemergence and postemergence applications.

DRY BULBS (garlic, onions, shallots)

Pendimethalin 3.8lb may be applied to the following dry bulb crops: daylily (bulb), fritillaria (bulb), garlic (bulb), garlic (greatheaded, bulb), garlic (serpent, bulb), lily (bulb), onion (bulb), onion (Chinese, bulb), onion (pearl), onion (potato, bulb), shallot (bulb)

Pendimethalin 3.8lb may be applied to direct-seeded and transplanted dry bulb onions and dry bulb shallots.

Pendimethalin 3.8lb may be applied by ground, air, or chemigation.

USE METHOD, RATE, AND TIMING – Mineral Soils

Soil Texture	Broadcast Rate (pt/A)
Coarse	1.5 (0.72 lb ai)
Medium	2.0 (0.95 lb ai)
Fine	3.2 (1.5 lb ai)

Preemergence: After garlic planting but before crop and weeds emerge.

Postemergence: When garlic is in the 1st to 5th true-leaf growth stage.

Split Application: In garlic at both preemergence and postemergence timings.

In all states except California, apply **Pendimethalin 3.8lb** as a broadcast treatment when dry bulb onions or dry bulb shallots have 2 to 9 true leaves.

In California, apply **Pendimethalin 3.8lb** only as a single application when dry bulb onions or dry bulb shallots have 2 to 6 true leaves.

ADDITIONAL STATE-SPECIFIC INSTRUCTIONS

Additional Use in Colorado, Kansas, and Nebraska: **Pendimethalin 3.8lb** may be applied sequentially in seeded dry bulb onions. Make first application of **Pendimethalin 3.8lb** at loop stage. Make sequential application of **Pendimethalin 3.8lb** early postemergence (2nd to 9th true-leaf stage). **DO NOT** apply more than the maximum labeled rate for a given soil texture. **DO NOT** apply **Pendimethalin 3.8lb** at loop stage through the 9th true-leaf stage if heavy rains are expected or severe crop injury may result.

Additional Use in Colorado and the High Plains of Texas: For transplanted dry bulb onions only, apply and shallow incorporate (less than 2-inches deep) **Pendimethalin 3.8lb** into pre-formed beds before transplanting.

Additional Use in Idaho, Oregon, and Washington: Apply **Pendimethalin 3.8lb** as a broadcast treatment when dry bulb onions or dry bulb shallots are between the flag leaf to 9th true-leaf stage.

Pendimethalin 3.8lb may be used at 3.0 to 4.0 pints (1.4 – 1.9 lb ai) per acre for dodder control on medium-texture and fine-texture soils.

DO NOT apply **Pendimethalin 3.8lb** using chemigation at the dodder control rate.

Pendimethalin 3.8lb may be applied in the fall or spring to the furrow area of land bedded in the fall in preparation for planting seed of dry bulb onions the following spring.

Apply **Pendimethalin 3.8lb** as a banded application at rates based on appropriate soil texture. Band width is 1/2 the width of the row spacing. Keep **Pendimethalin 3.8lb** away from the area where dry bulb onion seed will be planted.

Harrow off tops of beds after **Pendimethalin 3.8lb** furrow application before planting dry bulb onions.

For selective weed control in the onion row, apply **Pendimethalin 3.8lb** as a banded postemergence application to flag-leaf dry bulb onions at the labeled rates based on soil texture. Apply **Pendimethalin 3.8lb** only once to the furrow area and once to the dry bulb onion row as a postemergence application.

Additional Use in Michigan: For mineral soils containing more than 10% organic matter, follow the directions for muck soils (see following).

CROP-SPECIFIC RESTRICTIONS – Mineral Soils

- **DO NOT** mechanically incorporate except as specified for use on dry bulb onions in Colorado and the Texas High Plains.
- **DO NOT** apply more than 3.2 pints (1.5 lb ai) per acre per year (except Idaho, Oregon, and Washington).
- **Preharvest Interval (PHI):** 60 days in California; 45 days in all other states.
- **DO NOT** feed or graze these crops.
- **DO NOT** apply **Pendimethalin 3.8lb** preemergence through the loop stage if heavy rains are expected or severe crop injury may result. If irrigating immediately after **Pendimethalin 3.8lb** application at the preemergence through loop stage, **DO NOT** irrigate more than 1/2 inch of water.

USE METHOD, RATE, AND TIMING - Muck Soils

Pendimethalin 3.8lb may be applied sequentially in dry bulb onions or dry bulb shallots on muck soils, only once preemergence and only twice postemergence, as follows:

Application Timing and Growth Stage	Rate (pt/A)
Preemergence through Loop Stage	4.0 (1.9 lb ai)
Early Postemergence (2 nd to 6 th true-leaf stage)	4.0 (1.9 lb ai)
Late Postemergence (6 th to 9 th true-leaf stage)	4.0 (1.9 lb ai)

CROP-SPECIFIC RESTRICTIONS – Muck Soils

- **DO NOT** apply to muck soils in California.
- **Preharvest Interval (PHI):** 45 days
- **DO NOT** feed or graze these crops.
- **DO NOT** apply more than 12.6 pints (6.0 lb ai) per acre per year 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 3.8lb** preemergence through the loop stage if heavy rains are expected or severe crop injury may result. If irrigating immediately after **Pendimethalin 3.8lb** application at the preemergence through loop stage, **DO NOT** irrigate more than 1/2 inch of water.
- **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 3.2 pints (1.5 lb ai) per acre of **Pendimethalin 3.8lb** is applied to the onion crop.
- If loss of onion crop occurs, **DO NOT** replant any crop other than onions in muck soil during the same cropping year and **DO NOT** work the soil deeper than 2 inches.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. **DO NOT** irrigate more than 1/2 inch of water. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

EDIBLE BEANS

Pendimethalin 3.8lb may be applied to the following edible beans: dry beans [navy, great northern, red kidney, black, black turtle, cranberry, small white type, guar, adzuki, broad, faba, fava, field, lima (dry), pinto], lima bean, snap bean, chickpea (garbanzo bean), southern pea (cowpea), and sweet lupins.

Pendimethalin 3.8lb may be applied by ground, air, or on dry bulk fertilizer (only fall and preplant incorporated applications).

Pendimethalin 3.8lb may only be applied (fall) preplant surface or preplant incorporated in dry beans, lima bean, snap bean, and southern pea (cowpea). **Pendimethalin 3.8lb** may be applied (fall) preplant surface or preplant incorporated or (spring) preplant surface in chickpea (garbanzo bean). **Pendimethalin 3.8lb** may be applied (fall) preplant surface or preplant incorporated or preemergence in sweet lupins.

USE METHOD, RATE, AND TIMING – Fall Application

For use only in Idaho, Minnesota, Montana, North Dakota, Oregon, South Dakota, Washington, and Wyoming): Apply **Pendimethalin 3.8lb** preplant surface or preplant incorporated (rainfall, irrigation, or mechanically) in late fall before planting edible beans [chickpea (garbanzo bean), dry beans, lima bean, snap bean, southern pea (cowpea), and sweet lupins] the following spring. Apply **Pendimethalin 3.8lb** 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.

Rainfall or irrigation is required for incorporation and activation. Unpredictable weed control can be expected because factors like length of time between application and planting as well as uncontrollable weather factors will determine herbicide activity and longevity.

USE RATE – Fall¹

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
< 3% Organic Matter	2.0 (0.95 lb ai)	2.5 (1.2 lb ai)	3.0 (1.4 lb ai)
> 3% Organic Matter	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

¹ Use limited to certain states. Follow state-specific instructions and/or restrictions.

Preplant Incorporated: Apply within 60 days of planting and incorporate.

Preemergence: Apply only to sweet lupins at planting or up to 2 days after planting. Apply to a seedbed that is firm and free of clods.

USE RATE – Preplant Incorporated, Preemergence

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Southern States ¹	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)
Northern States ² (< 3% Organic Matter)	2.0 (0.95 lb ai)	2.5 (1.2 lb ai)	3.0 (1.4 lb ai)
Northern States ² (> 3% Organic Matter)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

¹ Southern States: CA, AZ, NM, TX, OK, AR, LA, MS, TN, AL, GA, NC, SC, FL, HI

² Northern States: AK, WA, OR, ID, MT, CO, NV, UT, WY, ND, SD, MN, NE, KS, IA, MO, WI, IL, MI, IN, KY, OH, WV, VA, MD, PA, NJ, CT, DE, PA, NY, RI, VT, NH, ME

STATE-SPECIFIC INSTRUCTIONS

Idaho, Montana, North Dakota, Oregon, and Washington: **Pendimethalin 3.8lb** may be applied to chickpeas grown in no-tillage and/or minimum tillage systems in Idaho, Montana, North Dakota, Oregon, and Washington. Preplant surface applications must be made within 30 days of planting. **DO NOT** apply more than 1.5, 2.0, and 3.0 pints of **Pendimethalin 3.8lb** (0.71, 0.95, and 1.4 lb ai) per acre in coarse, medium, and fine texture soils, respectively. When planting, ensure the seed furrow is fully closed because conditions that allow the seed furrow to inadequately close and/or allow **Pendimethalin 3.8lb** to contact the seed may result in crop injury. Certain unfavorable environmental conditions, including cool temperatures, excessive moisture after application, and wet and/or compacted soil conditions, may result in delayed emergence and stunting with **Pendimethalin 3.8lb** use in chickpea. Adequate rainfall or irrigation after application before weed seedling germination provides the most effective weed control. Herbicide performance from surface application may be decreased compared to soil incorporated application.

Idaho, Oregon, and Washington: **Pendimethalin 3.8lb** may be applied postplant preemergence only to chickpea grown in conventional tillage systems in Idaho, Oregon, and Washington. Application must be made with- in 2 days of planting. Apply up to but not more than 1.5 pints **Pendimethalin 3.8lb** (0.71 lb ai) per acre. Apply to a firm seedbed free of clods.

Soil conditions that cause poor seed furrow closure and coverage may result in delayed emergence and stunting of the crop. Under certain environmental conditions, including cool temperatures, excessive moisture after application and wet soil conditions may result in delayed emergence and stunting with **Pendimethalin 3.8lb** use in chickpea. Adequate rainfall or irrigation after application before weed seedling germination provides the most effective weed control.

Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Oregon, Washington, and Wyoming: Apply **Pendimethalin 3.8lb** by ground postplant preemergence to dry beans grown under sprinkler irrigation in Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Oregon, Washington, and Wyoming. Dry beans must have a minimum planting depth of 2 inches. Before applying **Pendimethalin 3.8lb** to dry beans, growers should check with their local seed company or seed supplier for sensitive varieties and to verify the selectivity of **Pendimethalin 3.8lb** on the grower's specific dry bean variety. **Pendimethalin 3.8lb** application made postplant preemergence to dry beans must be immediately followed by 0.50 to 0.75 inch of water from overhead irrigation/rainfall. Apply **Pendimethalin 3.8lb** within 1 to 4 days of planting and up to but not more than 2.0 pints (0.95 lb ai) per acre. Apply to a firm seedbed free of clods. Soil conditions that cause poor seed furrow closure and coverage may result in delayed emergence and stunting of the crop. **DO NOT** apply as a chemigation application. **DO NOT** apply **Pendimethalin 3.8lb** in tank mix with halosulfuron-containing herbicides or flumioxazin-containing herbicides as a preemergence application to dry beans because of unacceptable crop response. Under certain environmental conditions, including cool temperatures, excessive moisture after application and wet soil conditions may result in crop injury, delayed emergence, and/or stunting with **Pendimethalin 3.8lb** use in dry beans. Adequate rainfall or irrigation after application before weed seedling germination provides the most effective weed control.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** feed lupin hay and forage or graze livestock in treated lupin fields.
- **DO NOT** apply **Pendimethalin 3.8lb** more than once per year.
- **DO NOT** apply in any type of irrigation system.

FALLOW

Pendimethalin 3.8lb may be applied to fallow ground following crop harvest as a planned residual treatment to control labeled broadleaf and grass weeds as they germinate.

Pendimethalin 3.8lb may be applied to fallow ground by ground, air, or chemigation.

USE METHOD, RATE, AND TIMING

Apply as a broadcast spray at rates up to but not more than 3.0 pints of **Pendimethalin 3.8lb** (1.4 lb ai) per acre. Emerged weeds will not be controlled by this treatment. **Pendimethalin 3.8lb** must be applied with a tank mix partner (i.e. glyphosate) for control of emerged weeds.

DO NOT make more than one application of **Pendimethalin 3.8lb** during a single fallow period.

DO NOT apply **Pendimethalin 3.8lb** to fallow ground after July 1 if treated fields are to be planted the following spring to crops not labeled for preplant or preplant incorporated applications of **Pendimethalin 3.8lb**.

There must be at least a 4-month interval between a **Pendimethalin 3.8lb** fallow application and the rotational planting of any fall-seeded cereal crop. Otherwise, specific rotational crop intervals must be adhered to between a fallow application of **Pendimethalin 3.8lb** and the planting of the following crop (see **Rotational Crop Restrictions** section of this label).

STATE-SPECIFIC INSTRUCTIONS

In **Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, and Wyoming**, apply as a broadcast spray at rates up to, but not more than, 3.2 pints of **Pendimethalin 3.8lb** (1.5 lb ai) per acre.

FARMSTEAD

Apply **Pendimethalin 3.8lb** as a broadcast spray at 2.1 quarts (2.0 lb ai) per acre for short-term (2 to 4 months) or at 4.2 quarts (4.0 lb ai) per acre for long-term (6 to 8 months) preemergence control of labeled broadleaf and grass weeds as they germinate on farmstead nonagricultural areas including barnyards, lanes, driveways, machinery or implement yards, windbreaks, and nonagricultural fencerows or ditchbanks.

FORAGE GRASSES (cool-season)

Pendimethalin 3.8lb may be applied by ground or chemigation, by air, or on dry bulk fertilizer.

USE METHOD, RATE AND TIMING

Established Perennial Cool-season Forage Grasses: Apply **Pendimethalin 3.8lb** to solid stands of perennial cool-season forage grasses [including bentgrass, bluegrass (Kentucky), brome grass, fescue (fine, tall), orchardgrass, perennial ryegrass, timothy, wheatgrass, and others] grown for forage, green chop, silage, hay production, and/or grown in pastures, rangeland, or Federal Conservation Reserve Program (CRP) land for livestock grazing.

Apply **Pendimethalin 3.8lb** only to established (grass with 6 or more tillers per plant) perennial cool-season forage grasses.

Apply **Pendimethalin 3.8lb** before target-weed germination in fall after the last cutting/mowing/grazing, in winter, in spring, or in-season between cuttings.

Uniformly apply at a broadcast rate of 1.1 to 4.2 quarts of **Pendimethalin 3.8lb** (1.0 – 4.0 lb ai) per acre in a single application or sequential applications made 30 or more days apart.

DO NOT apply more than a maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.

Apply the higher rate of **Pendimethalin 3.8lb** when higher weed pressure is anticipated or when a longer duration of residual weed control is desired.

Pendimethalin 3.8lb may cause temporary injury to cool-season forage grass stands. Application made in periods of cold temperatures that temporarily limit normal crop growth or in extended cold temperature periods that initiate winter dormancy in grass crops may result in crop injury. Disease, extremely cold weather, drought, extensive frost heaving, salinity, low pH, or high pH may weaken stands and make the crop more susceptible to herbicide injury.

Mixed Stands of Established Cool-season Forage Grasses and Alfalfa: Apply **Pendimethalin 3.8lb** to mixed stands of established cool-season forage grasses and alfalfa (established alfalfa is defined as alfalfa planted in fall or spring which has gone through a first cutting/mowing). Apply **Pendimethalin 3.8lb** in fall after the last cutting/mowing/ grazing, in winter, in spring before weed germination, or in-season between cuttings.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

Tank Mixes: **Pendimethalin 3.8lb** may be applied in a sequential use program with other herbicides labeled for use in cool-season forage grasses or applied as a tank mix with other registered herbicides that control emerged weeds. Application of postemergence herbicides may cause crop injury. Albaugh, LLC recommends testing **Pendimethalin 3.8lb** tank mixes on a small portion of the target crop to determine if damage is likely to occur. Consult your local Albaugh, LLC dealer for local tank mix options. Always perform a mixing test to check the compatibility of **Pendimethalin 3.8lb** with all potential tank mix partners and fertilizers. Follow all precautions and restrictions on the labels of all products applied in combination with **Pendimethalin 3.8lb**. Always follow the most restrictive label.

Physical incompatibility, reduced weed control, or crop injury may result from mixing Pendimethalin 3.8lb with other pesticides, additives, or fertilizers.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply **Pendimethalin 3.8lb** if surface water is present in the field.
- **DO NOT** apply more than a maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.
- There is no preharvest or pre-grazing interval for **Pendimethalin 3.8lb**-treated grass forage, green chop, silage, hay, pasture, or rangeland.
- **Grazing & Preharvest Interval (PHI) for forage & hay of mixed stand alfalfa/cool-season forage grasses:** 14 days
- **DO NOT** apply **Pendimethalin 3.8lb** to mixed stands of cool-season forage grasses with other forage legumes besides alfalfa.
- Not for use in California except as directed in supplemental labeling.

FORAGE GRASSES (warm-season)

Pendimethalin 3.8lb may be applied by ground or chemigation, by air, or on dry bulk fertilizer.

USE METHOD, RATE, AND TIMING

Established Bermudagrass and other Perennial Warm-season Forage Grasses: Apply **Pendimethalin 3.8lb** in fields of Bermudagrass (and other perennial warm-season grasses including Bahiagrass, buffalograss, switchgrass, and others) grown for forage or hay production, and/or grown in pastures, rangeland, or Federal Conservation Reserve Program (CRP) land for livestock grazing.

Apply **Pendimethalin 3.8lb** only to established (defined as planted in fall or spring which has gone through a first cutting/mowing) Bermudagrass and other perennial warm-season forage grasses.

Apply **Pendimethalin 3.8lb** before target-weed germination in the dormant season [i.e., when grasses are not actively growing in fall (postharvest), during winter dormancy period, or in early spring before greenup] or in-season between cuttings. **DO NOT** apply to Bermudagrass and other perennial warm-season grasses after greenup in spring before the first cutting.

Uniformly apply at a broadcast rate of 1.1 to 4.2 quarts of **Pendimethalin 3.8lb** (1.0 – 4.0 lb ai) per acre in a single application.

Pendimethalin 3.8lb may also be applied as a sequential or split program when the initial application(s) is made in the dormant season and the subsequent application(s) is made in-season between cuttings. **DO NOT** apply more than a maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.

Apply the higher rate of **Pendimethalin 3.8lb** when higher weed pressure is anticipated or when a longer duration of residual weed control is desired.

Pendimethalin 3.8lb may be applied in a sequential use program or as a tank mix with other registered herbicides that control emerged weeds.

Pendimethalin 3.8lb may cause temporary injury to Bermudagrass and other perennial warm-season grass stands. Disease, extremely cold weather, drought, extensive frost heaving, salinity, low pH, or high pH may weaken stands and make the crop more susceptible to herbicide injury.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

Tank Mixes: **Pendimethalin 3.8lb** may be tank mixed with other herbicides labeled for use in Bermudagrass and other perennial warm-season grass fields. Albaugh, LLC recommends testing **Pendimethalin 3.8lb** tank mixes on a small portion of the target crop to determine if damage is likely to occur.

Application of postemergence herbicides may cause crop injury, including stunting or chlorosis of Bermudagrass and other perennial warm-season grasses. Consult your local Albaugh, LLC dealer for local tank mix options. Always perform a mixing test to check the compatibility of **Pendimethalin 3.8lb** with all potential tank mix partners and fertilizers. Follow all precautions and restrictions on the labels of all products applied in combination with **Pendimethalin 3.8lb**. Always follow the most restrictive label.

Physical incompatibility, reduced weed control, or crop injury may result from mixing Pendimethalin 3.8lb with other pesticides, additives, or fertilizers.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply **Pendimethalin 3.8lb** if surface water is present in the field.
- **DO NOT** apply more than a maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.
- There is no preharvest interval for grass forage or hay, or for livestock grazing after application of **Pendimethalin 3.8lb**.
- Not for use in California except as directed in supplemental labeling.

FRUITING VEGETABLES

Pendimethalin 3.8lb may be applied to the following fruiting vegetables: African eggplant, bell pepper, bush tomato, cocona, currant tomato, eggplant, garden huckleberry, goji berry, groundcherry, martynia, naranjilla, nonbell pepper, okra, pea eggplant, pepino, roselle, scarlet eggplant, sunberry, tomatillo, tomato, tree tomato

Pendimethalin 3.8lb may be applied by ground or air.

USE METHOD, RATE, AND TIMING

Uniformly apply **Pendimethalin 3.8lb** by ground or air as a broadcast preplant incorporated application or as a broadcast preplant surface application before transplanting fruiting vegetables.

Uniformly apply **Pendimethalin 3.8lb** only by ground as a post-directed application to transplanted or established direct-seeded fruiting vegetables.

DO NOT apply before direct-seeded fruiting vegetables.

DO NOT apply postemergence over the top of or to foliage of fruiting vegetables because severe injury may occur. **Pendimethalin 3.8lb** can be applied as a post-directed spray on the soil at the base of the plant, beneath plants, and between rows. Avoid direct contact with foliage or stems. Roots of transplants must be established. After the post-directed spray and when sufficient rainfall or irrigation does not occur to activate the herbicide, mechanically incorporate at the time of blocking and thinning or at layby. Apply **Pendimethalin 3.8lb** before weed germination. Emerged weeds will not be controlled by this treatment.

Pendimethalin 3.8lb may also be applied in fruiting vegetables transplanted to raised beds. Before transplanting, apply **Pendimethalin 3.8lb** preplant nonincorporated in a band to the top of the pressed bed just before laying plastic. After transplanting, **Pendimethalin 3.8lb** may also be applied in a band to the previously untreated row middles between the transplanted beds. For banded application to the bed or row middles, **DO NOT** overlap spray and apply more than the maximum broadcast use rate of **Pendimethalin 3.8lb** on a per acre basis for the given soil texture.

Pendimethalin 3.8lb applied at 2.0 to 3.0 pints (0.95 to 1.4 lb ai) may aid in control or suppression of the following weeds when used as part of a comprehensive weed management program: black nightshade, hairy nightshade.

USE RATE

Soil Texture	Broadcast Rate (pt/A)
Coarse	1.0 to 1.5 (0.5 to 0.71 lb ai)
Medium	1.5 to 2.0 (0.71 to 0.95 lb ai)
Fine	1.5 to 3.0 (0.72 to 1.4 lb ai)

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 3.0 pints **Pendimethalin 3.8lb** (1.4 lb ai) per acre per year.
- **Preharvest Interval (PHI) for tomatoes:** 21 days
- **Preharvest Interval (PHI) for all other fruiting vegetables:** 70 days
- **DO NOT** plant lettuce within 6 months after a **Pendimethalin 3.8lb** application if the rows were covered with plastic.

CROP-SPECIFIC PRECAUTIONS

- Avoid root contact with **Pendimethalin 3.8lb**-treated soil when placing transplants into furrow or hole or injury may occur.

GRAIN SORGHUM

Pendimethalin 3.8lb may be applied by ground or air.

Pendimethalin 3.8lb may be applied postemergence incorporated (CULTI-SPRAY) in grain sorghum grown in all states.

In addition, **Pendimethalin 3.8lb** may be applied early postemergence in grain sorghum grown in states east of the Mississippi River and in Arizona, Arkansas, California, eastern Texas, Louisiana, and the Missouri bootheel.

Additional Weeds Controlled: In addition to weeds listed in **Table 2**, **Pendimethalin 3.8lb** as a CULTI-SPRAY application controls the following weeds in grain sorghum: wild proso millet and shattercane.

USE METHOD, RATE, AND TIMING

CULTI-SPRAY: **Pendimethalin 3.8lb** treatments can be applied from the 4-inch growth stage to as late as the last cultivation (layby) of grain sorghum. See specific directions for (CULTI-SPRAY) application under **Application Timing**.

Early Postemergence: For use only in states east of the Mississippi River and in Arizona, Arkansas, California, eastern Texas, Louisiana, and the Missouri bootheel.

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.

Use Rates for CULTI-SPRAY Application

States	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Southern States ¹	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)
Northern States ²	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

¹ Southern States: CA, AZ, NM, TX, OK, AR, LA, MS, TN, AL, GA, NC, SC, FL, HI

² Northern States: AK, WA, OR, ID, MT, CO, NV, UT, WY, ND, SD, MN, NE, KS, IA, MO, WI, IL, MI, IN, KY, OH, WV, VA, MD, PA, NJ, CT, DE, PA, NY, RI, VT, NH, ME

Early Postemergence Use Rates

Soil Texture	Rate (pt/A)
Coarse	DO NOT USE
Medium, Fine	2.0 (0.95 lb ai)

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply **Pendimethalin 3.8lb** in grain sorghum preplant incorporated or preemergence because serious crop injury can result.
- **DO NOT** apply **Pendimethalin 3.8lb** in grain sorghum more than once per year.
- **DO NOT** apply **Pendimethalin 3.8lb** as a CULTI-SPRAY treatment in grain sorghum planted in double-row beds.
- **DO NOT** replant grain sorghum if crop loss occurs.
- **DO NOT** apply in liquid fertilizer.
- Livestock can graze or be fed forage from treated grain sorghum 21 days or more after application.

GREEN ONIONS

Pendimethalin 3.8lb may be applied to the following individual crops in the green onion crop subgroup: chive (fresh leaves), chive (Chinese, fresh leaves), elegans hosta, fritillaria leaves, kurrat, Lady's leek, leek, leek (wild), onion (Beltsville bunching), onion (fresh), onion (green), onion (macrostem), onion (tree, tops), onion (Welsh, tops), Shallot (fresh leaves)

Pendimethalin 3.8lb may be applied preemergence, postemergence, or split application by ground, air, or chemigation.

USE METHOD, RATE, AND TIMING

Uniformly apply 2.0 pints (0.95 lb ai) per acre of **Pendimethalin 3.8lb** as a broadcast spray to the soil surface as preemergence spray or as a postemergence spray to the crop at the 2 to 3 true-leaf stage at least 30 days before harvest. If **Pendimethalin 3.8lb** is to be applied sequentially as both a preemergence and postemergence spray, the preemergence spray must be applied 30 days before the postemergence spray. Onion seed must be fully covered by soil at planting. Injury may occur if onion seed is exposed to **Pendimethalin 3.8lb**.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Apply at 2 to 3 true-leaf stage at least 30 days before harvest. **DO NOT** irrigate more than of 0.5 inch of water. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 2.0 pints (0.95 lb ai) per acre per application.
- **DO NOT** apply more than 4.0 pints (1.9 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 30 days
- **DO NOT** feed forage or graze livestock in treated fields.
- Not for use in California.

Crop-specific Precautions

- Only apply **Pendimethalin 3.8lb** preemergence to green onions grown on muck soils or on mineral soils with more than 3% organic matter.

HOPS

Pendimethalin 3.8lb may be applied only by ground.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be used as part of a weed management program in baby (first year planting) and established hops. Apply **Pendimethalin 3.8lb** before target-weed germination when hops are in the dormant or vegetative growth stages.

Apply **Pendimethalin 3.8lb** as a broadcast or banded treatment (including postemergence-directed) using ground equipment. Apply the spray directly to the ground beneath the vines and/or in areas between rows. **DO NOT** apply over the top of vines with leaves or cones. Contact with hop foliage or cones by spray mixture or drift may cause injury.

Uniformly apply at a broadcast rate of 1.1 to 4.2 quarts of **Pendimethalin 3.8lb** (1.0 to 4.0 lb ai) per acre in a single application or sequential applications with an interval of 30 days or more.

DO NOT apply more than a maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.

Pendimethalin 3.8lb may be applied in a sequential use program or as a tank mix with other registered herbicides that control emerged weeds.

Tank Mixes: **Pendimethalin 3.8lb** may be tank mixed with other herbicides labeled for use in hops. Albaugh, LLC recommends testing **Pendimethalin 3.8lb** tank mixes on a small portion of the target crop to determine if damage is likely to occur.

Follow all precautions and restrictions on the labels of all products applied in combination with **Pendimethalin 3.8lb**. Always follow the most restrictive label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply to hops by air or through any type of irrigation system.
- **DO NOT** apply more than a maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.
- **Preharvest Interval (PHI) for hop cones:** 90 days
- Not for use in California.

LEAF LETTUCE

Pendimethalin 3.8lb may be applied by ground or air.

USE METHOD, RATE, AND TIMING

With a single application, uniformly apply up to 2.1 pints per acre of **Pendimethalin 3.8lb** (1.0 lb ai) as a broadcast foliar spray to direct-seeded or transplanted leaf lettuce from the 3-leaf stage until 20 days before harvest.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply preplant, pretransplant, preemergence (direct-seeded) to leaf lettuce because severe injury may occur.
- **DO NOT** foliar apply to leaf lettuce before the 3-leaf growth stage because severe injury may occur.
- **DO NOT** apply more than 2.1 pints (1.0 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 20 days

LEAFY BRASSICA AND GREENS

Pendimethalin 3.8lb may be applied in the following leafy Brassica greens: mustard greens, broccoli raab, Chinese cabbage (bok choy), collards, kale, mizuna, mustard spinach, rape greens, and turnip greens (cultivars or varieties grown for leaves only).

Pendimethalin 3.8lb may be applied by ground or air.

USE METHOD, RATE, AND TIMING

With a single application, uniformly apply up to 2.1 pints of **Pendimethalin 3.8lb** (1.0 lb ai) per acre as a broadcast foliar spray to direct-seeded or transplanted leafy Brassica greens at the 4-leaf to 5-leaf stage.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply preplant, pretransplant, or preemergence (direct-seeded) to leafy Brassica greens because severe injury may occur.
- **DO NOT** foliar apply to leafy Brassica greens before the 4-leaf growth stage because severe injury may occur.
- **DO NOT** apply to turnip greens varieties grown for roots or to dual-purpose varieties grown for roots and tops.
- **DO NOT** use **Pendimethalin 3.8lb**-treated turnip greens roots for any feed or food purpose.
- **DO NOT** apply more than 2.1 pints (1.0 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 21 days

LENTIL AND PEAS

Pendimethalin 3.8lb may be applied to lentil and the following peas: dry, dwarf, edible-podded, English, garden, green, and pigeon.

Pendimethalin 3.8lb may be applied by ground, air, or on dry bulk fertilizer (only fall and preplant incorporated applications).

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied preplant surface or preplant incorporated in lentil and peas.

Preplant Surface and Preplant Incorporated (Fall Application in Idaho, Minnesota, Montana, North Dakota, Oregon, South Dakota, Washington, and Wyoming): Apply **Pendimethalin 3.8lb** and incorporate (rainfall, irrigation, or mechanically) in late fall before planting lentils or peas the following spring. Apply **Pendimethalin 3.8lb** 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.

Rainfall or irrigation is required for incorporation and activation. Unpredictable weed control can be expected because factors like length of time between application and planting as well as uncontrollable weather factors determine herbicide activity and longevity.

Preplant Incorporated: Pendimethalin 3.8lb may be applied within 60 days of planting. After application, rotary hoeing and shallow cultivation/tillage can be practiced without reducing weed control. Avoid tillage that will bring untreated soil to the surface.

Preplant Surface¹ and Preplant Incorporated¹ Use Rates

Soil Texture	Broadcast Rate (pt/A)
Coarse	1.5 (0.71 lb ai)
Medium	2.0 (0.95 lb ai)
Fine	3.0 (1.4 lb ai)

¹ Follow seasonal restrictions and/or state-specific instructions.

STATE-SPECIFIC INSTRUCTIONS

Idaho, Montana, North Dakota, Oregon, and Washington: **Pendimethalin 3.8lb** may be applied to lentil or peas (dry peas only) grown in no-tillage and/or minimum-tillage systems in Idaho, Montana, North Dakota, Oregon, and Washington. Preplant surface application must be made within 30 days of planting. When planting, ensure the seed furrow is fully closed because conditions that allow the seed furrow to inadequately close and/or allow **Pendimethalin 3.8lb** to contact the seed may result in crop injury. Certain unfavorable environmental conditions, including cool temperatures, excessive moisture after application, and wet and/or compacted soil conditions, may result in delayed emergence and stunting with **Pendimethalin 3.8lb** use in lentil or peas. Adequate rainfall or irrigation after application before weed seedling germination provides the most effective weed control. Herbicide performance from surface application may be decreased compared to soil incorporated application.

Idaho, Oregon, and Washington: Pendimethalin 3.8lb may be applied postplant preemergence only to lentil or all peas grown in conventional-tillage systems in Idaho, Oregon, and Washington. Application must be made within 2 days of planting. Apply up to but not more than 1.5 pints (0.71 lb ai) per acre. Apply to a firm seedbed free of clods. Soil conditions that cause poor seed furrow closure and coverage may result in delayed emergence and stunting of the crop. Certain environmental conditions including cool temperatures, excessive moisture after application, and wet soil conditions may result in delayed emergence and stunting with **Pendimethalin 3.8lb** use in lentil or peas. Adequate rainfall or irrigation after application before weed seedling germination provides the most effective weed control.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT use in California.**
- **DO NOT** apply **Pendimethalin 3.8lb** preemergence in peas unless otherwise noted in state-specific instructions.
- **DO NOT** apply **Pendimethalin 3.8lb** more than once per year.
- **DO NOT** apply to lentil or peas, lentil or pea forage, pea silage, pea hay, or pea straw grown for livestock feed.
- **DO NOT** apply in any type of irrigation system.

CROP-SPECIFIC PRECAUTIONS

- Any crop registered for a preplant incorporated application of **Pendimethalin 3.8lb** can be double cropped after peas.

MELONS

Pendimethalin 3.8lb may be applied in the following melons: cantaloupe, citron melon, muskmelon, and watermelon.

Pendimethalin 3.8lb may be applied only by ground.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied sequentially in melon production. Initially apply up to 2.1 pints (1.0 lb ai) per acre of **Pendimethalin 3.8lb** as a shielded application between rows with 6 inches on either side of row middles (before melon transplanting or before a seeded crop has emerged) or between rows covered with plastic mulch (before holes are punched in plastic for melon planting). Make a second shielded application at up to 2.1 pints (1.0 lb ai) per acre of **Pendimethalin 3.8lb** between rows with a minimum of 6 inches on either side of stem or vines or between plastic mulch before melon vine running. The interval between the sequential **Pendimethalin 3.8lb** applications must be at least 21 days. Avoid spray contact with melon foliage or running vines because crop injury will occur.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 2.1 pints (1.0 lb ai) per acre in a single application or more than 4.2 pints (2.0 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 35 days
- **DO NOT** feed forage or graze livestock in treated fields.
- Not for use in California.

MINT (peppermint and spearmint)

Pendimethalin 3.8lb may be applied by ground or air.

USE METHOD, RATE, AND TIMING

Make a single broadcast preemergence application of **Pendimethalin 3.8lb** at 1.5 pints to 4.0 pints (0.71 to 1.9 lb ai) per acre, depending on soil texture (see chart following), to dormant established mint before weed germination. After **Pendimethalin 3.8lb** application, temporary crop injury may be observed early in the growing season as mint breaks dormancy and begins to grow.

Pendimethalin 3.8lb will not cause crop injury when applied according to the label under normal growing conditions. Nonuniform application may result in injury to crops, poor stands, or soil residues; conversely, uneven application may reduce weed control. Diseases, cold weather, excessive moisture, deep planting, low or high pH, salinity, or drought may weaken seedlings and plants and make them more susceptible to herbicide damage.

USE RATE

Soil Texture	Broadcast Rate (pt/A)
Coarse	1.5 to 2.0 (0.71 to 0.95 lb ai)
Medium	2.0 to 4.0 (0.95 to 1.9 lb ai)
Fine	2.0 to 4.0 (0.95 to 1.9 lb ai)

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply **Pendimethalin 3.8lb** to mint in the first year of growth and establishment.
- **DO NOT** apply to mint that has broken dormancy or crop injury may result. Application to mint near dormancy break can result in crop injury. Risk of crop injury increases the closer application is to mint dormancy break.
- **DO NOT** apply to mint stands that have been weakened by age, disease, cold weather, excessive moisture, or other factors that reduce crop vigor. Mint growing under stress is more susceptible to herbicide damage.
- **DO NOT** apply more than 4.0 pints (1.9 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 90 days
- **DO NOT** allow livestock to graze on treated spent hay or feed treated spent hay to livestock.
- **DO NOT** apply this product on mint through any type of irrigation system.

MONARDA

Pendimethalin 3.8lb may be applied by ground, air, chemigation, or on dry bulk fertilizer.

USE METHOD, RATE, AND TIMING

Before weed germination, make a broadcast application of **Pendimethalin 3.8lb** at 1.5 pints to 4.0 pints (0.72 to 1.9 lb ai) per acre, depending on soil texture (see chart following), to established monarda in dormancy, after emergence in the spring, or after the first harvest. After **Pendimethalin 3.8lb** herbicide application, temporary crop injury may be observed during the growing season as monarda breaks dormancy and begins to grow, or re-grows after harvest.

Pendimethalin 3.8lb will not cause crop injury when applied according to the label under normal growing conditions. Nonuniform application may result in injury to crops, poor stands, or soil residues; conversely, uneven application may reduce weed control. Diseases, cold weather, excessive moisture, deep planting, low or high pH, salinity, or drought may weaken seedlings and plants and make them more susceptible to herbicide damage.

USE RATE

Soil Texture	Broadcast Rate (pt/A)
Coarse	1.5 to 2.0 (0.71 to 0.95 lb ai)
Medium	2.0 to 4.0 (0.95 to 1.9 lb ai)
Fine	2.0 to 4.0 (0.95 to 1.9 lb ai)

Chemigation Applications: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and precautions about chemigation in the **Application Instructions** section of this label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply **Pendimethalin 3.8lb** to monarda in the first year of growth until transplants are well established.
- **DO NOT** apply to monarda stand that have been weakened by age, disease, cold weather, excessive moisture, or other factors that reduce crop vigor, as monarda growing under stress is more susceptible to herbicide damage.
- **DO NOT** apply more than 4.0 pints of **Pendimethalin 3.8lb** (1.9 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 90 days
- **DO NOT** allow livestock to graze on treated spent hay or feed treated spent hay to livestock.

CROP-SPECIFIC PRECAUTIONS

- Avoid overlapping spray patterns because crop injury can occur.
- Avoid heavy residue on soil surface from previous year's crops.

PEANUT

Pendimethalin 3.8lb may be applied by ground, air, chemigation, or on dry bulk fertilizer (only fall and preplant incorporated applications).

DO NOT use in California.

USE METHOD, RATE, AND TIMING

Preplant Incorporated: Apply **Pendimethalin 3.8lb** up to 60 days before planting and incorporate.

Preemergence: Apply **Pendimethalin 3.8lb** at planting or up to 2 days after planting and before crop emergence. For peanuts grown under overhead irrigation or to prevent decreased crop pegging, adequate incorporation must be achieved by applying a minimum of 0.75 inch of overhead irrigation or rainfall within 48 hours after **Pendimethalin 3.8lb** application.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

USE RATE

Soil Texture	Broadcast Rate (pt/A)
New Mexico, Oklahoma, Texas	1.0 to 2.0 (0.48 to 0.95 lb ai)
Other Peanut Growing States*	2.0 (0.95 lb ai)

* For heavy weed infestations, especially of Texas panicum, up to 3.2 pints of **Pendimethalin 3.8lb** (1.5 lb ai) per acre can be used in AL, FL or GA.

PERENNIAL GRASSES GROWN FOR SEED PRODUCTION

Pendimethalin 3.8lb may be applied to established (defined as planted in the fall or spring which has gone through a first cutting/mowing) warm-season perennial grasses (including Bermudagrass, switchgrass, and others) and to established (6 or more tillers per plant) cool-season perennial grasses (including Kentucky bluegrass, tall fescue, orchardgrass, perennial ryegrass, fine fescue, and others).

Pendimethalin 3.8lb may be applied by ground, chemigation, air, or on dry bulk fertilizer.

USE METHOD, RATE, AND TIMING

In warm-season perennial grasses, apply **Pendimethalin 3.8lb** to postharvest grass during the fall or during winter dormancy or after the first seed harvest/cutting. **DO NOT** apply to warm-season perennial grasses after greenup in the spring before the first seed harvest/cutting. In cool-season perennial grasses, apply **Pendimethalin 3.8lb** to postharvest grass during regrowth at the beginning of significant fall rains or in spring.

Apply **Pendimethalin 3.8lb** before target-weed germination. Uniformly apply at a broadcast rate of 2.1 to 4.2 quarts of **Pendimethalin 3.8lb** (2.0 to 4.0 lb ai) per acre in a single application. **Pendimethalin 3.8lb** may also be applied in two split applications, with 1/2 the annual application rate applied in fall or winter followed by the remaining 1/2 of the annual application rate applied in spring. **DO NOT** apply more than a maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre in any one year.

In warm-season and cool-season perennial grasses, use the high application rate of **Pendimethalin 3.8lb** where more dense infestations of targeted annual grasses, annual broadleaf weeds, or volunteer grass seedlings are anticipated, or when a longer duration of residual weed control is desired. Excess grass straw and crop residue from the previous harvest should be evenly spread or removed by such methods as crew cutting, propane flaming, or open field burning (when local regulations allow) before **Pendimethalin 3.8lb** application, or reduced weed control may result.

Pendimethalin 3.8lb may be applied in a sequential use program or as a tank mix with other registered herbicides that control emerged weeds.

Pendimethalin 3.8lb may cause temporary injury to perennial grass stands. Application made in periods of cold temperatures that temporarily limit normal crop growth or in extended cold temperature periods that initiate winter dormancy in grass crops may result in crop injury. Diseases, extremely cold weather, drought, extensive frost heaving, low or high pH, or salinity may weaken stands and make them more susceptible to herbicide damage.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in **Application Instructions** section of this label.

Additional Weeds Controlled: **Pendimethalin 3.8lb** applied before weed germination controls annual bluegrass, volunteer fescue, and volunteer ryegrass in addition to weeds listed in **Table 2**.

Tank Mixes: Pendimethalin 3.8lb may be tank mixed with dimethenamid-P-containing herbicides or with other herbicides labeled for use in perennial grasses grown for seed. Albaugh, LLC recommends testing **Pendimethalin 3.8lb** tank mixes on a small portion of the target crop to determine if damage is likely to occur.

Physical incompatibility, reduced weed control, or crop injury may result from mixing Pendimethalin 3.8lb with other pesticides, additives, or fertilizers.

Application of postemergence herbicides may cause crop injury. Consult your local Albaugh, LLC dealer regarding local tank mix options. Always perform a mixing test to check the compatibility of **Pendimethalin 3.8lb** with all potential tank mix partners. Follow all precautions and restrictions on the labels of all products applied in combination with **Pendimethalin 3.8lb**. Always follow the most restrictive label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply if surface water is present in the field.
- **DO NOT** apply more than a maximum cumulative total of 4.2 quarts of **Pendimethalin 3.8lb** (4.0 lb ai) per acre per year.
- There is no preharvest interval for grass forage or hay, or for livestock grazing after application of **Pendimethalin 3.8lb**
- **Preharvest Interval (PHI) for seed of warm-season and cool-season perennial grasses:** 90 days
- Not for use in California except as directed in supplemental labeling.

CROP-SPECIFIC PRECAUTIONS

- **Some stunting and chlorosis of perennial grasses may occur with postemergence application.**
- **Application made after perennial grasses exceed 6 inches in height may result in poor weed control because of possible reduced spray coverage to the soil.**
- Grass straw remaining after seed harvest of warm-season and cool-season perennial grasses may be used as livestock bedding, and/or grazed by or fed to livestock. The grower must notify the seed processor that there is no pesticide tolerance on grass seed screenings; therefore, it cannot be used in livestock feed.

POTATO

Pendimethalin 3.8lb may be applied by ground, air, chemigation, or on dry bulk fertilizer (preemergence incorporated only).

Additional Weeds Controlled: In addition to the weeds listed in **Table 2**, **Pendimethalin 3.8lb** controls stinging nettle in potatoes.

USE METHOD, RATE, AND TIMING

Preemergence: Apply **Pendimethalin 3.8lb** after planting, but before potatoes and weeds emerge, or after dragoff.

Preemergence Incorporated: Apply **Pendimethalin 3.8lb** and incorporate after planting but before potatoes and weeds emerge. Where dragoff is practiced, apply **Pendimethalin 3.8lb** and incorporate before, at, or after dragoff, but before potatoes and weeds emerge. Be careful that incorporation equipment does not damage seed pieces or elongating sprouts.

Early Postemergence: Apply **Pendimethalin 3.8lb** from crop emergence to the 6-inch growth stage. **DO NOT** apply **Pendimethalin 3.8lb** postemergence if potatoes are under stress from cold/wet or hot/dry conditions or crop injury may occur.

Chemigation Application: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Apply **Pendimethalin 3.8lb** preemergence after planting, after dragoff, or early postemergence through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label.

USE RATE

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
< 3% Organic Matter	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)
> 3% Organic Matter	1.5 (0.71 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply to sweet potatoes or yams.
- **DO NOT** apply preplant.
- **DO NOT** make more than one application of **Pendimethalin 3.8lb** per year.

CROP-SPECIFIC PRECAUTIONS

- Application of **Pendimethalin 3.8lb** on White Rose variety potatoes during or followed by cool and/or wet weather conditions may result in crop injury.

RICE

Pendimethalin 3.8lb may be applied by ground, air, or on dry bulk fertilizer (delayed preemergence and early postemergence applications only) to rice grown under conventional-tillage, reduced-tillage, minimum-tillage, or no-till systems, or on stale seedbeds.

Additional Weeds Controlled: In addition to weeds listed in **Table 2**, **Pendimethalin 3.8lb** controls the following weeds in rice: junglerice and sprangletop.

USE METHOD, RATE, AND TIMING

Delayed Preemergence: Apply **Pendimethalin 3.8lb** alone or with tank mix partner for delayed preemergence weed control in grain-drilled, dry-seeded rice. Apply **Pendimethalin 3.8lb** alone or in tank mix to levees after the levees are pulled and planted. The seedbed should be firm and free of clods and must be prepared to allow for good seed coverage.

Use of a planter under conditions that do not allow good soil coverage of the rice seed can result in reduced stand or stunting if **Pendimethalin 3.8lb** contacts germinating rice seed. Exposed seeds that come in contact with **Pendimethalin 3.8lb** may be injured. Apply only when growing conditions favor vigorous rice growth. The seedbed should have adequate moisture for seed germination. **Not for use in grain-drilled, dry-seeded rice in California.**

Uniformly apply the specified rate of **Pendimethalin 3.8lb** after rice planting and before rice emergence (spiking) and weed germination. Apply after rice seed 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 there is insufficient moisture, Albaugh, LLC recommends flushing before **Pendimethalin 3.8lb** application to supply moisture for root (radicle) initiation and for vigorous rice and weed growth.

If applied to soil before these conditions, or to cracked soil, stand reduction or stunting of rice may occur. 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.

Because of the residual activity of **Pendimethalin 3.8lb**, 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 3.8lb**.

Early Postemergence: Apply **Pendimethalin 3.8lb** as a tank mix partner in dry-seeded rice. Base applications on weed and crop size guidelines of the tank mix partner. **DO NOT** apply to fields with standing water. If necessary, fields may be flushed before treatment to produce vigorous rice and weed growth. Because soil and weeds must be completely exposed to spray coverage, no flood water should be on the field at the 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. Because of residual activity of **Pendimethalin 3.8lb**, 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 3.8lb**.

Postemergence (California water-seeded rice only): As a component of a comprehensive weed management program, apply **Pendimethalin 3.8lb** alone or tank mixed with a postemergence herbicide after water-seeded rice has reached the 4-leaf to 6-leaf stage (spike plus 3 to 5 true leaves). Applications made before the 4-leaf rice stage may result in crop injury. Water-seeded rice must also be well-rooted/pegged (i.e. standing erect after the flood is removed) before application. **DO NOT** apply to rice that is leaning over and/or laying flat to the ground after flood removal since this is characteristic of a poorly established root system. Rice roots must be below the **Pendimethalin 3.8lb**-treated soil zone. Injury, stunting, and/or stand reduction can occur if **Pendimethalin 3.8lb** contacts the rice roots.

Fields must be completely drained and free of standing water (moist/saturated soil) before application. If soil is saturated at the time of application, allow the soil surface to dry before restoring the permanent flood. **Pendimethalin 3.8lb** requires alternate wetting/drying cycles to be activated. Weed control will be reduced if the soil surface is not allowed to dry out before restoration of the permanent flood. Resume normal water management practices after permanent flood restoration.

Pendimethalin 3.8lb does not control weeds postemergence; therefore, **Pendimethalin 3.8lb** must be tank mixed with a postemergence herbicide to control emerged weeds at the time of application.

Pendimethalin 3.8lb aids in control or suppression of the following weeds when used as part of a comprehensive weed management program: Barnyardgrass, early and late watergrass (including biotypes resistant to other herbicide modes of action, e.g. rice mimic), sprangletop, smallflower umbrella sedge*, redstem*

* Suppression only

In California water-seeded rice, **Pendimethalin 3.8lb** may be applied with aerial or ground application equipment. For aerial application, apply the specified rate of **Pendimethalin 3.8lb** in 5 gallons to 10 gallons of water per acre. If applied as a tank mix with another herbicide, make sure proper gallonage per acre per label directions (i.e. 10 to 15 with propanil) is used to ensure thorough coverage. To minimize drift, **DO NOT** apply during periods of wind more than 10 mph, or when wind conditions favor drifting, or if there is a temperature inversion. Albaugh, LLC recommends that a flagman or an automatic mechanical flagging unit on the aircraft be used to avoid overlapping and possible crop injury.

For ground equipment, apply the specified rate of **Pendimethalin 3.8lb** in 10 gallons to 20 gallons of water per acre. If **Pendimethalin 3.8lb** is applied as a tank mix with another herbicide, make sure proper gallonage per acre per label directions (i.e. 20 to 30 for propanil) is used to ensure thorough coverage. Use a calibrated low-pressure (20 PSI to 40 PSI) sprayer equipped with appropriate nozzles for 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 3.8lb** during periods of gusty winds or when wind velocity is more than 20 mph.

Postemergence Tank Mixes: To control emerged weeds at application, **Pendimethalin 3.8lb** may be tank mixed with one of the following postemergence herbicides:

Cyhalofop-containing herbicides, triclopyr-containing herbicides, penoxsulam-containing herbicides, bispyribac-sodium-containing herbicides, orthosulfamuron-containing herbicides, fenoxaprop-p-ethyl-containing herbicides, propanil-containing herbicides

When using tank mixes with **Pendimethalin 3.8lb**, always read the companion product label(s) and follow all precautions and restrictions. Always follow the most restrictive label.

Observe all restrictions regarding propanil-restricted zones.

CROP-SPECIFIC RESTRICTIONS (FOR WATER-SEEDED RICE)

- **DO NOT** apply **Pendimethalin 3.8lb** before the 4-leaf rice stage (spike plus 3 true leaves) or to rice that is not well-rooted/ pegged. The rice must be standing erect after the flood is removed and before application.
- **DO NOT** apply to fields with standing water.
- **DO NOT** apply **Pendimethalin 3.8lb** through any type of irrigation system.
- **DO NOT** apply in liquid fertilizer.
- **DO NOT** spray target crop within 60 feet of sensitive crops (crops not listed on the **Pendimethalin 3.8lb** label).
- **DO NOT** spray target crop within 60 feet of crops labeled for **Pendimethalin 3.8lb** application where the method of application, rate, or timing of spray application is prohibited.
- **DO NOT** apply more than the maximum rate for any soil type in one year.
- **DO NOT** use water containing **Pendimethalin 3.8lb** residues from rice cultivation to irrigate food or feed crops not registered for use with **Pendimethalin 3.8lb**.

In case of a crop failure because of weather conditions or disease after treatment with **Pendimethalin 3.8lb** alone or in tank mix, 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. Albaugh, LLC recommends a 10% increase in seeding rate. Replant seed below the herbicide layer because reduced stand or stunting may occur if **Pendimethalin 3.8lb** contacts germinating rice seed. **DO NOT** replant gibberellic acid-treated seed. **DO NOT** reapply **Pendimethalin 3.8lb** alone or in tank mix.

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.

USE RATE – Delayed Preemergence

Soil Texture	Rate (pt/A)
Sands, Loamy Sands	DO NOT USE
Sandy Loams	1.5 (0.71 lb ai)
Loams, Silt Loams, Silts, Sandy Clay Loams	2.0 (0.95 lb ai)
Silty Clay Loams, Clay Loams, Sandy Clays, Silty Clays, Clays	2.0 (0.95 lb ai)

USE RATE – Early Postemergence

Soil Texture	Rate (pt/A)
Coarse	1.5 (0.71 lb ai)
Medium	2.0 (0.95 lb ai)
Fine	2.0 (0.95 lb ai)

USE RATE – Postemergence in California Water-seeded Rice

Soil Texture	Rate (pt/A)
Coarse	1.5 (0.71 lb ai)
Medium	2.0 (0.95 lb ai)
Fine	2.0 (0.95 lb ai)

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply **Pendimethalin 3.8lb** through any type of irrigation system.
- **DO NOT** apply in liquid fertilizer.
- **DO NOT** use on water-seeded rice except as specified in other Albaugh, LLC labeling.
- **DO NOT** apply to rice fields if fields are used for fish production, especially catfish farming.
- **Pendimethalin 3.8lb** may be applied to rice fields used for crayfish production.
- **DO NOT** use water containing **Pendimethalin 3.8lb** residue from rice cultivation to irrigate food or feed crops not registered for use with **Pendimethalin 3.8lb**.
- In case of crop failure because of weather conditions or disease after treatment with **Pendimethalin 3.8lb** alone or in tank mix, 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. Albaugh, LLC recommends a 10% increase in seeding rate. Replant seed below the herbicide layer because reduced stand or stunting may occur if **Pendimethalin 3.8lb** contacts germinating rice seed. **DO NOT** replant with gibberellic acid-treated seed. **DO NOT** reapply **Pendimethalin 3.8lb** alone or in tank mix.
- **DO NOT** apply **Pendimethalin 3.8lb** 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 or preplant incorporated because severe rice injury is possible.

ROSEMARY

Pendimethalin 3.8lb may be applied by ground, air, chemigation, or on dry bulk fertilizer.

USE METHOD, RATE, AND TIMING

Before weed germination, make a broadcast application of **Pendimethalin 3.8lb** at 1.5 pints to 4.0 pints (0.72 to 1.9 lb ai) per acre, depending on soil texture (see chart following), to established rosemary prior to onset of rapid growth in early spring or after the first harvest. After **Pendimethalin 3.8lb** herbicide application, temporary crop injury may be observed during the growing season as rosemary grows or re-grows after harvest.

Pendimethalin 3.8lb will not cause crop injury when applied according to the label under normal growing conditions. Nonuniform application may result in injury to crops, poor stands, or soil residues; conversely, uneven application may reduce weed control. Diseases, cold weather, excessive moisture, deep planting, low or high pH, salinity, or drought may weaken seedlings and plants and make them more susceptible to herbicide damage.

USE RATE

Soil Texture	Broadcast Rate (pt/A)
Coarse	1.5 to 2.0 (0.71 to 0.95 lb ai)
Medium	2.0 to 4.0 (0.95 to 1.9 lb ai)
Fine	2.0 to 4.0 (0.95 to 1.9 lb ai)

Chemigation Applications: **Pendimethalin 3.8lb** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and precautions about chemigation in the **Application Instructions** section of this label.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply **Pendimethalin 3.8lb** to rosemary in the first year of growth and establishment.
- **DO NOT** apply to rosemary stand that have been weakened by age, disease, cold weather, excessive moisture, or other factors that reduce crop vigor, as rosemary growing under stress is more susceptible to herbicide damage.
- **DO NOT** apply more than 4.0 pints of **Pendimethalin 3.8lb** (1.9 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 60 days
- **DO NOT** allow livestock to graze on treated spent hay or feed treated spent hay to livestock.

CROP-SPECIFIC PRECAUTIONS

- Avoid overlapping spray patterns because crop injury can occur.
- Avoid heavy residue on soil surface from previous year's crops.

SAFFLOWER

Pendimethalin 3.8lb may be applied to safflower by ground, air, or on dry bulk fertilizer (only fall and preplant incorporated applications).

Plant safflower 1-1/2 inches to 2-inches deep and completely cover with soil. In California, plant safflower deep enough to completely cover with soil.

USE METHOD, RATE, AND TIMING

Preplant Incorporated: In all states, apply within 60 days of planting and incorporate.

Preplant Incorporated (Fall Application in Minnesota, Montana, North Dakota, and South Dakota): Apply **Pendimethalin 3.8lb** and immediately incorporate in late fall before planting safflower the following spring. Apply **Pendimethalin 3.8lb** in the late fall when soil temperatures are 45° F or below but before the ground freezes. **DO NOT** apply when air temperature is below 45° F. Before safflower planting in the spring, fields treated with **Pendimethalin 3.8lb** should receive at least one shallow additional incorporation. Spring incorporation should be at an angle to the last tillage operation.

Preplant Incorporated (Fall Application in California): Apply **Pendimethalin 3.8lb** and immediately incorporate during tillage operations in the fall to target winter annual weeds before planting safflower the following spring. Before safflower planting in the spring, fields treated with **Pendimethalin 3.8lb** must receive at least one additional incorporation.

Preemergence: Apply **Pendimethalin 3.8lb** at planting or up to 2 days after planting. Preemergence application of **Pendimethalin 3.8lb** to safflower may increase the likelihood of crop injury, especially when crops are grown in stress situations, including compacted soils. Decreased herbicide performance compared to pre-plant incorporated application may also result from a preemergence application. If dry conditions with limited precipitation exist or unseasonably cool temperatures after planting are forecast, apply **Pendimethalin 3.8lb** before planting and mechanically incorporate with tillage. **Pendimethalin 3.8lb** may be applied preemergence in conventional-tillage safflower.

Preemergence application of **Pendimethalin 3.8lb** to safflower grown in California must be followed with irrigation or rain-fall to establish a crop stand.

No-till Safflower: **Pendimethalin 3.8lb** may be applied at 3.0 pints (1.4 lb ai) per acre up to 30 days before planting (preplant) to immediately after planting (preemergence). **DO NOT** use in California.

USE RATE – Preplant Incorporated, Preemergence

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Southern States ¹	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	2.0 (0.95 lb ai)
Northern States ² (< 3% Organic Matter)	2.0 (0.95 lb ai)	2.5 (1.2 lb ai)	3.0 (1.4 lb ai)
Northern States ² (> 3% Organic Matter)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

¹ Southern States: CA, AZ, NM, TX, OK, AR, LA, MS, TN, AL, GA, NC, SC, FL, HI

² Northern States: AK, WA, OR, ID, MT, CO, NV, UT, WY, ND, SD, MN, NE, KS, IA, MO, WI, IL, MI, IN, KY, OH, WV, VA, MD, PA, NJ, CT, DE, PA, NY, RI, VT, NH, ME

USE RATE – Preplant Incorporated (Fall)¹

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
< 3% Organic Matter	2.5 (1.2 lb ai)	3.0 (1.4 lb ai)	3.5 (1.6 lb ai)
> 3% Organic Matter	2.5 (1.2 lb ai)	3.5 (1.6 lb ai)	3.5 (1.6 lb ai)

¹For use in California, Minnesota, Montana, North Dakota, and South Dakota ONLY.

CROP-SPECIFIC RESTRICTIONS (ALL TILLAGE TYPES)

- **DO NOT** apply **Pendimethalin 3.8lb** postemergence.
- **DO NOT** apply more than the highest rate per acre for any soil type.
- **DO NOT** feed forage or graze livestock in treated safflower fields.

SOYBEAN

Pendimethalin 3.8lb may be applied by ground, air, or on dry bulk fertilizer (only fall and preplant incorporated applications).

Pendimethalin 3.8lb may be applied to soybean grown under conventional-tillage, minimum-tillage, or no-till systems.

Additional Weeds Controlled: In addition to weeds listed in **Table 2**, **Pendimethalin 3.8lb** controls or suppresses the following weeds in soybean: red rice and itchgrass. For specific rates for itchgrass and red rice management, see table at end of this section.

USE METHOD, RATE, AND TIMING

Fall Applied: **Pendimethalin 3.8lb** may be surface applied or incorporated in the fall, after fall harvest and before ground freeze in states north of I-80 and the entire states of Illinois, Indiana, Iowa, Kansas, Kentucky, Missouri, Nebraska, Ohio, Oklahoma, and Texas. Fall application of **Pendimethalin 3.8lb** will not provide season-long weed control.

Preplant Surface: Apply **Pendimethalin 3.8lb** within 15 days of planting. **Pendimethalin 3.8lb** may be applied within 45 days of planting when used in tank mix or applied sequentially with glyphosate + imazethapyr combination herbicides, imazethapyr-containing herbicides, or imazamox-containing herbicides.

Preplant Incorporated: Apply **Pendimethalin 3.8lb** within 60 days of planting and incorporate.

Preemergence: Apply **Pendimethalin 3.8lb** at planting or within 2 days after planting. Apply to a firm seedbed free of clods. **DO NOT** apply **Pendimethalin 3.8lb** preemergence north of Interstate 80, except in the states of Indiana, Michigan, and Ohio.

USE RATE – Fall Surface, Fall Incorporated, Preplant Surface, Preplant Incorporated

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine**
< 3% Organic Matter	1.5 (0.71 lb ai)	2.5 (1.2 lb ai)*	3.0 (1.4 lb ai)
> 3% Organic Matter	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

***DO NOT** apply more than 2.1 pints (1.0 lb ai) per acre for the following states: CA, AZ, NM, TX, OK, AR, LA, MS, TN, AL, GA, NC, SC, FL, HI

For heavy clay soils, apply **Pendimethalin 3.8lb at the broadcast rate of 3.2 pints (1.5 lb ai) per acre.

USE RATE – Preemergence

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
< 3% Organic Matter	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	2.0 (0.95 lb ai)
> 3% Organic Matter	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	2.5 (1.2 lb ai)

USE RATE – Preplant Incorporated (Red Rice Control and Itchgrass Suppression) in Soils up to 3% Organic Matter¹

Soil Texture	Rate (pt/A)
Coarse	3.0 (1.4 lb ai)
Medium	3.0 (1.4 lb ai)
Fine	4.0 (1.9 lb ai)

¹**DO NOT** use on soils with more than 3% organic matter.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** use **Pendimethalin 3.8lb** in soybean in California.
- Livestock can graze or be fed forage from treated soybean fields.
- **Preharvest Interval (PHI):** 85 days
- **DO NOT** apply more than one application per year at the highest rate per acre for any given soil type and application method.

STRAWBERRY (and other low-growing berries)

Pendimethalin 3.8lb may be applied in the following low-growing berries: bearberry, bilberry, blueberry (lowbush), cloudberry, cranberry, lingonberry, muntries, partridgeberry, strawberry

Pendimethalin 3.8lb may be applied by ground, air, or chemigation.

USE METHOD, RATE, AND TIMING

Stunting, reduced growth, or reduction in daughter plants may occur with use of Pendimethalin 3.8lb in strawberries and other low-growing berries.

Uniformly apply 1.5 to 3.0 pints of **Pendimethalin 3.8lb** (0.71 to 1.4 lb ai) per acre as a broadcast spray to the soil surface at pretransplant time or post-transplant time (must be within 7 days of transplanting of rootstock in the Pacific Northwest). However, in areas where irrigation is used daily (frequently) after transplanting, apply **Pendimethalin 3.8lb** just before the end of the watering regime to maximize weed control benefits of **Pendimethalin 3.8lb**. Extended periods of irrigation may reduce residual control provided by **Pendimethalin 3.8lb**.

However, **Pendimethalin 3.8lb** applications to row middles between the beds are allowed. **DO NOT** apply post-transplant if new foliage from rootstock is exposed to spray area. A second application of 1.5 to 3.0 pints of **Pendimethalin 3.8lb** (0.71 to 1.4 lb ai) per acre may be applied in a band to the soil between crop rows (or between the plastic beds) 35 days before harvest, but **DO NOT CONCENTRATE THE RATE** per acre into the treated area, and **DO NOT** allow spray to contact strawberry or other low-growing berry plants. The second application rate is based on per unit of treated area.

Pendimethalin 3.8lb may also be applied to strawberries or other low-growing berries in fall or winter dormancy. Uniformly apply 1.5 to 3.0 pints of **Pendimethalin 3.8lb** (0.71 to 1.4 lb ai) per acre as a broadcast spray to the soil surface before onset of new seasonal growth from strawberry or other low-growing berry crowns. **DO NOT** apply if new seasonal growth (leaves) has emerged or is exposed.

Pendimethalin 3.8lb may also be applied to perennial strawberries or other low-growing berries after renovation. Uniformly apply 1.5 to 3.0 pints of **Pendimethalin 3.8lb** (0.71 to 1.4 lb ai) per acre as a broadcast spray to the soil surface after renovation (mowing or other defoliation operation) when no foliage is exposed but before onset of new seasonal growth from strawberry or other low-growing berry crowns. **DO NOT** apply if new seasonal growth (leaves) has emerged or leaves are exposed.

Chemigation Application: Pendimethalin 3.8lb may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Application Instructions** section of this label. **DO NOT** allow **Pendimethalin 3.8lb**-treated irrigation water to contact strawberry or other low-growing berry plants.

USE RATE

Soil Texture	Broadcast Rate (pt/A)
Coarse	1.5 (0.71 lb ai)
Medium	2.0 to 2.5 (0.95 to 1.2 lb ai)
Fine	2.5 to 3.0 (1.2 to 1.4 lb ai)

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 3.0 pints (1.4 lb ai) per acre per application.
- **DO NOT** apply more than 6.0 pints (2.9 lb ai) per acre per year.
- **Preharvest Interval (PHI):** 35 days
- **DO NOT** feed forage or graze livestock in treated fields.
- **DO NOT** plant lettuce within 6 months after a **Pendimethalin 3.8lb** application if strawberry beds were covered with plastic.

Additional Use in Oregon and Washington in First Year Nonbearing Strawberries: Uniformly broadcast apply **Pendimethalin 3.8lb** preemergence before transplanting strawberries. **DO NOT** harvest for food or feed any portion of the strawberry plant within 1 year (365 days) of **Pendimethalin 3.8lb** application. **DO NOT** apply **Pendimethalin 3.8lb** through any type of irrigation system or by air.

USE RATE – First Year Nonbearing Strawberries

Organic Matter	Broadcast Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
< 3% Organic Matter	1.5 to 2.0 (0.71 to 0.95 lb ai)	2.0 to 2.5 (0.95 to 1.2 lb ai)	2.0 to 3.0 (0.95 to 1.4 lb ai)
> 3% Organic Matter	2.0 to 3.0 (0.95 to 1.4 lb ai)	2.0 to 3.0 (0.95 to 1.4 lb ai)	2.5 to 3.5 (1.2 to 1.6 lb ai)

SUGARCANE

Pendimethalin 3.8lb may be applied by ground or air.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied preemergence through layby to plant or ratoon sugarcane. Although there may be adequate crop tolerance for postemergence application at layby, the spray must be directed under the sugarcane canopy to obtain effective weed control.

USE RATE

Use Area	Broadcast Rate ¹ (pt/A)
All States, Except Hawaii	4.2 to 6.2 (2.0 to 3.0 lb ai)
Muck Soils (Florida Only)	4.2 to 8.4 (2.0 to 4.0 lb ai)
Hawaii	4.2 to 8.4 (2.0 to 4.0 lb ai)

¹Use the high rate if heavy clay soils; no mechanical incorporation is planned; heavy weed populations are anticipated; itchgrass infestation is anticipated; no shaving is planned.

Additional Use as Fallow Ground Application Only in Louisiana: Apply **Pendimethalin 3.8lb** before weed germination for control of annual grasses including itchgrass (Raouigrass), seedling Johnsongrass, and *Panicum* spp. in preplant fallow ground sugarcane. If necessary, control emerged weeds before application of **Pendimethalin 3.8lb** with postemergence herbicides and/or mechanical cultivation.

After cultivation and forming the beds in the spring, apply **Pendimethalin 3.8lb** at 2.6 quarts (2.5 lb ai) per acre using ground equipment. Sugarcane beds should be free of trash or clods at the time of application. If sufficient rainfall (1/2 to 3/4 inch) has not occurred within 7 days of application, perform a shallow incorporation (1 to 2 inches) with an additional pass of a Lilliston-type Lely **Roterra™** cultivator set to cut 2-inches or 3-inches deep. A minimum interval of 60 days between **Pendimethalin 3.8lb** application and planting of sugarcane is required or crop injury may occur. After planting, apply **Pendimethalin 3.8lb** to sugarcane preemergence through layby, but **DO NOT** apply more than 12.5 pints of **Pendimethalin 3.8lb** (6 lb ai) per acre per year.

Noncropped Water Drainage Areas Application Only in Louisiana: Apply **Pendimethalin 3.8lb** before weed germination to nonirrigated, noncropped water drainage areas (ditchbanks) adjacent to sugarcane fields. If necessary, control emerged weeds before application of **Pendimethalin 3.8lb** with postemergence herbicides and/or mechanical cultivation.

Apply **Pendimethalin 3.8lb** at 2.6 to 3.5 quarts (2.5 to 3.3 lb ai) per acre using ground equipment. **DO NOT** apply **Pendimethalin 3.8lb** below the high water mark or when water is present in the drainage area (ditchbank). **DO NOT** apply more than 12.5 pints of **Pendimethalin 3.8lb** (6 lb ai) per acre per year.

Areas in Hawaii Subject to High Winds: For wind speeds between 10 to 20 mph, **DO NOT** apply in a manner that allows spray to drift from the application target site. Use drift-mitigating measures, including lowering the spray boom; use coarse spray according to ASABE S572 definition for standard nozzles; use hooded or shielded sprayers; use spray drift retardants; or use any other measures known to control drift.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 12.5 pints (6.0 lb ai) of **Pendimethalin 3.8lb** per acre per year.
- **DO NOT** use less than 11 gallons of water as a carrier when applying **Pendimethalin 3.8lb** for weed control.
- **DO NOT** make aerial application at close-in because complete and uniform coverage cannot be obtained.
- **DO NOT** apply through any type of irrigation system.
- **Preharvest Interval (PHI):** 90 days
- **DO NOT** graze treated fields or feed treated forage or fodder to livestock.

CROP-SPECIFIC PRECAUTIONS

- 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.

SUNFLOWER (and other Group 20B oilseeds)

Pendimethalin 3.8lb may be applied to sunflower and other Group 20B oilseed crops as follows: calendula, castor oil plant, Chinese tallowtree, euphorbia, evening primrose, jojoba, Niger seed, rose hip, stokes aster, sunflower, tallowwood, tea oil plant, Vernonia

Pendimethalin 3.8lb may be applied by ground, air, or on dry bulk fertilizer (only fall and preplant incorporated applications).

Plant sunflower and other Group 20B oilseeds 1-1/2-inches to 2-inches deep and completely cover with soil.

USE METHOD, RATE, AND TIMING

Preplant Incorporated (Spring): In all states, apply within 60 days of planting and incorporate.

Preplant Incorporated (Fall Applications Only in Minnesota, North Dakota, and South Dakota): Apply **Pendimethalin 3.8lb** and immediately incorporate in late fall before planting sunflower or oilseeds the following spring. Apply **Pendimethalin 3.8lb** in late fall when soil temperatures are 45° F or below but before the ground freezes. **DO NOT** apply when air temperature is below 45° F. Before sunflower or other Group 20B oilseeds planting in the spring, fields treated with **Pendimethalin 3.8lb** should receive at least one shallow additional incorporation. Spring incorporation should be at an angle to the last tillage operation.

Preemergence: Apply **Pendimethalin 3.8lb** at planting or up to 2 days after planting. Preemergence application of **Pendimethalin 3.8lb** to sunflower or other Group 20B oilseeds may increase the likelihood of crop injury, especially when crops are grown in stress situations, including compacted soils. Decreased herbicide performance compared to pre-plant incorporated application may also result from a preemergence application. If dry conditions with limited precipitation exist or unseasonably cool temperatures after planting are forecast, apply **Pendimethalin 3.8lb** before planting and mechanically incorporate with tillage. **Pendimethalin 3.8lb** may be applied preemergence in conventional tillage sunflower or other Group 20B oilseeds, **except in the state of California.**

No-till Sunflower or other Group 20B Oilseeds: **Pendimethalin 3.8lb** may be applied at 3.0 pints (1.4 lb ai) up to 30 days before planting (preplant) to immediately after planting (preemergence). **DO NOT** use in California.

USE RATE – Preplant Incorporated (Spring), Preemergence (Conventional Tillage)

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Southern States ¹	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)
Northern States ² (< 3% Organic Matter)	2.0 (0.95 lb ai)	2.5 (1.2 lb ai)	3.0 (1.4 lb ai)
Northern States ² (> 3% Organic Matter)	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

¹ Southern States: CA, AZ, NM, TX, OK, AR, LA, MS, TN, AL, GA, NC, SC, FL, HI

² Northern States: AK, WA, OR, ID, MT, CO, NV, UT, WY, ND, SD, MN, NE, KS, IA, MO, WI, IL, MI, IN, KY, OH, WV, VA, MD, PA, NJ, CT, DE, PA, NY, RI, VT, NH, ME

USE RATE – Preplant Incorporated (Fall)¹

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
< 3% Organic Matter	2.5 (1.2 lb ai)	3.0 (1.4 lb ai)	3.5 (1.6 lb ai)
> 3% Organic Matter	2.5 (1.2 lb ai)	3.5 (1.6 lb ai)	3.5 (1.6 lb ai)

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

CROP-SPECIFIC RESTRICTIONS (ALL TILLAGE TYPES)

- **DO NOT** apply **Pendimethalin 3.8lb** postemergence.
- **DO NOT** feed forage or graze livestock in treated sunflower or other Group 20B oilseeds fields.

TOBACCO

Pendimethalin 3.8lb may be applied by ground only.

USE METHOD, RATE, AND TIMING

Preplant Incorporated: Apply and incorporate within 60 days of transplanting tobacco.

Applied according to directions and under normal growing conditions, **Pendimethalin 3.8lb** will not harm transplanted tobacco. Under stress conditions for plant growth, including cold/wet or hot/dry weather, **Pendimethalin 3.8lb** can produce a temporary retardation of tobacco development.

Layby: **Pendimethalin 3.8lb** may be applied as a directed spray after the last normal cultivation (layby), usually 4 to 6 weeks after transplanting tobacco. Apply **Pendimethalin 3.8lb** in a 16-inch to 24-inch band between the crop rows. **DO NOT** contact tobacco plants with spray.

USE RATE – Preplant Incorporated (Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia)

Soil Texture	Broadcast Rate (pt/A)
Coarse	2.0 (0.95 lb ai)
Medium (Sandy Clay Loams, Loams)	2.0 (0.95 lb ai)
Medium (Silt Loams, Silts)	2.5 (1.2 lb ai)
Fine	2.5 (1.2 lb ai)

USE RATE – Preplant Incorporated (All Other States)

Soil Texture	Broadcast Rate (pt/A)
Coarse	2.0 (0.95 lb ai)
Medium	3.0 (1.4 lb ai)
Fine	3.0 (1.4 lb ai)

USE RATE – Layby

Soil Texture	Broadcast Rate (pt/A)
Coarse	1.5 (0.71 lb ai)
Medium	2.0 (0.95 lb ai)
Fine	2.0 (0.95 lb ai)

CROP-SPECIFIC RESTRICTIONS

- DO NOT** apply as a broadcast spray or contact may cause malformed tobacco leaves.

VEGETABLE SOYBEAN (edamame)

Pendimethalin 3.8lb may only be applied by ground.

USE METHOD, RATE, AND TIMING

Pendimethalin 3.8lb may be applied to edamame grown under conventional-tillage, minimum-tillage, or no-till systems.

Preplant Surface: Apply **Pendimethalin 3.8lb** within 15 days of planting. **Pendimethalin 3.8lb** may be applied within 45 days of planting when used in tank mix or applied sequentially with postemergence-applied herbicides registered for use in edamame.

Preplant Incorporated: Apply **Pendimethalin 3.8lb** within 60 days of planting and incorporate.

Preemergence: Apply **Pendimethalin 3.8lb** at planting or up to 2 days after planting. Apply to a firm seedbed, free of clods. **DO NOT** apply **Pendimethalin 3.8lb** preemergence north of Interstate 80, except in the states of Indiana, Michigan, and Ohio.

USE RATE –Preplant Surface, Preplant Incorporated

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine**
< 3% Organic Matter	1.5 (0.71 lb ai)	2.5 (1.2 lb ai)*	3.0 (1.4 lb ai)
> 3% Organic Matter	2.0 (0.95 lb ai)	3.0 (1.4 lb ai)	3.0 (1.4 lb ai)

***DO NOT** apply more than 2.1 pints (1.0 lb ai) per acre for the following states: CA, AZ, NM, TX, OK, AR, LA, MS, TN, AL, GA, NC, SC, FL, HI

For heavy clay soils, apply **Pendimethalin 3.8lb at the broadcast rate of 3.2 pints (1.5 lb ai) per acre.

USE RATE – Preemergence

Organic Matter	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
< 3% Organic Matter	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	2.0 (0.95 lb ai)
> 3% Organic Matter	1.5 (0.71 lb ai)	2.0 (0.95 lb ai)	2.5 (1.2 lb ai)

CROP-SPECIFIC RESTRICTIONS

- Livestock can graze or be fed forage from treated vegetable soybean (edamame) fields.
- **Preharvest Interval (PHI):** 85 days
- **DO NOT** apply more than one application per year at the highest rate per acre for any given soil type and application method.
- **DO NOT use in California.**

WHEAT AND TRITICALE

Pendimethalin 3.8lb may be applied by ground, air, chemigation, or on dry bulk fertilizer (only delayed preemergence and postemergence applications).

Pendimethalin 3.8lb may be applied preemergence, delayed preemergence, or postemergence for weed control in fall-seeded, winter-seeded, or spring-seeded wheat or triticale.

USE METHOD, RATE, AND TIMING

Apply to a seedbed which is firm and free of clods and trash. The seedbed **MUST** be prepared to ensure thorough seed coverage by the soil and seed-to-soil contact. Use high quality seed. When application of **Pendimethalin 3.8lb** is intended to be made preemergence or delayed preemergence, plant seed at least 1-inch deep to avoid possible crop injury, but not too deep for proper germination. When application of **Pendimethalin 3.8lb** is intended to be made postemergence, plant seed at least 1/2-inch to 1-inch deep to avoid crop injury.

Uniformly apply **Pendimethalin 3.8lb** preemergence, delayed preemergence (after wheat or triticale seed has germinated), or postemergence from the 1st-leaf stage of wheat or triticale until before the flag leaf is visible/emerged for weed control. Apply **Pendimethalin 3.8lb** before weed germination.

Emerged weeds will not be controlled by this treatment. For control of established weeds, **Pendimethalin 3.8lb** may be tank mixed with any postemergence herbicide registered for use in wheat or triticale. **Pendimethalin 3.8lb** provides residual control of weeds listed in this label. Always perform a mixing test to check the compatibility of **Pendimethalin 3.8lb** with all potential tank mix partners.

USE RATE

States	Rate by Soil Texture (pt/A)		
	Coarse	Medium	Fine
Southern States ¹	1.5 to 2.0 (0.71 to 0.95 lb ai)	1.5 to 3.0 (0.71 to 1.4 lb ai)	2.0 to 3.0 (0.95 to 1.4 lb ai)
Northern States ²	1.5 (0.71 lb ai)	1.5 to 2.5 (0.71 to 1.2 lb ai)	2.0 to 3.0 (0.95 to 1.4 lb ai)

¹ Southern States: CA, AZ, NM, TX, OK, AR, LA, MS, TN, AL, GA, NC, SC, FL, HI

² Northern States: AK, WA, OR, ID, MT, CO, NV, UT, WY, ND, SD, MN, NE, KS, IA, MO, WI, IL, MI, IN, KY, OH, WV, VA, MD, PA, NJ, CT, DE, PA, NY, RI, VT, NH, ME

In wheat stubble, **Pendimethalin 3.8lb** may be applied in the fall, spring, or early summer during the fallow period after wheat harvest as a planned residual treatment to control labeled broadleaf and grass weeds. **Pendimethalin 3.8lb** must be applied with a tank mix partner (i.e. glyphosate) for control of emerged weeds. There must be at least a 4-month interval between a **Pendimethalin 3.8lb** fallow application and the rotational planting of any fall-seeded cereal crop. Apply up to, but **DO NOT** apply more than, 3 pints of **Pendimethalin 3.8lb** (1.4 lb ai) per acre in any fallow application. **DO NOT** make more than one application of **Pendimethalin 3.8lb** during a single fallow period before rotational planting of any fall-seeded cereal crops. Follow rotational crop restrictions when planting a rotational crop after a fallow application of **Pendimethalin 3.8lb**.

CROP-SPECIFIC RESTRICTIONS

- **DO NOT** apply more than 3.0 pints of **Pendimethalin 3.8lb** (1.4 lb ai) per acre year.
- **Preharvest Interval (PHI) for grain and straw:** 60 days
- **Preharvest Interval (PHI) for hay:** 28 days
- **Preharvest Interval (PHI) for forage:** 11 days

CROP-SPECIFIC PRECAUTIONS

NOTE: If loss of grain crop occurs, any crop registered for **Pendimethalin 3.8lb** preplant incorporated use may be replanted the same year without adverse effects. **DO NOT** replant wheat or triticale.

Uses with Other Products (Tank Mixes)

To the extent consistent with applicable law, if this product is used in combination with any other product except as specifically recommended in writing by Albaugh, LLC, then Albaugh, LLC shall have no liability for any loss, damage, or injury arising out of its use in any such combination not so specifically recommended. To the extent consistent with applicable law, if used in combination recommended by Albaugh, LLC, the liability of Albaugh, LLC shall in no manner extend to any damage, loss, or injury not directly caused by the inclusion of the Albaugh, LLC product in such combination use, and in any event shall be limited to return of the amount of the purchase price of the product.

STORAGE AND DISPOSAL

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

Pesticide Storage: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized material prior to use.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

[Nonrefillable containers 5 gallons or less:] [Container Handling: Nonrefillable rigid plastic container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.]

[Nonrefillable containers larger than 5 gallons:] [Container Handling: Nonrefillable rigid plastic container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.]

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