

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

September 20, 2019

Keeva Shultz Agent for Red Eagle International, LLC c/o Wagner Regulatory Associates, Inc. P.O. Box 640 7217 Lancaster Pike, Suite A Hockessin, DE 19707

Subject: Registration Review Label Mitigation for Bentazon

Product Name: Bentazon 4

EPA Registration Number: 85678-22 Application Dates: 07/24/2018

Decision Numbers: 555180

Dear Ms. Shultz:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Bentazon Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

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 the Federal Insecticide Fungicide and Rodenticide Act 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) list 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.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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If you have any questions about this letter, please contact Srijana Shrestha by phone at 703-305-6471, or via email at shrestha.srijana@epa.gov.

Sincerely,

Linda Arrington, Branch Chief

Risk Management and Implementation Branch 4

Pesticide Re-Evaluation Division

Office of Pesticide Programs

Enclosure

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**BENTAZON** 

6

**HERBICIDE** 

## **BENTAZON 4**

For post-emergence use in beans, corn, peanuts, peas, peppermint, rice, sorghum, soybeans, and spearmint.

For control of broadleaf weeds and sedges in turfgrass, ornamentals, and other noncropland sites as listed in Directions For Use.

For residential use to control broadleaf weeds, annual sedges, and yellow nutsedge in turfgrass and ornamentals.

Active	Inar	aibe	nt:
Active	mare	3aie	nt.

Sodium salt of bentazon\* (3-(1-methylethyl)-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2-dioxide)..................44.0% 

## **KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCION**

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

	FIRST AID					
IF SWALLOWED	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>					
IF ON SKIN OR CLOTHING	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>					
IF IN EYES	<ul> <li>Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>					
	HOT LINE NUMBER					

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For 24-hour medical emergency assistance (human or animal) call 1-800-222-1222. For emergency information call the National Pesticide Information Center (NPIC) at 1-800-858-7378, Monday to Friday, 7:30 a.m. to 3:30 p.m. Pacific time (NPIC website: www.npic.orst.edu).

See inside booklet for complete First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty, and state-specific crop and/or use site restrictions.

EPA Reg. No. 85678-22

**EPA Est No.** 

Net Contents:

## Manufactured For:

RedEagle International, LLC 5143 S. Lakeland Drive Suite 4 Lakeland, FL 33803

## ACCEPTED

Sep 20, 2019

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 85678-22

<sup>\*</sup>Equivalent to 4 pounds of bentazon per gallon.

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# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION**. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A). Wear protective eye wear. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## **Personal Protective Equipment (PPE)**

## Applicators and other handlers must wear:

- · Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

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

#### **ENGINEERING CONTROLS STATEMENT**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### **USER SAFETY RECOMMENDATIONS**

#### **Users should:**

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

## **ENVIRONMENTAL HAZARDS**

For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate. Bentazon, which is present in this product, is known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**Notice:** It is a violation of federal law to use any pesticide in a manner that results in the death of an endangered species or in adverse modification of their habitat.

## **DIRECTIONS FOR USE [Agricultural]**

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

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.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions and Conditions of Sale and Warranty are to be followed. This labeling must be in the user's possession during application.

## **POLLINATOR ADVISORY STATEMENT:**

This product may adversely impact the forage and habitat of local pollinators, including the monarch butterfly (and its larvae), birds, or bats if reaches non-target areas. Protect pollinators by following label directions to minimize spray drift.

## **RUNOFF PREVENTION:**

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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**DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

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

- Coveralls
- Chemical resistant gloves (such as Natural Rubber, Selection Category A)
- Shoes plus socks

#### NONAGRICULTURAL USE REQUIREMENTS

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

## For non-WPS occupational use:

• Do not enter or allow others to enter the treated area until sprays have dried.

#### For residential use:

• Do not allow persons or pets to enter the treated area until sprays have dried.

## PRODUCT INFORMATION [Agricultural]

**Bentazon 4** is intended for selective post-emergence control of certain listed broadleaf weeds and sedges in beans, corn, peanuts, peas, peppermint, rice, sorghum, soybeans, and spearmint. **Bentazon 4** does not control grasses.

#### **Mode of Action**

Bentazon 4 is effective mainly through contact action; therefore, listed weeds must be thoroughly covered with spray.

#### **Crop Tolerance**

All labeled crops are tolerant to **Bentazon 4**. Leaf speckling or bronzing may occur, but plants generally outgrow this condition within 10 days. New growth is normal and crop vigor is not reduced.

## **Cleaning Spray Equipment**

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

## WEED RESISTANCE MANAGEMENT

**Bentazon 4** contains bentazon and is classified in the benzothiadiazinone chemical class as a Group 6 herbicide, photosynthesis inhibitor at photosystem II site B.

Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to **Bentazon 4** and other Group 6 herbicides. Weed species with acquired resistance to Group 6 herbicides may eventually dominate the weed population if Group 6 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 **Bentazon 4** or other Group 6 herbicides.

To delay herbicide resistance, consider the below best practices for resistance management:

- Plant into weed-free fields and keep fields as weed-free as possible.
- To the extent possible, use a diversified approach toward weed management. Whenever possible incorporate multiple
  weed-control practices such as mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action or different management practices.
- To the extent possible do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed-bank.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.
- Prevent an influx of weeds into the field by managing field borders.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.
- Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.
- Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in
  a weed-control program. Do not use more than two applications of this or any other herbicide with the same
  mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action
  with an overlapping spectrum for the difficult-to-control weeds.

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- If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.
- Monitor treated weed populations for loss of field efficacy.
- Scout field(s) before and after application.
- Report lack of performance to RedEagle International, LLC or their representative at (863) 682-6698.

Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species.

Contact your local sales representative, extension agent, or certified crop advisors to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of action for each target weed.

#### **APPLICATION INSTRUCTIONS**

Applications can be made to actively growing listed weeds as broadcast, band, or spot spray applications at the rates and growth stages listed in the weed tables. The most effective control will result from making post-emergence applications of **Bentazon 4** early, when weeds are small. Early application produces the most beneficial effect on weed control (exceptions: yellow nutsedge and Canada thistle), allows use of the lower rate (depending on weed species), and makes thorough spray coverage easier to obtain. Delaying application permits listed weeds to exceed the maximum size stated and will prevent adequate control. **DO NOT** apply when conditions favor drift from target area or when wind speed is greater than 10 mph. Apply specified rates of **Bentazon 4** to actively growing listed weeds before they reach the maximum sizes listed in **Table 1**. **Application Rates for Specific Weed Growth Stages For All Crops Except Rice**. For the specified use rates of **Bentazon 4** in rice, refer to **Table 3**. **Application Rates for Rice - Flooded Fields** and **Table 4**. **Application Rates for Rice - Drained Fields** in **Crop-Specific Information** section.

#### Irrigation

In irrigated areas, it may be necessary to irrigate before treatment to ensure active weed growth because listed weeds growing under drought conditions usually are not satisfactorily controlled.

#### Spray Coverage

Listed weeds must be thoroughly covered with spray. Dense leaf canopies shelter smaller weeds and can prevent adequate spray coverage.

#### Cultivation

**DO NOT** cultivate within 5 days before applying **Bentazon 4** or 7 days after application. Timely cultivation after 7 days may help provide season-long control.

#### Bentazon 4 can be used in the following crops:

Beans, dry Corn Peas, succulent Sorghum
Beans, succulent Peanuts Peppermint Soybeans
Peas, dry Rice Spearmint

## **SPRAY DRIFT**

## **Aerial Applications:**

- When applying aerially to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select nozzles that deliver medium or coarser spray droplets in accordance with ASABE Standard S-572.1.
- When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft so as to
  minimize drift caused by wing tip or rotor blade vortices. The boom length must not exceed 75% of the wingspan or
  90% of the rotor blade diameter.
- When app lying to crops via aerial application equipment, applicators must use ½ 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 when wind speeds exceed IO miles per hour at the application site.
- Do not apply during temperature inversions.

## **Ground Boom Applications:**

- When using ground application equipment, apply with nozzle height no more than 4 feet above the ground or crop canopy.
- Applicators are required to select nozzles that deliver medium or coarser spray droplets in accordance with ASABE Standard S-572.1.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.

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Do not apply during temperature inversions.

Bentazon can affect non-target plant species outside the treatment area. To limit adverse effects to non-target plants, the applicator must avoid making applications when wind can facilitate off-site movement of bentazon in the direction of areas such as forested areas, riparian areas, wet lands, and areas that serve as habitat for desirable and protected animal species.

DO NOT apply by air if sensitive crop species (such as cotton, sugar beets, sun flowers, or okra) are within 200 feet downwind.

## **SPRAY DRIFT ADVISORIES**

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

## IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTEN TIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENT ALCONDITIONS! See **Wind, Temperature and Humidity**, and **Temperature Inversions** sections of this label.

## **Controlling Droplet Size - Ground Boom**

- Volume Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does
  not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY
  NOZZLE INSTEAD OF INCREASING PRESSURE.
- Nozzle Type Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

## **Controlling Droplet Size - Aircraft**

- Number of Nozzles Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations. AVOIDING SPRAY DRJFT IS THE RESPONSIBILITY OF THE APPLICATOR.
- Nozzle Type Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length Longer booms increase drift potential. Therefore a shorter boom length is recommended.
- Application Height Application more than 10 ft. above the canopy increases the potential for spray drift.

## **BOOM HEIGHT**

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom must remain level with the crop and have minimal bounce.

## WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.

**Note:** Local terrain can influence wind patterns. Every applicator needs to be familiar be familiar with local wind patterns and how they affect spray drift.

## **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

## **TEMPERATURE INVERSIONS**

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

## SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

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Table 1. Application Rates for Specific Weed Growth Stages for All Crops Except Rice*						
	Bentazon 4 Rates Per Acre**					
Weeds Controlled (includes ALS- and triazine-resistant		pint per acre <sup>1</sup> (0.5 lbs a.i./A) 1.5 pints per acre (0.75 lbs a.i./A) 2 pints pe				re (1 lbs a.i./A)
biotypes)	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height
Anoda, spurred	_	_	Up to 6	3"	6 - 8	4"
Balloonvine	_	_	2 - 4	2"	4 - 6	3"
Beggarticks	_	_	Up to 6	6"	6 - 8	8"
Bindweed (field, hedge) <sup>6</sup>	_	_	_	_	_	10"
Buckwheat, wild	_	_	Up to 4	3"	4 - 6	5"
Canada Thistle <sup>7</sup>	_	_		_	_	8" to bud stage
Cocklebur <sup>2,9</sup>	2 - 4	4"	2 - 6	6"	6 - 10	10"
Croton, tropic	_	_	Up to 2	2"	2 - 4	4"
Dayflower	_	_	Up to 6	4"	6 - 10	8"
Devilsclaw <sup>3</sup>	_	_		_	Up to 6	3"
Eclipta	_	_	Up to 6	2"	Up to 6	2"
Galinsoga <sup>3</sup>	_	_	_	_	Cotyledon to 6	2"
Groundsel, common	_	_	_	_	—	3"
Jimsonweed	Up to 4	4"	Up to 6	6"	6 - 10	10"
Ladysthumb	Up to 4	4"	Up to 6	6"	6 - 10	10"
Lambsquarters, common <sup>3,4</sup>	Up to 4	1"	Up to 6	1.5"	Up to 6	2"
Marshelder	— —		Up to 4	2"	Up to 8	4"
Mayweed/dogfennel	_	_	— Op 10 +	2"	— Op 10 0	3"
Morning glory <sup>10</sup> (smallflower, cypressvine only)	_	_	4	4"	4	4"
Morning glory	_	_	4	4"	6	6"
Mustard, wild	Up to 4	2"	Up to 6	4"	6 - 10	8"
Nightshade, hairy <sup>12</sup>	—	_	—		2 - 6	4"
Nutsedge, yellow <sup>7</sup>	_	_	_	8"		8"
Poinsettia, wild <sup>3</sup>	_	_	Up to 6	4"	4 - 8	6"
Purslane, common	_	_	Up to 4	1"	4 - 6	2"
Radish, volunteer	_	_	2-6	4"	6-10	10"
Ragweed, common <sup>3</sup>	_	_	_	_	4 - 6	3"
Ragweed, giant⁴	_	_	_	_	Up to 4	6"
Redweed	_	_	4-6	6"	6 - 10	8"
Senna, coffee <sup>3</sup>	_	_	_	_	Up to 1 pinnate	2"
Sesbania <sup>3</sup>	_	_	_	_	3-5	3"
Shepherd's purse <sup>5</sup>	_	_	Up to 6	4"	6 - 10	8"
Sida, prickly or teaweed	_	_	Up to 6	3"	6 - 8	4"
Smartweed, Pennsylvania	Up to 4	4"	Up to 6	6"	6 - 10	10"
Starbur, bristly	i	_	Up to 4	2"	4 - 6	3"
Sugar beet, volunteer	_	_	2 - 4	_	4 - 8	_
Sunflower, wild	Up to 2	3"	Up to 4	5"	4 - 6	8"
Velvetleaf <sup>8,11</sup>	Up to 4	2"	Up to 4	2"	4 - 6	5"
Venice Mallow	Up to 4	2"	Up to 6	2"	6 - 10	4"
If regrowth develops; make a secon						

If regrowth develops; make a second application of 1 pint (0.5 lb. a.i./A), 7 to 14 days later. (This rate not applicable in California.)

<sup>&</sup>lt;sup>2</sup>**DO NOT** treat earlier than leaf stage shown and **DO NOT** count cotyledon leaves.

<sup>&</sup>lt;sup>3</sup>Use crop oil concentrate or crop oil concentrate plus UAN.

<sup>&</sup>lt;sup>4</sup>For regrowth or new germination, a follow-up application of **Bentazon 4** may be necessary.

<sup>&</sup>lt;sup>5</sup>**DO NOT** treat rosette before seed stalk appears.

<sup>&</sup>lt;sup>6</sup>In KY, IL, IN, MI, and OH, apply 2 to 3 pints (1 to 1.5 lbs. a.i./A) of **Bentazon 4** per acre (for suppression only).

<sup>&</sup>lt;sup>1</sup>If regrowth occurs; make a second application at the same rate 7 to 10 days later.

<sup>&</sup>lt;sup>8</sup>Late Rescue Treatment for Velvetleaf: Make a single application of 3 pints per acre (1.5 lbs a.i./A) of Bentazon 4 plus 1 quart of oil concentrate per acre and 1 gallon of UAN solution per acre to velvetleaf plants up to 12". For better control, apply 1.5 pints per acre of Bentazon 4 plus 1 quart of oil concentrate and 1 gallon of UAN or AMS solution per acre, followed by a second application at the same rate in 4 to 7 days.

<sup>&</sup>lt;sup>9</sup>Late Rescue Treatment for Cocklebur: Make a single application of 2 to 3 pints per acre (1.5 lbs a.i/A) of Bentazon 4 to plants up to

24". For better control, apply 1.5 pints per acre (0.75 lb. a.i./A) of Bentazon 4. Repeat 10 to 14 days later.

<sup>10</sup>Rates given for southern states only (AL, AR, FL, GA, LA, MS, NC, OK, SC, TN, TX, and VA). Make a second application 5 to 14 days later. For all states other than the South, apply 2 to 3 pints of **Bentazon 4** per acre to annual morning glories not larger than 4 true leaves. Control may be partial or inconsistent.

<sup>11</sup>Always use UAN or AMS as spray additive.

<sup>12</sup>Bentazon 4 does not control black nightshade or Eastern black nightshade.

\*For the specified use rates of Bentazon 4 in rice, refer to Table 3. Application Rates for Rice - Flooded Fields and Table 4. Application Rates for Rice - Drained Fields in Crop-Specific Information section.

\*\*Refer to Crop-Specific Information for Crop-Specific Restrictions and Limitations.

#### **ADDITIVES**

To achieve consistent listed weed control, one of the following additives is needed: crop oil concentrate, urea ammonium nitrate, or ammonium sulfate. Additives may cause some leaf burn, but new growth is normal and crop vigor is not reduced. The potential for leaf burn is increased when relative humidity and temperature are high. See **Table 2. Additive Rate Per Acre** for additive rates.

#### **Oil Concentrate**

A nonphytotoxic oil concentrate may be added to the spray tank for certain weed problems. The oil concentrate must contain either a petroleum oil or vegetable oil base and must meet all of the following criteria:

- be nonphytotoxic,
- · contain only EPA-exempt ingredients,
- · provide good mixing quality in the jar test, and
- be successful in local experience.

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, see **Application Mixing Information**.

Adding an oil concentrate may cause some leaf burn, but new growth is normal and crop vigor is not reduced. The potential for leaf burn is increased when relative humidity and temperature are high. Some oil concentrates cause excessive leaf burn, so refer to your supplier for information concerning successful local experience before purchasing any oil concentrate.

## Oil Concentrate + Nitrogen Solution

A nonphytotoxic oil concentrate (as referred to above) plus a nitrogen solution (UAN or AMS) can be added to the spray tank with **Bentazon 4**.

## **Urea Ammonium Nitrate (UAN)**

Commonly referred to as 28%, 30%, or 32% nitrogen solution, UAN may be added in place of other spray additives to improve control of cocklebur, devils claw, Pennsylvania smartweed, velvetleaf, Venice mallow, wild mustard, and wild sunflower. **Bentazon 4** plus a nitrogen solution will not provide adequate control of common ragweed and common lambsquarters. If these weeds or other weeds requiring oil concentrate are present in addition to velvetleaf, then oil concentrate should also be used.

#### **Ammonium Sulfate (AMS)**

When used, add 3 quarts of liquid AMS (8-8-0 analysis) or 2.5 pounds of granular AMS. Use only fine feed-grade or spray-grade AMS because inferior grades of AMS **DO NOT** dissolve adequately and can plug spray nozzles. RedEagle International, LLC does not recommend applying AMS if applied in less than 10 gallons per acre because of potential problems with precipitation in reduced volumes. Use AMS only if it has been demonstrated to be successful in local experience.

Table 2. Additive Rate Per Acre

Additive	Ground Application	Air Application
AMS <sup>1</sup> Dil Concentrate UAN Solution <sup>1</sup>	2.5 pounds 1 - 2 pints 4 - 8 pints	2.5 pounds <sup>2</sup> 1 pint 2 - 4 pints
Oil Concentrate + Nitrogen <sup>1</sup>	0.5 - 1 pint + 2 - 4 pints of UAN or 1 - 2 pounds of AMS	

<sup>1</sup>AMS and UAN are not for use in California.

<sup>&</sup>lt;sup>2</sup>AMS solution is not recommended due to potential precipitation problems in reduced water volumes. AMS can be used provided a minimum of 10 gallons of solution per acre is applied. Use only if the source of AMS has been demonstrated to be successful in local experience.

## **Application Mixing Information**

Additives and/or other pesticides may be mixed in the spray tank with **Bentazon 4** using the information in this section.

## **Tank Mix Partners/Components**

The following products may be tank mixed with **Bentazon 4** according to the specific tank mixing instructions in this label and respective product labels. It is the pesticide user's responsibility to ensure that all products 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.

- Atrazine
- Acifluorfen 2<sup>®</sup>/acifluorfen
- Buctril<sup>®</sup>/bromoxynil
- Clarity<sup>®</sup>/dicamba
- Classic<sup>®</sup>/chlorimuron
- Cobra<sup>®</sup>/lactofen
- Concert®/thifensulfuron + chlorimuron
- Distinct/®diflurfenzopyr + dicamba
- Facet<sup>®</sup> 75 DF/quinclorac
- FirstRate<sup>®</sup>/cloransulam-methyl
- Flexstar/fomesafen
- Londax<sup>®</sup>/bensulfuron
- Liberty<sup>®</sup>/glufosinate
- Lightning<sup>®</sup>/imazethepyr + imazapyr
- Marksman<sup>®</sup>/atrazine + dicamba
- MCPA
- Outlook<sup>®</sup>/dimethenamid-P
- Paramount<sup>®</sup>/quinclorac

See Crop-Specific Information for more details.

- Pinnacle®/thifensulfuron
- Poast<sup>®</sup>/sethoxydim
- Poast Plus<sup>®</sup>/sethoxydim
- Propanil
- Pursuit<sup>®</sup>/imazethapyr
- Raptor<sup>®</sup>/imazamox
- Reflex/fomesafen
- Reliance® STS®/chlorimuron + thifensulfuron
- Resource<sup>®</sup>/flumiclorac
- Roundup Ultra/glyphosate
- Scepter<sup>®</sup>/imazaquin
- Sinbar®/terbacil
- Paraguat
- Stinger<sup>®</sup>/clopyralid
- Storm<sup>®</sup>/bentazon + acifluorfen
- Synchrony<sup>®</sup> STS<sup>®</sup>/chlorimuron + thifensulfuron
- Thistrol<sup>®</sup>/MCPB
- 2.4-DB

Separate applications should be made if all target weeds are not at the labeled growth stage for treatment at the same time.

Physical incompatibility, reduced weed control, or crop injury may result from mixing **Bentazon 4** with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. RedEagle International, LLC does not recommend using tank mixes other than those listed on RedEagle International, LLC labeling. Local agricultural authorities may be a source of information when using other than RedEagle International, LLC-recommended tank mixes.

## **Compatibility Test for Mix Components**

Before mixing additives and/or other pesticides, always perform a compatibility jar test.

For 20 gallons per acre spray volume, use 3.3 cups (800 mL) of water. For other spray volumes, adjust rates accordingly. Only use water from the intended source at the source temperature.

Add components in the sequence indicated in the Mixing Order using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per acre. Always cap the jar and invert 10 cycles between component additions. When the components have all been added to the jar, let the solution stand for 15 minutes. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable agent. If the solution is then compatible, use the compatible agent as directed on its label. If the solution is still incompatible, **DO NOT** mix the ingredients in the same tank.

#### Mixing Order

When mixing additives and/or other pesticides in a spray tank, add the products to be used in the following sequence:

- 1) Water. Begin by agitating thoroughly clean spray tank three-quarters full of clean water.
- 2) Agitation. Maintain constant agitation throughout mixing and application.
- 3) Products in PVA bags. Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
- 4) Water-dispersible products (such as dry flowables, wettable powders, suspension concentrates, or suspo-emulsions). If an inductor is used, rinse it thoroughly after the component has been added.
- 5) Water-soluble products (such as **Bentazon 4**). If an inductor is used, rinse it thoroughly after the component has been added.
- 6) Emulsifiable concentrates (such as oil concentrate when applicable). If an inductor is used, rinse it thoroughly after the component has been added.
- Water-soluble additives (such as AMS or UAN when applicable). If an inductor is used, rinse it thoroughly after the component has been added.
- 8) Remaining quantity of water.

Maintain constant agitation during application.

## **Restrictions and Limitations - All Crops**

- Maximum seasonal use rate: DO NOT apply more than a total of 4 pints (2 lbs. a.i./A) of Bentazon 4 per acre, per season
- DO NOT apply more than a total of 2.0 pounds of bentazon a.i. (from all sources) per acre, per season.
- Restricted-Entry Interval (REI): **DO NOT** enter or allow worker entry into treated areas during the restricted entry interval of 48 hours.
- **DO NOT** apply to weeds under stress such as lack of moisture, herbicide injury, mechanical injury or cold temperatures, as unsatisfactory control may result.
- **DO NOT** apply to crops subjected to stress conditions such as hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures, as crop injury may result.
- **DO NOT** apply to crops that show injury (leaf phytotoxicity or plant stunting) produced by any other prior herbicide applications because this injury may be enhanced or prolonged.
- Rainfast period: Rainfall or overhead irrigation within 4 hours after application may reduce the effectiveness of Bentazon 4.
- DO NOT apply through any type of irrigation system.

## **Crop-Specific Information**

Apply Bentazon 4 early post-emergence before weeds reach the maximum size listed in Table 1. Application Rates for Specific Weed Growth Stages for All Crops Except Rice (for rice, see rice section below).

## Beans, Dry and Succulent

Beans are tolerant to **Bentazon 4** after the first trifoliate leaf has fully expanded. Even at the tolerant stages, yellowing, bronzing, speckling or burning of leaves may occur under certain conditions (see Crop-Specific Restrictions and Limitations). This temporary injury is generally outgrown without delaying podset or maturity or reducing yield. Using oil with **Bentazon 4** may increase injury and may reduce yields.

Tolerant bean types are adzuki, navy, pinto, pink, great northern, kidney, red, white, cranberry, black turtle soup, small lima, large lima, and snap beans.

## **Crop-Specific Restrictions and Limitations**

- **DO NOT** apply **Bentazon 4** as a solo treatment to dry and succulent beans grown in Georgia and South Carolina as severe crop damage may occur. **Bentazon 4** may be applied from 6 to 16 fluid ounces per acre (0.19 to 0.5 lbs a.i./A) to dry and succulent beans grown in Georgia and South Carolina but only when tank mixed with Raptor® herbicide or Pursuit® herbicide. Refer to the Raptor and Pursuit labels for additional use directions or restrictions.
- DO NOT apply more than 3 pints per acre (1.5 lbs. a.i./A) of Bentazon 4 in a single treatment.
- DO NOT make more than 2 applications per year
- DO NOT make second application until at least 5 days after first application.
- DO NOT apply more than 4 pints per acre (2 lbs. a.i./A) of Bentazon 4 per year.
- **DO NOT** apply **Bentazon 4** to bean fields until beans have at least the first trifoliate leaf fully expanded because severe crop damage may occur.
- DO NOT apply Bentazon 4 to blackeyes grown in California or to garbanzo beans or lupines at any stage of growth, as severe crop damage may occur.
- DO NOT apply Bentazon 4 to dry or succulent beans within 30 days of harvest.
- Use of an oil additive with Bentazon 4 on snap beans may increase the leaf burn and injury potential.
- California Only: Not recommended for use on adzuki beans. For yellow nutsedge control, apply 2 pints of **Bentazon 4** per acre when plants are 6 to 8 inches tall. Make a second application at the same rate 10 to 14 days later.

#### **Tank Mixes - Dry Beans**

**Bentazon 4** may be applied in a tank mix with one of the following herbicides:

- Outlook®
- Pursuit<sup>®</sup>
- Poast®
- Raptor<sup>®</sup>

## **Tank Mixes - Succulent Beans**

Bentazon 4 may be applied in a tank mix with one of the following herbicides:

Poast<sup>®</sup>

Pursuit<sup>®</sup>

## **Corn and Sorghum**

Corn types include field, sweet, popcorn, and corn grown for seed or silage. Sorghum types include grain and forage sorghum. Seed producers should consult the seed company regarding tolerance of seed production inbred lines to **Bentazon 4**.

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## **Crop-Specific Restrictions and Limitations**

- Apply no more than 2 pints (1 lb. a.i./A) of Bentazon 4 per acre per season in sorghum.
- DO NOT apply more than 2 pints (1 lb. a.i./A) of Bentazon 4 per acre in a single application in sorghum.
- **DO NOT** apply more than 2 applications per year in corn and sorghum.
- Apply no more than 4 pints (2 lbs. a.i./A) of **Bentazon 4** per acre per season in corn.
- DO NOT apply more than 3 pints (1.5 lbs. a.i./A) in a single application in corn.
- DO NOT apply to sorghum that is heading or blooming.
- DO NOT graze treated corn and sorghum fields for at least 12 days after the last treatment with Bentazon 4.
- DO NOT make second application until at least 5 days after first application in corn and sorghum.
- California only: Not recommended for controlling yellow nutsedge in corn or sorghum. DO NOT use on forage sorghum.

## Tank Mixes - Corn and Sorghum

The tank mix of **Bentazon 4** + atrazine is not applicable in California.

**Bentazon 4** may be applied in a tank mix with one of the following herbicides on corn (including herbicides registered for use in corn hybrids tolerant to glyphosate, glufosinate and imidazolinone):

- Atrazine
- Marksman®
- Clarity®
- Outlook®
- Distinct®
- Pursuit®RoundUp Ultra®
- Liberty®Lightning™

Bentazon 4 may be applied in a tank mix with one of the following herbicides in sorghum:

- Atrazine
- Outlook<sup>®</sup>
   Paramount<sup>®</sup>
- Clarity<sup>®</sup>Marksman<sup>®</sup>

## **Peppermint and Spearmint**

Peppermint and spearmint are tolerant to **Bentazon 4**; however, some leaf burning may occur under certain conditions, such as when plants are growing very actively and have extensive new, succulent tissue. Mint plants generally outgrow this condition within 10 days.

For hairy nightshade and kochia control, **Bentazon 4** may be used up to 4.0 pints per acre (2 lbs. a.i./A) as a single application.

For kochia control, add oil concentrate.

## **Crop-Specific Restrictions and Limitations**

- Apply no more than 4 pints (2 lbs. a.i./A) of **Bentazon 4** per acre per year.
- DO NOT apply more than 3 pints (1.5 lbs. a.i./A) of Bentazon 4 per acre in a single application.
- DO NOT apply more than 2 applications per year.
- DO NOT make second application until at least 5 days after first application.

## **Tank Mixes - Peppermint and Spearmint**

Bentazon 4 may be applied in a tank mix with one of the following herbicides:

Buctril<sup>®</sup>
 Poast<sup>®</sup>
 Sinbar<sup>®</sup>
 Stinger<sup>®</sup>

#### Peas, Dry and Succulent

Peas are tolerant to **Bentazon 4** after 3 pairs of leaves (or 4-nodes) are present. Pea injury such as yellowing, bronzing, speckling or burning of leaves may occur under certain conditions. This temporary injury is generally outgrown without delaying podset or maturity or reducing yield. Tolerant pea types are garden, English, and southern peas.

In western irrigated areas, avoid applying **Bentazon 4** during prolonged periods of cold weather (day temperature below 75°F and night temperature below 55°F for 2 to 5 days) because weed control may be nullified.

## **Crop-Specific Restrictions and Limitations**

- **DO NOT** apply **Bentazon 4** as a solo treatment to dry and succulent peas grown in Georgia and South Carolina as severe crop damage may occur. **Bentazon 4** may be applied from 6 to 16 fluid ounces per acre to dry and succulent peas grown in Georgia and South Carolina but only when tank mixed with Raptor<sup>®</sup> herbicide or Pursuit. Refer to the Raptor and Pursuit labels for additional use directions or restrictions.
- DO NOT apply more than 3 pints per acre (1.5 lbs. a.i./A) of Bentazon 4 in a single treatment.
- DO NOT make more than 2 applications per year.

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- **DO NOT** make second application until at least 5 days after first application.
- DO NOT apply more than 4 pints per acre (2 lbs. a.i./A) of Bentazon 4 per year.
- DO NOT apply Bentazon 4 to dry peas within 30 days of harvest.
- **DO NOT** apply **Bentazon 4** to succulent peas within 10 days of harvest.
- In California: DO NOT apply to succulent peas within 30 days of harvest.
- DO NOT apply Bentazon 4 to peas under stress from root rot.
- **DO NOT** apply **Bentazon 4** to blackeyes grown in California or to garbanzo beans or to lupines at any stage of growth, as severe crop damage may occur.
- DO NOT apply Bentazon 4 when peas are in bloom.
- DO NOT add oil to Bentazon 4 for use on peas, except for use in the Pacific Northwest (PNW).
- In-furrow treatments of insecticides or nematicides may also predispose the peas to injury from Bentazon 4.

#### **Tank Mixes - Peas**

Tank mixes not applicable in California.

Bentazon 4 may be applied in a tank mix with one of the following herbicides:

• MCPA • Pursuit<sup>®</sup> • Raptor<sup>®</sup> • Thistrol<sup>®</sup>

The **Bentazon 4 + Thistrol tank mix** is for use in ME, NH, VT, MA, CT, RI, NY, PA, NJ, VA, MD, DE, WA, ID, and OR. This tank mix should be applied after the 3-leaf stage (4-node stage) of peas, but not later than 3-nodes before pea flowering.

**Notice to user:** Due to variability among pea cultivars and in application techniques, neither the manufacturers nor the sellers have determined whether or not the tank mix of **Bentazon 4** + Thistrol can be safely used on all pea crops under all conditions. Therefore, determine if the tank mix of **Bentazon 4** + Thistrol can be used safely prior to broad use.

For improved control of pigweed species and common lambsquarters, a tank mix of **Bentazon 4** + MCPA may be used.

## **Tank Mix Restrictions and Limitations**

- DO NOT use crop oil concentrate, other oil-based additives, or any other spray additives or surfactants with these tank
  mixes.
- DO NOT apply the tank mix to peas when temperatures exceed 90°F.
- **DO NOT** apply the tank mix to peas after pea flower buds appear.
- Crops other than peas may be severely injured by drift. Cotton, beans, grapes, tomatoes, and ornamentals are particularly sensitive to Thistrol.

#### **Peanuts**

Bentazon 4 can be applied from peanut cracking through pegging.

Peanut hay and forage may be fed to livestock.

In-furrow treatments of insecticides and nematicides may predispose peanuts to injury from Bentazon 4.

## **Crop-Specific Restrictions and Limitations**

- DO NOT graze treated peanut fields for at least 50 days after the last Bentazon 4 treatment.
- Apply no more than 4 pints (2 lbs. a.i./A) of **Bentazon 4** per acre per year.
- **DO NOT** apply more than 3 pints (1.5 lbs. a.i./A) of **Bentazon 4** per acre in a single application.
- DO NOT apply more than 2 applications per year.
- DO NOT make second application until at least 5 days after first application.

## **Tank Mixes - Peanuts**

Tank mixes not applicable in California.

**Bentazon 4** may be applied in a tank mix with one of the following herbicides:

Acifluorfen 2<sup>®</sup>

Star-fire<sup>®</sup>

• Outlook®

• 2,4-DB amine

• Poast®

The **Bentazon 4 + Paraquat tank mix** should be applied at the ground crack stage of peanuts to control an early flush of weeds. A second application may be applied up to 28 days after ground crack stage. Always add a nonionic surfactant containing at least 50% surface active agent at recommended rates to the **Bentazon 4 +** Paraquat tank mix.

#### **Tank Mix Restrictions and Limitations**

- DO NOT include UAN solution or ammonium sulfate when tank mixing Bentazon 4 + Acifluorfen 2 + Poast.
- DO NOT use crop oil concentrate or any other oil-based additive with the Bentazon 4 + Paraquat tank mix.
- **DO NOT** add oil concentrate. UAN, or any other additives to **Bentazon 4** + 2.4-DB tank mix.

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Use only amine formulations of 2,4-DB.

#### Rice

#### **Application Information**

Not for use in California.

Apply **Bentazon 4** early post-emergence, before weeds exceed the maximum size listed in Tables 3 and 4.

When applying bentazon to rice paddies, do not release paddy water from treated fields for at least 4 days after the last application to flooded paddies.

**Application Equipment:** For optimal coverage when applying **Bentazon 4** by air in rice, orient all nozzles straight back. Nozzles must not be located farther out than three-fourths the distance from the center of the aircraft to the end of the wing or rotor.

## **Alternate Flooding Culture**

In Texas, Louisiana, Arkansas, and Mississippi, weed growth stages generally correspond to rice that is tillering (stooling) and occur before the permanent flood. **Bentazon 4** must be applied when there is no water on the field and 24 hours or more prior to flooding.

If Bentazon 4 cannot be applied until after flooding, see directions under Continuous Flooding Culture.

## **Continuous Flooding Culture**

In states using continuous flooding culture, or when treating after the permanent flooding, treatment should be made only when weeds are above the surface of the water. Weeds submerged at the time of application will not be adequately controlled. For early treatment, water may be partly or completely drained to expose more weed growth to spray applications of **Bentazon 4**. **DO NOT** raise water level for at least 24 hours after application as unsatisfactory control may result. **DO NOT** use ground equipment to apply to flooded fields because splashing will wash **Bentazon 4** off weed leaf surfaces and ineffective control may result.

## **Crop-Specific Restrictions and Limitations**

- Rice straw may be fed to livestock.
- DO NOT use Bentazon 4 on rice fields in which the commercial cultivation of catfish or crayfish is practiced.
- **DO NOT** use water containing **Bentazon 4** residues from rice cultivation to irrigate crops used for food or feed unless **Bentazon 4** is registered for use on these crops.
- **DO NOT** apply more than 4 pints of **Bentazon 4** per acre per season whether one or two rice crops (including ratoon) are grown that season.
- Apply no more than 4 pints (2 lbs. a.i./A) of Bentazon 4 per acre per year.
- **DO NOT** apply more than 2 pints (1 lb. a.i./A) of **Bentazon 4** per acre in a single application.
- DO NOT apply more than 2 applications per year.
- DO NOT make second application until at least 5 days after first application.

#### Tank Mixes - Rice

**Bentazon 4** may be applied in a tank mix with one of the following herbicides:

- Acifluorfen 2
  Facet<sup>®</sup> 75 DF
  Propanil
  Storm®
- Londax®

When using Storm<sup>®</sup> herbicide in a tank mix, use 1.5 pints of Storm with 0.5 to 1.0 pint (0.25 to 0.5 lb. a.i./A) of **Bentazon 4** per acre.

#### **Tank Mix Restrictions and Limitations**

- Apply the Bentazon 4 + Londax tank mix within 7 days of establishing permanent flood.
- Apply the **Bentazon 4** + propanil tank mix only to drained fields.
- **DO NOT** use crop oil concentrate with the **Bentazon 4** + propanil tank mix.
- Add propanil to the tank mix of **Bentazon 4** based on active ingredient (a.i.) of formulation used.
- Test propanil products for physical tank mix compatibility with Bentazon 4.
- Apply the **Bentazon 4** + Storm tank mix after the 3-leaf stage in rice.

Table 3. Application Rates for Rice - Flooded Fields						
		Application Rates for	Weed Growth Stages <sup>1</sup>			
Weeds Controlled	1.5 pints per acre (1 lb. a.i./A)		2 pints per acre (1.5 lbs. a.i./A)			
	Maximum Height Above Soil	Height Range Above Water Level	Maximum Height Above Soil	Height Range Above Water Level		

				1 460 20 01 21	
Cocklebur,	10"	3-6"	15"	6 - 10"	
Dayflower	6"	3-5"	10"	5 - 8"	
Redstem	4"	2-3"	8"	4 - 6"	
Smartweed	6"	2-5"	10"	5 - 8"	
Water plantains,					
Arrowhead	_	_	7"	5 - 6"	
Common	_	_	7"	5 - 6"	
Yellow nutsedge	6"	4-5"	10"	6 - 8"	
<sup>1</sup> If a second weed flush develops after the first application, re-treat according to this rate table.					

Application Rates for Weed Growth Stages <sup>1</sup>						
Weeds Controlled	1.5 pints per	acre (1 lb. a.i./A)	2 pints per acre (1.5 lbs. a.i./A)			
Treeds Sommoned	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height		
Cocklebur	2 - 10	10"	10 - 15	15"		
Dayflower	2 - 10	6"	10 - 15	10"		
Ducksalad	_	_	6 - 10	6"		
Eclipta	4 - 6	2"	4 - 6	2"		
Gooseweed	4 - 6	4"	6 - 10	8"		
Redstem	up to 6	4"	6 - 10	8"		
Redweed	4 - 6	6"	6 - 10	8"		
Smartweed	2 - 10	6"	10 - 15	10"		
Spikerush	2 - 6	6"	6 - 8	8"		
Water plantains,						
arrowhead	_	_	up to 4	7"		
common	_	_	up to 4	7"		
Yellow nutsedge	4 - 6	6"	6 - 8	10"		

#### Soybeans

Soybeans are tolerant to **Bentazon 4** at all stages of growth. Slight leaf speckling and leaf bronzing may occur under certain conditions, but crops generally outgrow these conditions within 10 days.

## **Crop-Specific Restrictions and Limitations**

- **DO NOT** graze or cut treated soybean fields for forage or hay for at least 30 days after the last treatment of **Bentazon** 4.
- Apply no more than 4 pints (2 lbs. a.i./A) of Bentazon 4 per acre per year.
- **DO NOT** apply more than 3 pints (1.5 lbs. a.i./A) of **Bentazon 4** per acre in a single application.
- **DO NOT** apply more than 2 applications per year.
- DO NOT make second application until at least 5 days after first application.

## **Tank Mixes - Soybeans**

Tank mixes not applicable in California.

**Bentazon 4** may be applied in a tank mix with one of the following herbicides (including RoundUp Ready<sup>®</sup>, LibertyLink<sup>®</sup>, and STS™ varieties):

Acifluorfen 2<sup>®</sup>
Classic<sup>®</sup>
Cobra<sup>®</sup>
Concert<sup>®</sup>
Reflex

FirstRate<sup>®\*</sup>
 Flexstar
 Liberty<sup>®</sup>
 Outlook<sup>®</sup>
 Reliance<sup>®</sup> STS<sup>®\*</sup>
 Resource<sup>®</sup>
 Roundup Ultra
 Scepter<sup>®</sup>

Pinnacle<sup>®\*</sup>
 Synchrony<sup>®</sup> STS<sup>®</sup>
 Poast<sup>®</sup>
 2.4-DB amine

#### Bentazon 4 + Acifluorfen 2 + Poast

## **Tank Mix Restrictions and Limitations**

Oil concentrate must be used with the **Bentazon 4** + Acifluorfen 2 + Poast tank mix in place of a spray surfactant.

<sup>\*</sup>For these tank mixes, the use of a nonionic surfactant (1 to 2 pints per 100 gallons) plus UAN (2 to 4 pints per acre) is recommended.

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## Bentazon 4 + Reliance STS

## Tank Mix Restrictions and Limitations

**DO NOT** add oil concentrate to this tank mix for use with soybean varieties other than those designated as STS.

#### Bentazon 4 + 2,4-DB amine

Use only amine formulations of 2,4-DB.

Use no other adjuvant except UAN at 2 to 4 pints per acre with this tank mix.

## **Tank Mix Restrictions and Limitations**

- **DO NOT** apply more than 1 application of this tank mix per season.
- The use of this tank mix will cause soybean foliage injury (such as burning, bronzing or crinkling) and may reduce yields.
- DO NOT use this tank mix on soybeans that show symptoms of disease such as Phytophthora root rot.

#### Mixing with Insecticides

A need may arise that requires post-emergence or foliar control of certain insects in the soybean crop. It is possible to tank mix an insecticide with **Bentazon 4** if the proper application timing of the insecticide coincides with the application timing of **Bentazon 4**.

Insecticides that may be used are Furadan® 4F, Pounce®, Pydrin®, dimethoate, and Lorsban® 4E. **DO NOT** tank mix **Bentazon 4** with malathion or Sevin®. The tank mix addition of an insecticide to **Bentazon 4** may increase the potential for crop injury.

The exact conditions under which an insecticide is tank mixed with **Bentazon 4** may vary and these conditions may reduce good mixing quality.

Before a tank mix of **Bentazon 4** and an insecticide is used test the combination as instructed by the Compatibility Test for Mix Components.

## **DIRECTIONS FOR USE [Turf and Ornamental-Commercial]**

**Bentazon 4** is a post-emergence herbicide for selective control of broadleaf weeds, annual sedges, and yellow nutsedge in the following use sites:

- · Established turfgrass,
- Ornamentals.
- Nurseries,
- Noncropland sites, roadsides, and rights-of-way.

Refer to the Specific Use Site Information sections for specific application directions and restrictions and limitations for each use site.

Apply **Bentazon 4** post-emergence to actively growing weeds under good soil moisture conditions. If soil moisture is not adequate for active weed growth, irrigate before applying **Bentazon 4**. Weeds growing under drought conditions usually are not satisfactorily controlled.

**Bentazon 4** does not control grass weeds. **Bentazon 4** is effective mainly through contact activity; all target weeds must be thoroughly covered with spray.

Rainfall or overhead sprinkler irrigation within 8 hours after application may reduce the effectiveness of **Bentazon 4**.

#### **Sprayer Equipment**

Apply **Bentazon 4** with handheld pump-up and knap-sack sprayers, or hose-end type sprayers. Use standard high-pressure pesticide hollow-cone or flat-fan nozzles spaced 20-inches apart. **DO NOT** use flood, whirl chamber, or controlled droplet applicator (CDA) nozzles.

Apply **Bentazon 4** with a minimum water volume of 1 gallon per 1,000 sq. ft. (40 gallons/A) and a minimum spray pressure of 40 PSI (measured at the boom not at the pump or in the line). When foliage or weed population is dense, increase water volume to the equivalent of 2.5 gallons per 1,000 sq. ft. and spray pressure to 80 PSI.

Clean the sprayer thoroughly before applying **Bentazon 4**, particularly if the herbicide previously used has the potential to injure turfgrass or ornamentals.

## **Application Mixing Instructions**

Fill a thoroughly clean spray tank 1/2 to 2/3 full of clean water. Start agitation. Add **Bentazon 4** and allow the components to mix thoroughly. Add oil concentrate and the remaining volume of water. Maintain constant agitation during application.

Mix only enough spray solution for one use. Use a fresh spray mixture each time.

## **Application Use Rates**

Apply **Bentazon 4** at the use rates listed in Table 5 plus an oil-concentrate.

Table 5. Application Rates 1,2 for Bentazon 4

Spray Area	Bentazon 4 Us	se Rate (fl. oz.)	Motor on Spray Courier (gala)
Spray Area	Low	High	Water as Spray Carrier (gals.)
1,000 sq. ft.	0.55	0.75	1 to 2
1 acre	12	16	40 to 80

<sup>&</sup>lt;sup>1</sup>Using these use rates to spot spray individual weeds may result in an excessive dosage and possible turfgrass or ornamental injury. <sup>2</sup>Application use rates depend on size of target weeds species; see **Table 6** for Weeds Controlled.

- In a single application, **DO NOT** exceed 0.75 fl. oz. of **Bentazon 4** per 1,000 sq. ft. 16 fl. oz. (1 pint) of **Bentazon 4** contains 1.0 lb. of bentazon (active ingredient).
- In a single application, **DO NOT** exceed 16 fl. oz. (1 pint) of **Bentazon 4** per acre.
- DO NOT exceed a total of 32 fl. oz. (2 pints) of Bentazon 4 per acre per season.
- **DO NOT** make more than 2 applications a year.
- DO NOT make second application until at least 7 days after first application.

## **Addition of Oil Concentrate**

A nonphytotoxic oil concentrate must be added to the spray tank for optimum weed control. **DO NOT** apply oil concentrate in tank mix with **Bentazon 4** over the top of ornamentals. The oil concentrate must contain either a petroleum-oil or vegetable-oil base [such as methylated seed oil (MSO) or crop oil concentrate (COC)] and must meet all the following criteria:

- · Nonphytotoxic,
- · Contain only EPA-exempt ingredients,
- Provide good mixing quality in the jar test (see following), and
- Successful in local experience.

The exact composition of suitable products will vary; however, petroleum-oil or vegetable-oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils are more satisfactory than unrefined vegetable oils. To determine the suitability of oil concentrates with **Bentazon 4**, conduct the following jar test.

## Jar Test to Estimate Oil Concentrate Suitability

Water Supply - Use only water from the intended source at the source temperature.

Water Spray Volume - For a spray volume of 1 gallon per 1,000 sq. ft., use 6-2/3 cups (1,600 mL) of water. For other spray volumes, adjust proportionately.

**Herbicide and oil concentrate** - Add 2 teaspoons each of herbicide and oil concentrate for each 0.75 fl. oz. per 1,000 sq. ft. of label rate.

**Add components** in the following sequence, gently mixing between additions:

- 1. Bentazon 4
- 2. Tank mix product; if used
- 3. Oil concentrate

Cap jar, invert 10 cycles, let stand for 15 minutes.

**Evaluate** - An ideal tank mix combination will be uniform. The suitability of the oil concentrate is questionable if any of the following are observed:

- Free oil at the surface Film or globules
- Flocculation Fine particles which may be suspended in the liquid or found as a precipitated layer at the bottom of the
  jar.
- **Clabbering** Thickening texture (coagulated) resembling yogurt or a curd-like texture as with cottage cheese.

#### **Oil Concentrate Rate**

Apply oil concentrate at 0.75 fl. oz. per 1,000 sq. ft. (equivalent to 2 pints/A).

Adding oil concentrate to **Bentazon 4** may cause a slight leaf burn on desired plants (turfgrass, ornamentals, etc.) when relative humidity and temperature are high. Refer to your **Bentazon 4** supplier for information on successful local experience before purchasing oil concentrate.

DO NOT apply Bentazon 4 plus oil concentrate with pesticides whose labels caution against their use with oil adjuvants.

#### **Application Restrictions and Limitations**

- **DO NOT** exceed a total of 1 lb. bentazon (active ingredient) per acre in a single application or 2 lbs. bentazon (active ingredient) per acre per season.
- DO NOT apply during windy conditions because spray drift may cause damage to adjacent ornamental plants.
- Physical incompatibility, reduced weed control, or turfgrass and/or ornamental injury may result from mixing Bentazon

4 with pesticides (fungicides, herbicides, insecticides or miticides), additives or fertilizers.

#### **Weeds Controlled**

Apply Bentazon 4 early post-emergence to actively growing weeds before they reach the maximum size listed in Table 6. Early application to newly emerged or small weeds will provide the most effective weed control. Delaying application will allow weeds to continue growth beyond the maximum size stated and will result in inadequate control. The exceptions are yellow nutsedge and Canada thistle. Special instructions for controlling these two weeds follows.

Table 6. Weeds Controlled

		Bentazon 4 Application Rate				
		0.55 fl. oz	z./1,000 sq. ft.	0.75 fl. oz./1,000 sq. ft. (16 fl. oz./A) (0.5 lb. a.i.A)		
		(12 fl. oz./A	) (0.38 lb. a.i./A)			
Common Name	Scientific Name		Weed Gr	owth Stage		
			Maximum		Maximum	
		Leaf Stage	Height (inches)	Leaf Stage	Height (inches)	
Anoda, spurred	Anoda cristata	Up to 6	3	6 to 8	4	
Balloonvine	Cardiospermum halicacabum	2 to 4	2	4 to 6	3	
Buckwheat, wild	Polygonum convolvulus	Up to 4	3	4 to 6	5	
Coffee Senna	Cassia occidentalis	NR	_	Up to 1 pinnate*	2	
Dayflower	Commelina spp.	Up to 6	4	6 to 10	8	
Devil's claw	Proboscidea louisiana	NR	<del></del>	Up to 6*	3	
Galinsoga	Galinsoga spp.	NR	<del></del>	Cotyledon to 6*	2	
Groundsel, common	Senecio vulgaris	NR	<del></del>	2 to 10	6	
Ladysthumb	Polygonum persicaria	Up to 6	6	6 to 10	10	
Lambsquarters <sup>1</sup> , common	Chenopodium album	NR	<del></del>	4 to 8*	2	
Mallow, Venice <sup>4</sup>	Hibiscus trionum	Up to 6	2	6 to 10	4	
Mustard, wild	Sinapsis arvensis	Up to 6	4	6 to 10	8	
Nutsedge, yellow	Cyperus esculentus	See Special Directions for Problem Weeds				
Poinsettia, wild	Euphorbia heterophylla	2-4	4	4 to 8*	6	
Prickly sida/Teaweed	Sida spinosa	Up to 6	3	6 to 8	4	
Purslane, common	Portulaca oleracea	Up to 4	1	4 to 6	2	
Ragweed, common	Ambrosia artemisiifolia	NR	_	4 to 6*	3	
Ragweed, giant <sup>2</sup>	Ambrosia trifida	NR	_	Up to 4	6	
Redweed	Melochia corchorifolia	4-6	6	6 to 10	8	
Sedge, annual	Cyperus compressus	NR	6 to 8	NR	6 to 8	
Sesbania	Sesbania exaltata	NR	_	3 to 5*	3	
Shepherd's purse <sup>3</sup>	Capsella bursa-pastoris	Up to 6	4	6 to 10	8	
Smartweed, Pennsylvania	Polygonum pennsylvanicum	Up to 6	6	6 to 10	10	
Spurweed/ Lawn burweed	Soliva pterosperma	NR		2 to 6	3	
Sunflower, wild	Helianthus annuus	Up to 4	5	4 to 6	8	
Thistle, Canada	Cirsium arvense	800	Special Direction	one for Problem V	Moods	
Thistle, musk	Carduus nutans	See Special Directions for Problem Weeds				

Control may be partial or inconsistent.

## **Special Directions for Weed Problems**

#### Canada Thistle

Apply 0.75 fl. oz. of Bentazon 4 per 1,000 sq. ft. (16 fl. oz./A) when Canada thistle is from 8 inches tall to the bud stage. If desired control is not obtained with the first application, make a second application at the same rate 7 to 10 days later or when new growth appears.

## **Musk Thistle**

Apply 0.75 fl. oz. of Bentazon 4 per 1,000 sq. ft. (16 fl. oz./A) when musk thistle is in the rosette stage no larger than 10 inches in diameter. If desired control is not obtained with the first application, make a second application at the same rate 7 to 10 days later or when new growth appears.

<sup>&</sup>lt;sup>2</sup>If a second weed flush develops after the first application, re-treat according to this rate table. <sup>3</sup>**DO NOT** treat rosette before seed stalk appears.

<sup>&</sup>lt;sup>4</sup>Not for use in California.

<sup>\*</sup>Requires addition of oil concentrate at 0.75 fl. oz./1,000 sq. ft. (2 pts./A).

NR = Not recommended for use.

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## Yellow Nutsedge

Make two applications of **Bentazon 4** for best control of yellow nutsedge. Apply 0.55 - 0.75 fl. oz. of **Bentazon 4** per 1,000 sq. ft. (12 to 16 fl. oz./A) when yellow nutsedge is 6 inches to 8 inches tall. Make a second application at the same rate 7 to 10 days later or when new growth appears later in the season. Thorough spray coverage of yellow nutsedge is essential for maximum control.

Yellow nutsedge emerges May through July in the northern United States, but it emerges throughout the year in the southern United States. Plan initial applications when yellow nutsedge has emerged because **Bentazon 4** will only control nutsedge plants that have emerged.

#### SPECIFIC USE SITE INFORMATION

## **Established Turfgrass**

**Bentazon 4** may be applied to established turfgrass growing in areas such as athletic fields, commercial or residential settings, golf courses, recreational areas, sod farms, or any other maintained area of established turfgrass.

Bentazon 4 may be used on the following established turfgrass species:

bluegrass, fescue, bentgrass, Bermudagrass, Bahiagrass, centipedegrass, zoysiagrass, ryegrass, St. Augustinegrass, carpetgrass, and buffalograss.

**Bentazon 4** will control annual sedges, common groundsel, common purslane, dayflower, wild mustard, and yellow nutsedge in established turfgrass. See Table 6 for other weeds controlled.

#### **Turf Restrictions and Limitations**

- **DO NOT** apply **Bentazon 4** to turfgrass that has been under stress such as drought, cold temperature, or injury from other herbicides or pesticides.
- DO NOT apply Bentazon 4 to any newly seeded or newly sprigged turfgrass until seedlings or sprigs are well established or injury may result.
- DO NOT use on golf course greens or collars.
- In perennial ryegrass, apply no more than 0.75 fl. oz. of **Bentazon 4** per 1,000 sq. ft. (16 fl. oz./A) (0.5 lb. a.i./A) in a single application and make subsequent applications no less than 21 days later.
- In unmowed established turfgrass, make the first application of **Bentazon 4** after emergence but before annual sedge, Canada thistle, and yellow nutsedge, are 8-inches tall. Annual broadleaf weeds should be no taller than 4 inches.
- For best control of broadleaf weeds, DO NOT mow turfgrass within 3 days before or after application.
- For best control of sedges, **DO NOT** mow turfgrass within 5 days of application.
- When treating turfgrass with **Bentazon 4**, avoid over-the-top spraying of adjacent ornamental trees, shrubs, and flowers unless otherwise specified in this label. Spraying near the base of established ornamental trees, shrubs, and flowers should not result in injury **except for sycamore and rhododendron.**

## **Tank Mixes on Established Turfgrass**

For post-emergence control of other broadleaf weeds or sedges not listed on this label, tank mix **Bentazon 4** with other products registered for use in turfgrass such as Image 70 DG herbicide, Turflon herbicide, 2,4-D, atrazine, MSMA, and mixes of 2,4-D, MCPP (mecoprop), or 2,4-DP (dichlorprop). Some of these products cannot be used on all turfgrass sites or species. Refer to the respective product labels for site and species restrictions. A tank mix with Segment herbicide may be used on centipedegrass and fine fescue species.

Determine the compatibility of the potential tank mix product before mixing with **Bentazon 4** in the spray tank. An anti-foaming agent may be used if needed. **DO NOT** use a surfactant or oil additive with 2,4-D; MCPP; or 2,4-DP.

Read each tank mix product label for Directions For Use, Precautionary Statements, and Restrictions and Limitations. The most restrictive labeling applies in all tank mixes.

Consult local professional authorities when using tank mix combinations other than those specified by RedEagle International, LLC. Otherwise, test a small area of the site with the desired tank mix combination and allow 7 to 10 days to evaluate the potential for injury.

## Ornamentals, Nursery, Noncropland Sites, Roadsides, and Rights-of-way

**Bentazon 4** may be applied over the top of certain ornamental species listed in **Table 3**. **DO NOT** apply oil concentrate in tank mix with **Bentazon 4** over the top of ornamentals. Because of the variability within species, in application technique and manner of use, it has not been fully determined if **Bentazon 4** can be safely used on all ornamentals or nursery plants under all growing conditions. Therefore, the user should apply to a few plants to determine if **Bentazon 4** can be safely used for broadscale application.

For all other landscape and ornamental trees, shrubs, flowers, and nursery plants not listed in Table 7, apply **Bentazon 4** as a directed spray away from the foliage of desired plants. **DO NOT** apply **Bentazon 4** as a directed spray under the tree line or over the roots of sycamore and rhododendron or injury may occur. **DO NOT** apply if the risk of injury to these plants is not acceptable.

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**Bentazon 4** may be used in sites where grass vegetation must be maintained.

**Table 7. Ornamental Species for Over-the-top Applications** 

amental Species for Over-the-top Applications	
Common Name	Scientific Name
Alumroot	Heuchera spp.
Apple (nonbearing) Arborvitae*1	Malus spp.
	Thuja occidentalis
Barberry, Japanese	Berberis thunbergii
Boxwood	Buxus spp.
Bugle, common <sup>1</sup>	Ajuga spp.
Butterfly bush	Buddleia davidii
Cabbage ornamental	Brassica spp.
Cape jasmine	Gardenia spp.
Chokeberry <sup>1</sup>	Photinia spp.
Coral bells <sup>1</sup>	Heuchera spp.
Cotoneaster	Cotoneaster spp.
Crabapple (nonbearing) <sup>1</sup>	Malus spp.
Crape myrtle	Lagerstroemia indica
Cypress, bald	Taxodium distichum
Daylily	Hemerocallis spp.
Dusty miller	Centaurea cineraria
Euonymus	Euonymus spp.
Gardenia, common	Gardenia spp.
Golden-rain tree	Koelreuteria bipinnata
Hawthorn, Indian	Raphiolepis indica
Holly	llex spp.
Holly, Chinese	Ilex cornuta
Holly, dwarf Chinese	llex cornuta
Holly, Japanese	Ilex crenata
Hydrangea	Hydrangea spp.
Jasmine	Jasminum spp.
Lily, plantain	Hosta fortunei
Lilyturf	Liriope spp.
Lilyturf, big blue	Liriope muscari
Liriope, creeping	Liriope spicata
Marigold	Tagetes spp.
Myrtle, wax	Myrica cerifera
Oak, red*1	Quercus rubra
Pachysandra <sup>1</sup>	Pachysandra terminalis
Petunia	Petunia hybrida
Photinia <sup>1</sup>	Photinia spp.
Pine, Mugo	Pinus mugo
Pine, white	Pinus strobus
Pittosporum, Japanese	Pittosporum tobira
Snapdragon	Antirrhinum majus
Yew	Taxus spp.
Yew hybrids <sup>1</sup>	Taxus x media
Yew, Japanese <sup>1</sup>	Taxus cuspidata
Yew, Southern	Podocarpus macrophyllus

<sup>\*</sup>Make no more than one application per crop per growing season. Some species within genera may vary in degree of tolerance. Prior to application across a large number of plants within the same species, test **Bentazon 4** on a small number of plants of that species and observe for 2 weeks. **DO NOT** apply crop oil with applications of **Bentazon 4** over the top to ornamentals or injury may occur.

1 Not for use in California.

## **Ornamentals and Nursery Restrictions and Limitations**

- **DO NOT** apply **Bentazon 4** to ornamental or nursery plants that have been subject to stress conditions such as hail damage, flooding, drought, extreme heat, or widely fluctuating temperatures or crop injury may result.
- **DO NOT** apply **Bentazon 4** if ornamental or nursery plants show injury (leaf phytotoxicity or plant stunting) produced by prior herbicide applications because this injury may be enhanced or prolonged.

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#### **Ornamental Tank Mixes**

#### Tank Mix of Bentazon 4 + Tower herbicide

Apply a tank mix of **Bentazon 4** plus Tower as a post-emergence directed spray to control yellow nutsedge and certain emerged broadleaf weeds listed on the **Bentazon 4** label. This tank mix will also control certain broadleaf and grass weeds listed on the Tower label that have not emerged. Apply this tank mix as a directed spray away from the foliage of ornamental plants. If any desirable plant foliage receives direct or indirect application, wash the solution off the foliage immediately. Read each tank mix product label for Directions For Use, Precautionary Statements, and Restrictions and Limitations. The most restrictive labeling applies in all tank mixes.

## Tank Mix of Bentazon 4 + Segment herbicide

A tank mix of **Bentazon 4** plus Segment may be applied to control yellow nutsedge, certain broadleaf weeds,-and annual and perennial grass weeds. This tank mix will not control weeds and grasses that have not emerged. Apply as a directed spray away from the foliage of ornamental plants. If any desirable plant foliage receives direct or indirect application, wash the solution off the foliage immediately. Read each tank mix product label for Directions For Use, Precautionary Statements, and Restrictions and Limitations. The most restrictive labeling applies in all tank mixes.

#### Other Tank Mixes

**Bentazon 4** may be tank mixed with other compatible products registered for use in ornamentals. Apply tank mixes of **Bentazon 4** and other products as a directed spray away from the foliage of ornamental plants. If any desirable plant foliage receives direct or indirect application, wash the solution off the foliage immediately.

When applying tank mixes not specified on this label, test the application on a small area to determine the safety of the anticipated tank mix. Evaluate the potential for injury 5 to 7 days later, before making a general application of this tank mix. Read each tank mix product label for Directions For Use, Precautionary Statements, and Restrictions and Limitations. The most restrictive labeling applies in all tank mixes.

## **DIRECTIONS FOR USE [Turf and Ornamental – residential]**

The following Directions For Use are applicable for residential use of **Bentazon 4** in established turfgrass and ornamentals. Read the entire label for Directions For Use and Precautionary Statements.

#### **Use Information**

**Bentazon 4** is a post emergence herbicide for selective control of listed broadleaf weeds, annual sedges, and yellow nutsedge in the following use sites:

- Established turfgrass
- Ornamentals

**Bentazon 4** does not control grasses. **Bentazon 4** is effective mainly through contact activity; therefore, all listed target weeds must be thoroughly covered with spray. Large weed leaf canopies shelter smaller weeds and prevent adequate spray coverage.

## **Application Information**

#### **Sprayer Equipment**

Apply **Bentazon 4** with handheld pump-up and knapsack sprayers, or hose-end type sprayers. Clean the sprayer thoroughly before applying **Bentazon 4**, particularly if the herbicide previously used has the potential to injure turfgrass or ornamentals.

Apply **Bentazon 4** with a minimum water volume of 1 gallon per 1,000 sq. ft. and a minimum spray pressure of 40 psi (measured at the boom, not at the pump or in the line).

## **Application Mixing Instructions**

Fill a thoroughly clean spray tank 1/2 to 2/3 full of clean water. Add **Bentazon 4** and shake or stir the spray solution to mix thoroughly. Add the remaining volume of water and shake or stir the spray solution to mix thoroughly. Mix only enough spray solution for one use. Use a fresh spray mixture for each application.

#### **Addition of Oil Concentrate**

A nonphytotoxic oil concentrate must be added to the spray tank for optimum weed control. **DO NOT** apply oil concentrate in tank mix with **Bentazon 4** over the top of ornamentals. The oil concentrate must contain either a petroleum-oil or vegetable-oil base and must meet all the following criteria:

- Nonphytotoxic,
- Contain only EPA-exempt ingredients,
- · Provide good mixing quality in the jar test (see following), and
- · Successful in local experience.

The exact composition of suitable products will vary; however, petroleum-oil or vegetable-oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils are more satisfactory than unrefined vegetable oils.

## **Application Mixing Instructions with Oil Concentrate**

Fill a thoroughly clean spray tank 1/2 to 2/3 full with clean water. Add **Bentazon 4** and shake or stir the spray solution so **Bentazon 4** and water mix thoroughly. Add the oil concentrate and the remaining volume of water. Again, shake or stir the spray solution so the **Bentazon 4**, oil concentrate and water mix thoroughly. Mix only enough spray solution for one use; use a fresh spray mixture for each application.

## Oil Concentrate Rate

For 1.0 to 2.0 gallons of water volume per 1,000 sq. ft. use 0.75 fl. oz. (5 teaspoons) of oil concentrate or a proportionate amount for other-sized areas.

Adding oil concentrate to **Bentazon 4** may cause a slight leaf burn on desired plants (turfgrass, ornamentals) when relative humidity and temperature are high. Refer to your **Bentazon 4** supplier for information on successful local experience before purchasing oil concentrate.

DO NOT apply Bentazon 4 plus oil concentrate with pesticides whose labels caution against their use with oil adjuvants.

## **Application Restrictions and Limitations**

- **DO NOT** exceed a total of 1 lb. active ingredient (bentazon) per acre in a single application or 2 lbs. active ingredient (bentazon) per acre per calendar year.
- **DO NOT** apply more than a total of 1.5 fl. oz. of **Bentazon 4** per 1,000 sq. ft. per calendar year.
- Rainfall or sprinkler irrigation within 8 hours after application may nullify the effectiveness of Bentazon 4.
- DO NOT apply during windy conditions because spray drift may cause damage to adjacent desired ornamental plants.
- **DO NOT** apply **Bentazon 4** during prolonged periods of drought or during unseasonably cold weather because unsatisfactory weed control may result.
- DO NOT cultivate or mow within five days before or after Bentazon 4 application.

#### Weeds Controlled

Apply **Bentazon 4** early post-emergence to listed small, actively growing weeds before they reach the maximum size listed in Table 8. Early application to newly emerged or small weeds will provide the most effective weed control. Delaying application will allow continuing growth beyond the maximum size stated and will result in adequate control.

**Table 8. Weeds Controlled** 

Table 8. Weeds Controlled						
			Bentazon 4	Application Rate		
Common Name	Scientific Name	0.55 fl. oz./1 (12 fl. oz./A a.i./	A) (0.38 lb. (A)	0.75 fl. oz./1,000 sq. ft. (16 fl. oz./A) (0.5 lb. a.i./A) Growth Stage		
		Leaf Stage	Maximum Height (inches)	Leaf Stage	Maximum Height (inches)	
Anoda, Spurred	Anoda cristata	Up to 6	3	6 to 8	4	
Balloonvine	Cardiospermum halicacabum	2 to 4	2	4 to 6	3	
Beggarticks	Bidens frondosa	Up to 6	6	6 to 8	8	
Bristly starbur	Acanthospermum hispidum	NR		4 to 6	3	
Buckwheat, wild	Polygonum convolvulus	Up to 4	3	4 to 6	5	
Cocklebur	Xanthium strumarium	2 to 6*	6	6 to 10	10	
Coffee Senna	Cassia occidentalis	NR		Up to 1 pinnate	2	
Dayflower	Commelina spp.	Up to 6	4	6 to 10	8	
Devil's claw	Proboscidea louisiana	NR		Up to 6*	3	
Galinsoga	Galinsoga spp.	NR		Cotyledon to 6*	2	
Groundsel, common	Senecio vulgaris	NR		2 to 10	6	
Jimsonweed	Datura stramonium	Up to 6	6	6 to 10	10	
Ladysthumb	Polygonum persicaria	Up to 6	6	6 to 10	10	
Mallow, Venice <sup>2</sup>	Hibiscus trionum	Up to 6	2	6 to 10	4	
Mustard, wild	Sinapsis arvensis	Up to 6	4	6 to 10	8	
Nutsedge, yellow	Cyperus esculentus	See Special Directions for Problem Weeds		Weeds		
Poinsettia, wild	Euphorbia heterophylla	2 to 4 4		4 to 8*	6	
Prickly sida/Teaweed	Sida spinosa	Up to 6	3	6 to 8	4	
Purslane, common	Portulaca oleracea	Up to 4	1	4 to 6	2	
Ragweed, common	Ambrosia artemisiifolia	NR	_	4 to 6*	3	
Ragweed, giant	Ambrosia trifida	NR		Up to 4	6	

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					- 0 -
Redweed	Melochia corchorifolia	4 to 6	6	6 to 10	8
Sedge, annual	Cyperus compressus	NR	6 to 8	NR	6 to 8
Sesbania	Sesbania exaltata	NR	_	3 to 5*	3
Shepherd's purse <sup>1</sup>	Capsella bursa-pastoris	Up to 6	4	6 to 10	8
Smartweed, Pennsylvania	Polygonum pennsylvanicum	Up to 6	6	6 to 10	10
Spurweed/Lawn burweed	Soliva pterosperma	NR	_	2 to 6	3
Sunflower, wild	Helianthus annuus	Up to 4	5	4 to 6	8
Thistle, Canada	Cirsium arvense	See Special Directions for Problem Weeds			
Thistle, musk	Carduus nutans				
Velvetleaf	Abutilon theophrasti	Up to 4	2	4 to 6	5

<sup>\*</sup>DO NOT treat earlier than leaf stage shown. DO NOT count cotyledon leaves.

## **Special Directions for Problem Weeds**

#### Canada thistle

Apply 0.75 fl. oz. of **Bentazon 4** per 1,000 sq. ft. when Canada thistle is from 8-inches tall to the bud stage. If desired control is not obtained with the first application, make a second application at the same rate 7 to 10 days later or when new growth appears.

#### Musk thistle

Apply 0.75 fl. oz. of **Bentazon 4** per 1,000 sq. ft. when Musk thistle is in the rosette stage no larger than 10 inches in diameter. If desired control is not obtained with the first application, make a second application at the same rate 7 to 10 days later or when new growth appears.

## **Specific Use Site Information**

#### **Established Turfgrass**

**Bentazon 4** may be used on established bluegrass, fescue, bentgrass, Bermudagrass, Bahiagrass, centipedegrass, zoysiagrass, ryegrass, and St. Augustinegrass.

**Bentazon 4** will control yellow nutsedge in established turfgrass. Refer to Table 9 for water volumes and **Bentazon 4** use rates.

To control yellow nutsedge, apply no more than 0.75 fl. oz. of **Bentazon 4** per 1,000 sq. ft. in a single application when plants are 6 to 8 inches tall. If desired control is not obtained, make a second application at the same rate 7 to 10 days later or when new growth appears. Apply no more than 1.5 fl. oz. of **Bentazon 4** per 1,000 sq. ft. per calendar year.

In unmowed turfgrass, make the first application of **Bentazon 4** after emergence but before yellow nutsedge is 8 inches tall. Thorough spray coverage of yellow nutsedge is essential for maximum control. For best control, **DO NOT** mow turfgrass within 3 days before or after application.

Yellow nutsedge emerges May through July in the northern United States, but it emerges throughout the year in the southern United States. Plan initial applications when yellow nutsedge has emerged because **Bentazon 4** will only control nutsedge plants that have emerged.

Table 9. Application Rate for Established Turfgrass

Spray Area (sq. ft.)	Bentazon 4 (fl. oz.)	Water <sup>1</sup> as Spray Carrier (gallons)
200	0.15 (1 teaspoon)	0.2 to 0.4 (1.6 to 3.2 pints)
400	0.3 (2 teaspoons)	0.4 to 0.8 (3.2 to 6.4 pints)
1.000	0.75 (5 teaspoons)	1 to 2

<sup>&</sup>lt;sup>1</sup>Quantity of water required to uniformly spray this area with your sprayer. Use a minimum water volume of 1 gallon per 1,000 sq. ft. with a minimum pressure measured at the nozzle of 40 psi.

Weeds also controlled by **Bentazon 4** in turfgrass are: annual sedges, beggarticks, Canada thistle, chickweed, cocklebur, common groundsel, common purslane, galinsoga, jimsonweed, ladysthumb, lambsquarters, musk thistle, shepherd's purse, smartweed, spurweed, velvetleaf, Venice mallow, wild buckwheat, wild mustard, and wild poinsettia. These weeds are not registered for control in California.

In unmowed turfgrass, make the first application of **Bentazon 4** after emergence but before annual sedge and Canada thistle are 8-inches tall, and other annual broadleaf weeds are 4 inches tall. For best sedge control, **DO NOT** mow within 5 days of application.

Weeds suppressed by **Bentazon 4** in turfgrass include: common ragweed, giant ragweed, morningglory, and wild sunflower. These weeds are not registered for suppression in California.

DO NOT treat rosette before seed stalk appears.

<sup>&</sup>lt;sup>∠</sup>Not for use in California.

NR = Not recommended for use.

Weeds not controlled by **Bentazon 4** include: purple nutsedge, pigweed, plantain, dandelion, onion/garlic, wood sorrel, and spurge.

## **Turfgrass Restrictions and Limitations**

- In California, **Bentazon 4** is registered for use only in established turfgrass to control yellow nutsedge.
- **DO NOT** apply **Bentazon 4** to turfgrass that has been under stress such as drought, cold temperature, or injury from other herbicides.
- DO NOT apply Bentazon 4 to any newly seeded or newly sprigged turfgrass until seedlings or sprigs are well
  established or injury may result.
- DO NOT apply Bentazon 4 to golf course greens or collars.
- In perennial ryegrass, apply no more than 0.75 fl. oz. of **Bentazon 4** per 1,000 sq. ft. at one time. Make a second application no less than 21 days later.
- When treating turfgrass with **Bentazon 4**, avoid over the top spraying of adjacent ornamental trees, shrubs, and flowers unless otherwise specified in this label.

#### **Ornamentals**

Apply **Bentazon 4** at the rates listed in Table 8 when weeds are actively growing and before they reach the maximum size.

**Bentazon 4** may be applied over the top of certain ornamental species listed in Table 10. **DO NOT** apply oil concentrate in tank mix with **Bentazon 4** over the top of ornamentals. Because of the variability within species, in application technique, and manner of use, it has not been fully determined if **Bentazon 4** can be safely used on all ornamental plants under all growing conditions. Therefore, the user should apply to a few plants to determine if **Bentazon 4** can be safely used for broad-scale application. Some leaf speckling and leaf bronzing may occur under certain conditions.

For all other landscape and ornamental trees, shrubs, flowers, and nursery plants not listed in Table 3, apply **Bentazon 4** as a directed spray away from the foliage of desired plants. **DO NOT** apply **Bentazon 4** as a directed spray under the tree line or over the roots of sycamore and rhododendron or injury may occur. **DO NOT** apply if the risk of injury to these plants is not acceptable.

**Table 10. Ornamental Species for Over-the-top Applications** 

Common Name	Scientific Name
Alumroot	Heuchera spp.
Apple (nonbearing)	Malus spp.
Arborvitae*1	Thuja occidentalis
Barberry, Japanese	Berberis thunbergii
Boxwood	Buxus spp.
Bugle, common <sup>1</sup>	Ajuga spp.
Butterfly bush	Buddleia davidii
Cabbage ornamental	Brassica spp.
Cape jasmine	Gardenia spp.
Chokeberry <sup>1</sup>	Photinia spp.
Coral bells <sup>1</sup>	Heuchera spp.
Cotoneaster	Cotoneaster spp.
Crabapple (nonbearing) <sup>1</sup>	Malus spp.
Crape myrtle	Lagerstroemia indica
Cypress, bald	Taxodium distichum
Daylily	Hemerocallis spp.
Dusty miller	Centaurea cineraria
Euonymus	Euonymus spp.
Gardenia, common	Gardenia spp.
Golden-rain tree	Koelreuteria bipinnata
Hawthorn, Indian	Raphiolepis indica
Holly	llex spp.
Holly, Chinese	Ilex cornuta
Holly, dwarf Chinese	Ilex cornuta
Holly, Japanese	Ilex crenata
Hydrangea	Hydrangea spp.
Jasmine	Jasminum spp.
Lily, plantain	Hosta fortunei
Lilyturf	Liriope spp.
Lilyturf, big blue	Liriope muscari
Liriope, creeping	Liriope spicata

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Common Name	Scientific Name
Marigold	Tagetes spp.
Myrtle, wax	Myrica cerifera
Oak, red*1	Quercus rubra
Pachysandra <sup>1</sup>	Pachysandra terminalis
Petunia	Petunia hybrida
Photinia <sup>1</sup>	Photinia spp.
Pine, Mugo	Pinus mugo
Pine, white	Pinus strobus
Pittosporum, Japanese	Pittosporum tobira
Snapdragon	Antirrhinum majus
Yew	Taxus spp.
Yew hybrids <sup>1</sup>	Taxus x media
Yew, Japanese <sup>1</sup>	Taxus cuspidata
Yew, Southern	Podocarpus macrophyllus

<sup>\*</sup>Make no more than one application per crop per growing season. Some species within genera may vary in degree of tolerance. Prior to application across a large number of plants within the same species, test **Bentazon 4** on a small number of plants of that species and observe for 2 weeks. **DO NOT** apply crop oil with applications of **Bentazon 4** over the top to ornamentals or injury may occur.

<sup>1</sup>Not for use in California.

## **Ornamental Restrictions and Limitations**

- **DO NOT** apply **Bentazon 4** to desirable plants that have been subject to stress conditions such as hail damage, flooding, drought, extreme heat, or widely fluctuating temperatures or crop injury may result.
- **DO NOT** apply **Bentazon 4** if desirable plants show injury (leaf phytotoxicity or plant stunting) produced by prior herbicide applications because this injury may be enhanced or prolonged.

## STORAGE AND DISPOSAL [Agricultural and Turf and Ornamental (Commercial)]

**DO NOT** contaminate water, food, or feed by storage or disposal.

## **Pesticide Storage**

**DO NOT** store at less than 32°F and **DO NOT** allow product to freeze.

## **Pesticide Disposal**

Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

#### **CONTAINER DISPOSAL**

**Nonrefillable Container. DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**Triple rinse containers small enough to shake (capacity < 5 gallons) 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.

**Triple rinse containers too large to shake (capacity > 5 gallons) 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 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.

## Storage and Disposal [residential use ]

**DO NOT** contaminate water, food, or feed by storage or disposal.

#### **Pesticide Storage**

Keep pesticide in original container. **DO NOT** put concentrate or dilute spray into food, feed, or drink containers. Avoid contamination of feed and foodstuffs. Store in a cool, dry place, preferably in a locked storage area. **DO NOT** store diluted spray.

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**Pesticide Disposal and Container Handling** 

Nonrefillable container. DO NOT reuse or refill this container.

If empty: Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

# IMPORTANT INFORMATION READ BEFORE USING PRODUCT

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use for this product must be followed carefully. The Directions for Use for this product reflect the opinion of experts based on field use and tests. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of RedEagle International, LLC or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of RedEagle International, LLC and Seller. To the fullest extent allowed by State law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold RedEagle International, LLC and Seller harmless for any claims relating to such factors.

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