

This information is for promotional purposes only. Space considerations may require information to be omitted. Always refer to the actual package for complete label verbiage. This product may not yet be available or approved for sale or use in your area.

IMAZAMOX	GROUP	2	HERBICIDE
BENTAZON	GROUP	6	HERBICIDE



OCTIVIO™

PULSE



Contains imazamox and bentazon, the active ingredients used in Varisto® Herbicide.

For use in clover grown for seed, dry beans, dry peas, English pea (succulent), lima bean (succulent), snap bean, and soybean

ACTIVE INGREDIENTS:	(% by weight)
sodium salt of imazamox: 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid	2.00%
sodium salt of bentazon: (3-(1-methylethyl)-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2-dioxide)	43.66%
OTHER INGREDIENTS:	54.34%
TOTAL:	100.0%

1 gallon is equivalent to 1.87% or 0.187 pound of imazamox acid and 40.0% or 4.0 pounds of bentazon acid, formulated as a soluble liquid.

EPA Reg. No.: 91234-127

KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCION

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

See below for additional Precautionary Statements.

FIRST AID	
If swallowed:	<ul style="list-style-type: none"> Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
If on skin or clothing:	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If in eyes:	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at 1-844-685-9173 for emergency medical treatment information.	

**For Chemical Emergency:
Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night**

Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

OCTIVIO™ PULSE is not manufactured, or distributed by BASF Corporation, seller of Varisto® Herbicide.



Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- 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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly after handling 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

This pesticide may be hazardous to plants outside the treated area. DO NOT apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as directed in this label. Off-site movement from spray drift, volatilization, and runoff may be hazardous to neighboring crops and vegetative habitat used for food and cover by wildlife and aquatic organisms. DO NOT contaminate water when disposing of equipment washwater or rinsate.

Bentazon 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.

PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow to come in contact with oxidizing agents. Hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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

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.

Observe all precautions and limitations in this label and the labels of products used in combination with **ACTIVIO™ PULSE**. DO NOT apply **ACTIVIO™ PULSE** in any manner not specifically described in this label. Keep containers closed to avoid spills and contamination.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions, and Conditions of Sale and Warranty are to be followed.

AGRICULTURAL USE REQUIREMENTS

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

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

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

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

- Coveralls
- Waterproof gloves
- Shoes plus socks

PRODUCT INFORMATION

ACTIVIO™ PULSE controls broadleaf weeds and grass weeds by postemergence contact and systemic activity. After an application of **ACTIVIO™ PULSE**, susceptible weeds may show yellowing, bronzing, and necrosis. Adequate soil moisture is important for optimum **ACTIVIO™ PULSE** activity. When adequate soil moisture is present, **ACTIVIO™ PULSE** provides residual activity on susceptible germinating weeds. Activity on established weeds depends on weed species and the location of its root system in the soil.

When organophosphate insecticide or carbamate insecticide is tank mixed with **ACTIVIO™ PULSE**, temporary injury to the treated crop may result. Separate organophosphate and **ACTIVIO™ PULSE** application by at least 7 days to reduce potential for injury.

All labeled crops are tolerant to **ACTIVIO™ PULSE**. 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. Occasionally, internode shortening and/or temporary yellowing of crop plants may occur following **ACTIVIO™ PULSE** application. These effects can be more pronounced if crops are growing under stressful environmental or hot and humid conditions. These effects occur infrequently and are temporary. Normal growth and appearance should resume within 1 to 2 weeks. Use of **ACTIVIO™ PULSE** is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with use of this product and, therefore, rotational crop injury is always possible.



Replanting

If replanting is necessary in a field previously treated with **OCTIVIO™ PULSE**, the field may be replanted to Clearfield® corn, lentil, and rice; dry beans and dry peas except non-Clearfield lentil; English pea; lima bean (succulent); snap bean; or soybean. Rework the soil no deeper than 2 inches. **DO NOT** apply a second treatment of **OCTIVIO™ PULSE**. **DO NOT** apply another ALS-inhibiting herbicide if replanting is required.

Mode of Action

OCTIVIO™ PULSE contains two herbicide active ingredients: imazamox and bentazon. Imazamox, a Group 2 (WSSA) herbicide, inhibits branched chain amino acid production in plants by inhibition of the enzyme acetolactate synthase (ALS) or acetohydroxy acid synthase (AHAS). Bentazon, a Group 6 (WSSA) herbicide, inhibits photosynthesis at photo system II (PS II). **OCTIVIO™ PULSE** is readily absorbed by leaves. Growth of susceptible plants is inhibited within a few hours after application. Chlorosis begins 3 to 5 days after application followed by foliar desiccation and necrosis. Foliar bronzing may occur on tolerant crops such as soybean. Any weed population may contain plants naturally resistant to either Group 2 or Group 6 or both herbicides. Weeds resistant to Group 2 or Group 6 herbicides may be effectively managed using herbicide(s) from a different group and/or by using cultural or mechanical practices. Consult your local Atticus representative, state cooperative extension service, professional consultants, or other qualified authority to determine appropriate actions if you suspect resistant weeds.

Resistance Management

For resistance management, please note that **OCTIVIO™ PULSE** contains both a Group 2 (imazamox) and a Group 6 (bentazon) herbicide. Any weed population may contain plants naturally resistant to Group 2 and/or Group 6 herbicides. The resistant individuals may dominate the weed population if these herbicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of **OCTIVIO™ PULSE** or other Group 2 and/or Group 6 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. 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. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact your Atticus, LLC representatives at 984-465-4754.

Chemical Control

- Start clean with tillage or an effective burndown herbicide program.
- DO NOT rely on a single herbicide site of action for weed control for the growing season.
- Follow labeled application rate and weed growth stage specifications.
- Use of preemergence herbicides that provide soil residual control of broadleaf and grass weeds is recommended to reduce early season weed competition and allow for more timely in-crop postemergence herbicide applications.
- Avoid repeat application of herbicides with the same site of action.
- Use tank mixes and sequential applications with other effective herbicides possessing different sites of action; include herbicides that provide residual control.

Scouting and Containment

- Scout fields after herbicide application to identify areas where weed control was ineffective.
- To reduce future weed populations, control weed escapes with herbicides possessing a different site of action or mechanical control.
- Clean equipment between sites to avoid moving plant material between sites.

Spray Additives

Postemergence application of **OCTIVIO™ PULSE** requires the addition of an adjuvant and nitrogen fertilizer unless otherwise directed in this label.

Adjuvants

When an adjuvant (or a specific adjuvant product, such as a drift control agent) is to be used with this product, the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant is recommended.

To achieve consistent weed control, an adjuvant [methylated seed oil (MSO), crop oil concentrate (COC), or nonionic surfactant (NIS)] AND a nitrogen fertilizer [urea ammonium nitrate (UAN) or ammonium sulfate (AMS)] are required. The addition of an adjuvant 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 Crop-specific Information for restriction of additive use on specific crops.



Methylated Seed Oil

MSO is recommended when weeds are under moisture or temperature stress. Use methylated seed oil at 1 gallon/100 gallons of spray solution [1% volume/volume (v/v)].

OR

Crop Oil Concentrate

Use COC adjuvant at 1 to 2 gallons/100 gallons of spray solution (1% to 2% v/v). Use high surfactant oil concentrate (HSOC) at 0.5 gallon/100 gallons of spray solution (0.5% v/v).

OR

Nonionic Surfactant

Use NIS containing at least 80% active ingredient. Apply surfactant at 1 quart/100 gallons of spray solution (0.25% v/v). Organosilicone surfactant may be used instead of NIS.

AND

Nitrogen Fertilizer

Recommended nitrogen-based fertilizers include liquid fertilizers (such as liquid AMS, 28% N, 32% N, or 10-34-0) at 2.5 gallons/100 gallons of spray solution. Instead of liquid fertilizer, spray grade AMS may be used at 12 lbs to 15 lbs/100 gallons of spray solution.

TANK MIX 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 Mixing Order using 2 teaspoons for each pound or 1 teaspoon for each pint of 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, fine particles that precipitate to the bottom, or thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible,

DO NOT mix the ingredients in the same tank.

Tank Mix Combinations with other Herbicides

See Crop-specific Information for details. 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. **DO NOT** exceed label dosages. **DO NOT** mix **OCTIVIO™ PULSE** with any product containing a label prohibiting such mixtures. Make separate applications if target weeds are not all at the labeled growth stage for treatment at the same time.

Mixing Order

Maintain agitation throughout mixing and application until spraying is completed. If other herbicides or other spray tank components are tank mixed with **OCTIVIO™ PULSE**, while agitating, add components in the following order and thoroughly mix after adding each component.

1. Fill spray tank 1/2 to 3/4 full with clean water.
2. Add soluble-packet products and thoroughly mix.
3. Add WP (wetttable powder), DG (dispersible granule), DF (dry flowable), or liquid flowable formulations not in soluble packets.
4. Add **OCTIVIO™ PULSE** and thoroughly mix.
5. Add other aqueous solution products.
6. Add EC (emulsifiable concentrate) products.
7. Add adjuvant or surfactant to spray tank.
8. Add nitrogen fertilizer solution.
9. Fill remainder of the tank with water.

SPRAYING INSTRUCTIONS

When applied by ground or air, **OCTIVIO™ PULSE** spray drift or other indirect contact may injure sensitive crops including, but not limited to: non-imidazolinone-tolerant canola, lentil, rice, sunflower, or wheat; cotton; leafy vegetables; okra; and sugar beet. **DO NOT** apply when wind conditions may result in drift, when temperature inversion conditions exist, or when spray may be carried to sensitive crops.

Ground Application

For best performance, uniformly apply with properly calibrated ground equipment in 10 gallons to 20 gallons of spray solution per broadcast acre at a spray pressure of 40 PSI (measured at the boom, not at the pump or in the line).

To ensure thorough coverage, use a minimum of 20 gallons of water per acre when applying **OCTIVIO™ PULSE** to minimum-till or no-till crops. Use higher volumes for fields with dense vegetation or heavy crop residue.

Adjust boom height to ensure proper coverage of weed foliage (according to the manufacturer's instructions). Use flat-fan nozzle tips or similar appropriate nozzle tips to ensure adequate coverage. Avoid overlaps when spraying.

Apply using spray nozzles that deliver medium-to-coarse spray droplets as defined by ASABE standard S-572.1 and as shown in the nozzle manufacturer's spray catalogs. **DO NOT** use flood, whirl chamber, or controlled droplet applicator (CDA) nozzles or selective application equipment such as recirculating sprayers or wiper applicators. **DO NOT** use brass nozzles because of the corrosive effects of nitrogen additives.

Aerial Application

OCTIVIO™ PULSE may be applied by air to all crops listed on this label.

DO NOT apply **OCTIVIO™ PULSE** by air if sensitive crops (including, but not limited to: non-imidazolinone-tolerant canola, lentil, rice, sunflower, or wheat; cotton; leafy vegetables; okra; and sugar beet) are within 200 feet downwind.

DO NOT apply when conditions favor drift from target area or when wind speed is greater than 10 mph. **DO NOT** apply **OCTIVIO™ PULSE** by aircraft when wind is blowing more than 10 mph.

Use coarse sprays (larger droplets) because they are less likely to drift.

Uniformly apply with properly calibrated equipment in 5 or more gallons of water per acre. Spray pressure of aerial application can be up to 40 PSI.

The applicator must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.



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

Applicators must follow these requirements to reduce the potential of spray drift to nontarget areas from aerial application.

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

Information on Droplet Size

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

Controlling droplet size:

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

Boom Length

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

Application Height

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

Swath Adjustment

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

Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. DO NOT make applications when wind speed is below 2 mph because of variable wind direction and high inversion potential.

NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

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

Temperature Inversion

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

Sensitive Areas

Applications of this pesticide must only be made when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or nontarget crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

The applicator is responsible for any loss or damage which results from spraying **OCTIVIO™ PULSE** in a manner other than specified in this label. In addition, the applicator must follow all applicable state and local regulations and ordinances in regard to spraying.

APPLICATION INFORMATION

Apply **OCTIVIO™ PULSE** postemergence as broadcast, band, or spot-spray application when weeds are small or actively growing and before they exceed the maximum specified size (see Weeds Controlled section).

For best control, apply **OCTIVIO™ PULSE** at specified rates to actively growing weeds when weeds are small before they reach maximum sizes listed in Table 1. Early application produces the most beneficial effect on weed control (EXCEPTIONS: yellow nutsedge and Canada thistle) and makes thorough spray coverage easier to obtain. Delaying application allows weeds to exceed the maximum specified size and will prevent adequate control.

In general, apply **OCTIVIO™ PULSE** when weeds are less than 3-inches tall and actively growing. Weeds must be thoroughly covered with spray. Dense leaf canopies shelter smaller weeds and can prevent adequate spray coverage. In irrigated areas, it may be necessary to irrigate before treatment to ensure active weed growth because weeds growing under drought conditions usually are not satisfactorily controlled.

An adjuvant (COC, MSO, or NIS) AND a nitrogen fertilizer MUST be added to the spray solution for best weed control, except as indicated in Crop-specific Information (refer to requirements and restrictions of adjuvant use for specific crops). Refer to the Adjuvants section for specific instructions and rates required.

When **OCTIVIO™ PULSE** is applied postemergence, absorption will occur through both roots and foliage. Susceptible weeds stop growing and die or are not competitive with the crop. **OCTIVIO™ PULSE** not only controls many existing broadleaf weeds and grass weeds when applied postemergence, it is also active on susceptible weeds that may emerge shortly after application.

Weeds are most easily controlled when actively growing. Under cold temperature conditions (less than 40° F maximum daytime temperature), weed control may be less than optimal.



Cleaning Spray Equipment

To avoid injury to sensitive crops, spray equipment used for **OCTIVIO™ PULSE** application must be drained and thoroughly cleaned with water before being used to apply other products.

RESTRICTIONS (ALL CROPS)

- DO NOT cultivate within 5 days before applying **OCTIVIO™ PULSE** or within 7 days after application. Timely cultivation after 7 days may help provide overall weed control, especially under dry conditions.
- DO NOT apply more than a total of 2.0 pounds of bentazon ai (from all sources) per acre, per season.
- DO NOT apply through any type of irrigation system.
- DO NOT apply when conditions favor drift from target area or when wind speed is greater than 10 mph.
- DO NOT tank mix organophosphate insecticide or carbamate insecticide with **OCTIVIO™ PULSE** unless otherwise specified in writing by Atticus, LLC.

PRECAUTIONS

- DO NOT apply to weeds under stress such as lack of moisture, mechanical injury, cold temperatures, hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures or unsatisfactory control 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 **OCTIVIO™ PULSE**.

WEEDS CONTROLLED

OCTIVIO™ PULSE applied postemergence will control or suppress weeds listed in Table 1.

Weed	OCTIVIO™ PULSE (fl ozs/A)		
	16	21	27
	Weed Size (inches)		
Broadleaf Weeds Controlled			
Anoda, spurred	-	-	3
Artichoke, Jerusalem	-	-	3 to 8
Balloonvine	-	-	2
Bedstraw	-	3	3
Beet, wild	-	3	3
Beggarticks	-	-	6
Buckwheat, wild	-	-	3
Buttercup	-	3	3
Canola, volunteer (non-Clearfield®)	-	3	3
Chickweed, common	-	-	3
Cocklebur, common	4	4	2 to 8
Croton, topic	-	-	2
Dayflower	-	-	4
Devil's-claw	-	4	4
Eclipta	-	-	2
Flixweed	-	3	3
Jimsonweed	4	4	6
Knotweed, prostrate	-	-	3
Lambsquarters, common (east of Rocky Mountains)	-	1.5	2 to 5
Lambsquarters, common (west of Rocky Mountains)	-	-	2 to 5
Lettuce, miner's	-	-	3
Mallow, common	-	3	3
Mallow, Venice	2	2	1 to 4
Marshelder	-	-	2 to 4
Mayweed/Dogfennel	-	-	2
Morningglory, entireleaf	-	-	3
Morningglory, ivyleaf	-	-	3
Morningglory, smallflower	-	-	3
Morningglory, tall	-	-	3
Mustard, black	3	3	3
Mustard, tumble	3	3	3
Mustard, wild	3	3	3
Nettle, burning	-	-	2
Nettleleaf goosefoot	-	3	3
Nightshade, black	3	3	3
Nightshade, Eastern black	3	3	3
Nightshade, hairy	3	3	3
Pennycress, field	3	3	3
Pigweed, prostrate	-	-	2 to 5

(continued)



Table 1. Weeds Controlled and Suppressed (cont.)

	OCTIVIO™ PULSE (fl ozs/A)		
	16	21	27
	Weed Size (inches)		
Broadleaf Weeds Controlled (cont.)			
Pigweed, redroot	3	3	4
Pigweed, smooth	3	3	4
Pigweed, spiny	3	3	3
Puncturevine	-	3	3
Purslane, common	-	-	1
Radish, volunteer	-	-	4
Radish, wild	-	3	3
Redweed	-	-	6
Rocket, London	-	-	3
Rocket, yellow	-	-	4
Shepherd's-purse	3	3	4
Sida, prickly/Teaweed	-	-	3
Smartweed, ladysthumb	4	4	6
Smartweed, Pennsylvania	4	4	6
Smartweed, swamp	-	-	3
Spurge, prostrate	-	-	3
Starbur, bristly	-	-	2
Sugar beet, volunteer	-	-	2 to 4 leaf
Sunflower, wild or volunteer (non-Clearfield®)	3	3	2 to 8
Swinecress	-	-	3
Tansymustard, green	-	3	3
Thistle, Russian	-	-	3
Velvetleaf	2	3	3
Willoweed panicle	-	-	3
Broadleaf Weeds Suppressed			
Amaranth, Palmer (ALS-susceptible)	-	-	2 to 4
Bindweed, field (seedling)	-	-	2 to 4
Bindweed, hedge (seedling)	-	-	2 to 4
Buckwheat, wild	-	3	-
Chickweed, common	-	3	-
Dandelion	-	3	3
Dock, curly	-	-	3
Flax	-	2	2
Knotweed, prostrate	-	3	-
Kochia, non-ALS resistant	-	3	3
Lambsquarters, common	1	3	-
Lettuce, miner's	-	3	-
Morningglory, cypressvine	-	-	4
Morningglory, entireleaf	-	3	-
Morningglory, ivyleaf	-	3	-
Morningglory, pitted	-	-	2 to 4
Morningglory, smallflower	-	3	-
Morningglory, tall	-	3	-
Poinsettia, wild	-	-	4
Purslane, common	-	3	-
Ragweed, common (ALS-susceptible)	-	-	3
Ragweed, giant (ALS-susceptible)	-	-	3
Rocket, London	-	3	-
Rocket, yellow	-	3	-
Sida, prickly/Teaweed	-	-	2 to 4
Sowthistle, annual	-	-	2 to 4
Spurge, prostrate	-	3	-
Thistle, Canada	-	-	2 to 5
Grass Weeds and Sedge Controlled			
Barley, Wild	-	-	2 to 4
Barnyardgrass	-	-	3
Blackgrass	-	3	3
Brome, California	-	3	3
Brome, cheat	-	3	3
Brome, downy	-	3	3
Brome, Japanese	-	3	3
Canarygrass, littleseed	-	3	3

(continued)



Table 1. Weeds Controlled and Suppressed (cont.)

	OCTIVIO™ PULSE (fl ozs/A)		
	16	21	27
	Weed Size (inches)		
Broadleaf Weeds Suppressed (cont.)			
Cereals, volunteer barley	-	3	3
Cereals, volunteer oat	-	3	3
Cereals, volunteer wheat (non-Clearfield®)	-	3	3
Corn, Volunteer (non-Clearfield®)	-	2 to 8	2 to 8
Darnel, Persian	-	3	3
Foxtail, giant	-	3	3
Foxtail, green	-	3	3
Foxtail, yellow	-	3	3
Goatgrass, jointed	-	3	3
Johnsongrass, seedling	-	-	4 to 8
Lovegrass	-	3	3
Millet, wild proso	-	-	3
Nutsedge, yellow	-	-	8
Oat, wild	-	3	3
Panicum, fall	-	-	2 to 6
Quackgrass, seedling	-	3	3
Rye, feral or cereal	-	-	3
Ryegrass, Italian	-	3	3
Shattercane	-	3	3
Signalgrass, broadleaf (light to moderate population density only)	-	-	2 to 5
Grass Weeds and Sedge Suppressed			
Barnyardgrass	-	3	-
Crabgrass, large	-	3	3
Crabgrass, smooth	-	3	3
Cupgrass, woolly	-	-	2 to 4
Fescue, rattail	-	1	1
Goosegrass	-	-	2 to 4
Johnsongrass, rhizome	-	3	3
Nutsedge, purple	-	3	3
Nutsedge, yellow	-	3	-
Quackgrass, rhizome	-	3	3
Stinkgrass	-	-	2 to 4

CROP-SPECIFIC INFORMATION

CLOVER GROWN FOR SEED

For use only in Oregon and Washington. For use only in fields of clover grown for seed production.

Clover is tolerant to **OCTIVIO™ PULSE**; however, some leaf burning may occur under certain conditions. Clover plants generally outgrow this condition within 10 days.

Application Rate and Timing

Apply **OCTIVIO™ PULSE** postemergence at 21 fl ozs/A to 27 fl ozs/A before clover bloom when clover has a minimum of 2 trifoliate leaves, and when the majority of weeds are 1-inch to 3-inches tall.

An adjuvant and nitrogen fertilizer must be used with **OCTIVIO™ PULSE** on clover. COC, MSO, or NIS may be used. Refer to the Adjuvants section for the recommended adjuvant and nitrogen fertilizer. Using COC and MSO with **OCTIVIO™ PULSE** on clover grown for seed may increase injury and may reduce yield.

Clover Grown for Seed

Restrictions

- DO NOT make more than one application of **OCTIVIO™ PULSE** per growing season.
- DO NOT apply more than 27 fl ozs of **OCTIVIO™ PULSE/A** per season to clover grown for seed.
- DO NOT graze livestock or harvest forage or hay for livestock feed for at least 36 days after treatment.

PRECAUTIONS

- DO NOT apply to clover subjected to stress conditions, such as hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures, or crop injury may result.

DRY BEANS

DO NOT apply **OCTIVIO™ PULSE** to dry beans in California.

OCTIVIO™ PULSE may be applied to the following types of dry beans:

- Adzuki
- Anasazi
- Black
- Black turtle
- Cranberry
- Faba/fava
- Great Northern
- Lima(dry)
- Navy
- Pink
- Pinto
- Red kidney
- Small red
- Small white



Reduced crop growth and quality; leaf burning, bronzing, and speckling; yellowing; delayed maturity; and reduced yield may result from application of **OCTIVIO™ PULSE** to dry bean types listed on this label. Because crop maturity may be delayed, adjust timing of harvest accordingly. **DO NOT** apply **OCTIVIO™ PULSE** if planting is delayed and chance of frost before maturity is likely. Some dry bean varieties are more sensitive to **OCTIVIO™ PULSE**. Growers should check with the seed company regarding the safety of **OCTIVIO™ PULSE** on their variety.

Unusually cool temperatures (50° F or less) reduce photosynthesis and transpiration and, thus, reduce uptake, translocation, and efficacy of **OCTIVIO™ PULSE** in weeds. Delaying application of **OCTIVIO™ PULSE** for 48 hours from the time temperature increases to above 50° F, if air temperature has been below 50° F for 10 or more hours, improves weed control and reduce crop response.

Apply **OCTIVIO™ PULSE** ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management, and tillage practices that eliminate compaction and hardpans.

THIS PRODUCT WHEN USED ON DRY BEANS MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ATTICUS, LLC RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

Application Rate and Timing

Apply **OCTIVIO™ PULSE** at 16 fl ozs/A to 21 fl ozs/A before bloom stage but after dry beans have at least one fully expanded trifoliolate leaf. Delay application until the majority of weeds are at the specified growth stage. Apply to actively growing weeds.

An adjuvant and nitrogen fertilizer must be used with **OCTIVIO™ PULSE** on dry beans. COC, MSO, or NIS may be used. Refer to the Adjuvants section for recommended adjuvant and nitrogen fertilizer. Using COC or MSO with **OCTIVIO™ PULSE** on dry beans may increase injury and reduce yield.

Minnesota, Montana, North Dakota, South Dakota, and Wyoming

OCTIVIO™ PULSE may be applied at 11 fl ozs/A to aid in the control of volunteer canola and mustard species weeds in Minnesota, Montana, North Dakota, South Dakota, and Wyoming.

Apply **OCTIVIO™ PULSE**® at 11 fl ozs/A to volunteer canola and mustard species weeds before the bloom stage of dry beans. **OCTIVIO™ PULSE** at 11 fl ozs/A is not intended to be applied as a stand-alone product and is intended to be used in tank mix combination with an herbicide containing sodium salt of bentazon and a graminicide. Use the appropriate adjuvant and nitrogen fertilizer for dry beans as recommended in Application Rate and Timing.

Dry Beans Restrictions

- **DO NOT** apply **OCTIVIO™ PULSE** to chickpea (garbanzo bean), lupines, or lentil.
- Application of **OCTIVIO™ PULSE** must be made before dry beans bloom.
- **DO NOT** make more than one application of **OCTIVIO™ PULSE** per season.
- **DO NOT** apply more than a maximum of 21 fl ozs **OCTIVIO™ PULSE/A** per season to dry beans.
- **DO NOT** apply more than 16 fl ozs of **OCTIVIO™ PULSE/A** per season to dry beans grown in Georgia and South Carolina. **DO NOT** tank mix with additional bentazon product.
- **DO NOT** apply **OCTIVIO™ PULSE** to dry beans within 30 days of harvest.
- Following harvest of furrow-irrigated or flood-irrigated dry beans, thoroughly mix soil by plowing or deep disking to a minimum of 8 inches to minimize the potential for herbicide carryover to the follow crop.

PRECAUTIONS

- **DO NOT** apply **OCTIVIO™ PULSE** to dry beans until the first trifoliolate leaf has fully expanded because severe crop damage may occur.

Herbicide Combinations

OCTIVIO™ PULSE may be applied to dry beans in a tank mix or sequential herbicide program including, but not limited to, the following products:

- Basagran 5L
- Outlook® herbicide
- Poast® herbicide
- Prowl® H2O herbicide (sequential only; not for tank mix)

DRY PEAS

(OTHER THAN ENGLISH PEA)

DO NOT apply **OCTIVIO™ PULSE** to dry peas in California.

OCTIVIO™ PULSE may be applied to the following types of dry peas:

- Dry edible peas (field peas)
- Southern peas (cow peas)

Reduced crop growth and quality; leaf burning, bronzing, and speckling; temporary yellowing; delayed maturity; and reduced yield may result from application of **OCTIVIO™ PULSE** to dry peas. Because crop maturity may be delayed, adjust timing of harvest accordingly. **DO NOT** apply **OCTIVIO™ PULSE** if planting is delayed and chance of frost before maturity is likely. Some varieties of dry peas are more sensitive to **OCTIVIO™ PULSE** than other varieties. Growers should check with the seed company regarding the safety of **OCTIVIO™ PULSE** on their variety. Apply **OCTIVIO™ PULSE** ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management, and tillage practices that eliminate compaction and hardpans.

THIS PRODUCT WHEN USED ON DRY PEAS MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ATTICUS, LLC RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

Application Rate and Timing

Apply **OCTIVIO™ PULSE** at 16 fl ozs/A to 21 fl ozs/A to dry peas before bloom stage but after dry peas have at least 3 pairs of leaves.

Delay application until the majority of weeds are at the specified growth stage. Apply to actively growing weeds. An adjuvant and nitrogen fertilizer must be used with **OCTIVIO™ PULSE**. COC, MSO, or NIS may be used. Refer to the Adjuvants section for the recommended adjuvant and nitrogen fertilizer. Using COC or MSO with **OCTIVIO™ PULSE** on dry peas may increase injury and reduce yield.

Minnesota, Montana, North Dakota, South Dakota, and Wyoming

OCTIVIO™ PULSE may be applied at 11 fl ozs/A to aid in the control of volunteer canola and mustard species weeds in Minnesota, Montana, North Dakota, South Dakota and Wyoming.

Apply **OCTIVIO™ PULSE** at 11 fl ozs/A to mustard species weeds before bloom stage of dry peas. **OCTIVIO™ PULSE** at 11 fl ozs/A is not intended to be applied as a stand-alone product and is intended to be used in tank mix combination with an herbicide containing sodium salt of bentazon and a labeled rate of a graminicide. When applying 11 fl ozs of **OCTIVIO™ PULSE/A**, MSO may be used. When using MSO in dry peas, nitrogen fertilizer is optional.



Dry Peas (other than English pea)

Restrictions

- DO NOT apply **OCTIVIO™ PULSE** to chickpea (garbanzo bean), lupines, or lentil.
- DO NOT apply **OCTIVIO™ PULSE** to dry peas after pea flower buds appear or are in bloom.
- DO NOT make more than one application of **OCTIVIO™ PULSE** per season.
- DO NOT apply more than a maximum of 21 fl ozs **OCTIVIO™ PULSE/A** to dry peas per season.
- DO NOT apply more than 16 fl ozs of **OCTIVIO™ PULSE/A** per season to dry peas grown in Georgia and South Carolina.
- DO NOT tank mix with additional bentazon product.
- DO NOT use MSO in dry peas when using rates higher than 11 fl ozs of **OCTIVIO™ PULSE /A**.
- DO NOT apply **OCTIVIO™ PULSE** to dry peas within 30 days of harvest.
- DO NOT apply **OCTIVIO™ PULSE** to dry peas when temperatures exceed 90° F.

PRECAUTIONS

- In Western regions, avoid applying **OCTIVIO™ PULSE** to dry peas 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 reduced.
- Dry peas under stress from root rot may predispose dry peas to injury from **OCTIVIO™ PULSE**.
- In-furrow treatments of insecticides or nematicides may also predispose dry peas to injury from **OCTIVIO™ PULSE**.

Herbicide Combinations

OCTIVIO™ PULSE may be applied to dry peas in a tank mix or sequential herbicide program including, but not limited to, the following products:

- Basagran® 5L herbicide
- Poast® herbicide
- Prowl® H2O herbicide (sequential only; not for tank mix)
- Sharpen® powered by Kixor® herbicide (sequential only; not for tank mix)

ENGLISH PEA (SUCCULENT)

DO NOT apply **OCTIVIO™ PULSE** to English pea (succulent) in California.

Reduced crop growth and quality; leaf burning, bronzing, and speckling; temporary yellowing; delayed maturity; and reduced yield may result from application of **OCTIVIO™ PULSE** to English pea (succulent). Because crop maturity may be delayed, adjust timing of harvest accordingly. DO NOT apply **OCTIVIO™ PULSE** if planting is delayed and chance of frost before maturity is likely. Some varieties of succulent peas are more sensitive to **OCTIVIO™ PULSE**. Growers should check with the seed company regarding the safety of **OCTIVIO™ PULSE** on their variety.

Use of trifluralin before application of **OCTIVIO™ PULSE** may increase the likelihood and severity of crop injury. Apply **OCTIVIO™ PULSE** ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management, and tillage practices that eliminate compaction and hardpans.

THIS PRODUCT WHEN USED ON ENGLISH PEA MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ATTICUS, LLC RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

Application Rate and Timing

Apply **OCTIVIO™ PULSE** at 16 fl ozs/A to English peas at least 3-inches tall but before 5 nodes before flowering.

An adjuvant must be used with **OCTIVIO™ PULSE**. COC, MSO or NIS may be used. Refer to the Adjuvants section for the recommended adjuvant. Using COC or MSO with **OCTIVIO™ PULSE**, with or without nitrogen fertilizer on English Peas (succulent) may increase injury and reduce yield. Use of an adjuvant and nitrogen fertilizer increases weed efficacy but also increases the potential for crop injury.

English Pea (succulent)

Restrictions

- DO NOT apply **OCTIVIO™ PULSE** to English pea after first flower bud appears.
- DO NOT make more than one application of **OCTIVIO™ PULSE** per season.
- DO NOT apply more than a maximum of 16 fl ozs **OCTIVIO™ PULSE/A** per season to English pea (succulent).
- DO NOT apply **OCTIVIO™ PULSE** to English pea within 10 days of harvest.
- DO NOT apply **OCTIVIO™ PULSE** to English pea when temperature exceeds 90° F.

PRECAUTIONS

- Avoid applying **OCTIVIO™ PULSE** to English pea 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 reduced.
- English pea under stress from root rot may predispose English pea to injury from **OCTIVIO™ PULSE**.
- In-furrow treatments of insecticides or nematicides may also predispose English pea to injury from **OCTIVIO™ PULSE**.

LIMA BEAN (SUCCULENT)

DO NOT apply **OCTIVIO™ PULSE** to lima bean (succulent) in California.

Occasionally, internode shortening and/or temporary yellowing of crop plants may occur following application of **OCTIVIO™ PULSE** in lima bean. These effects occur infrequently and are temporary and can be more pronounced if crops are growing under stressful environmental or hot and humid conditions. Normal growth and appearance should resume within days.

Apply **OCTIVIO™ PULSE** ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management, and tillage practices that eliminate compaction and hardpans.

DO NOT tank mix **OCTIVIO™ PULSE** with any other pesticide for applications to lima beans. Certain insecticide and herbicide tank mixes with **OCTIVIO™ PULSE** in lima bean have shown unacceptable crop response.

THIS PRODUCT WHEN USED ON LIMA BEAN (SUCCULENT) MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ATTICUS, LLC RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.



Application Rate and Timing

Apply **OCTIVIO™ PULSE** postemergence at 16 fl ozs/A to 21 fl ozs/A to lima beans in the first trifoliolate to second trifoliolate leaf stage. Application before the first trifoliolate leaf stage may result in increased crop response. An adjuvant must be used with **OCTIVIO™ PULSE**. COC, MSO or NIS may be used. Refer to the Adjuvants section for the recommended adjuvant. Using COC or MSO with **OCTIVIO™ PULSE**, with or without nitrogen fertilizer on Lima Beans (succulent) may increase injury and reduce yield.

Use of an adjuvant and nitrogen fertilizer increases weed efficacy but also increases the potential for crop injury.

Lima Bean (succulent)

Restrictions

- DO NOT apply **OCTIVIO™ PULSE** to lima bean during bloom.
- DO NOT make more than one application of **OCTIVIO™ PULSE** per season.
- DO NOT apply more than a maximum of 21 fl ozs **OCTIVIO™ PULSE/A** per season to lima bean (succulent).

PRECAUTIONS

- DO NOT apply **OCTIVIO™ PULSE** to lima bean until at least the first trifoliolate leaf is fully expanded because severe crop damage may occur.

SNAP BEAN

DO NOT apply **OCTIVIO™ PULSE** to snap bean in California.

Delay application until the majority of weeds are at the specified growth stage. Base application timing on weed size and crop growth stage. Apply **OCTIVIO™ PULSE** to crop and weeds that are actively growing.

Occasionally, internode shortening and/or temporary yellowing of snap bean may occur following application of **OCTIVIO™ PULSE**. These effects occur infrequently and are temporary and can be more pronounced if snap beans are growing under stressful environmental or hot and humid conditions. Normal growth and appearance should resume within days.

Apply **OCTIVIO™ PULSE** ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management, and tillage practices that eliminate compaction and hardpans.

DO NOT tank mix **OCTIVIO™ PULSE** with any other pesticide for applications to snap bean. Certain insecticide and herbicide tank mixes with **OCTIVIO™ PULSE** in snap bean have shown unacceptable crop response.

THIS PRODUCT WHEN USED ON SNAP BEAN MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ATTICUS, LLC RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

Application Rate and Timing

Apply **OCTIVIO™ PULSE** postemergence at 16 fl ozs/A to 21 fl ozs/A to snap bean with at least one fully expanded trifoliolate leaf and before bloom stage. Idaho, Oregon, and Washington: Apply **OCTIVIO™ PULSE** to snap bean at first trifoliolate or second trifoliolate leaf stage.

An adjuvant must be used with **OCTIVIO™ PULSE**. COC, MSO or NIS may be used. Refer to the Adjuvants section for the recommended adjuvant. Using COC or MSO with **OCTIVIO™ PULSE**, with or without nitrogen fertilizer on Snap Beans may increase injury and reduce yield. Use of an adjuvant and nitrogen fertilizer increases weed efficacy but also increases the potential for crop injury.

Snap Bean Restrictions

- Application of **OCTIVIO™ PULSE** must be made before snap beans bloom.
- DO NOT apply to snap beans that have been injured from application of soil-applied herbicides.
- DO NOT make more than one application of **OCTIVIO™ PULSE** per season.
- DO NOT apply more than a maximum of 21 fl ozs **OCTIVIO™ PULSE/A** per season to snap bean.
- DO NOT apply **OCTIVIO™ PULSE** to snap bean within 30 days of harvest.

PRECAUTIONS

- DO NOT apply **OCTIVIO™ PULSE** to snap bean until at least the first trifoliolate leaf is fully expanded because severe crop damage may occur.

SOYBEAN

DO NOT apply **OCTIVIO™ PULSE** to soybean in California.

OCTIVIO™ PULSE is effective in controlling weeds in conservation tillage and conventional soybean production systems. In soybean, apply **OCTIVIO™ PULSE** postemergence but before the bloom stage to control existing weeds and provide residual Activity.

Soybean is tolerant to **OCTIVIO™ PULSE**. Slight leaf speckling and leaf bronzing may occur under certain conditions, but crops generally outgrow these conditions within 10 days.

Unusually cool temperatures (50° F or less) reduce photosynthesis and transpiration and, thus, reduce uptake, translocation, and efficacy of **OCTIVIO™ PULSE** in weeds. Delaying application of **OCTIVIO™ PULSE** for 48 hours from the time temperature increases to above 50° F, if air temperature has been below 50° F for 10 or more hours, will improve weed control and reduce crop response.

Application Rate and Timing

Apply **OCTIVIO™ PULSE** postemergence at 21 fl ozs/A to 27 fl ozs/A after emergence but before crop bloom.

An adjuvant and nitrogen fertilizer must be used with **OCTIVIO™ PULSE**. COC, MSO, or NIS may be used. Refer to the Adjuvants section for the recommended adjuvant and nitrogen fertilizer.

OCTIVIO™ PULSE at 11 fl ozs/A to aid in the control of volunteer canola in North Dakota and Minnesota. Apply **OCTIVIO™ PULSE** to emerged volunteer canola in soybeans before soybean bloom stage. Use 11 fl ozs of **OCTIVIO™ PULSE/A** when tank mixed with glyphosate in Roundup Ready® soybean. Use the appropriate surfactants as recommended by the glyphosate label. **OCTIVIO™ PULSE** will aid in the control of volunteer canola from 1-inch to 3-inches tall.

OCTIVIO™ PULSE will not control Clearfield® canola.



Soybean Restrictions

- Application of **OCTIVIO™ PULSE** must be made before soybean bloom.
- DO NOT make more than one application of **OCTIVIO™ PULSE** per season.
- DO NOT apply more than a maximum of 27 fl ozs of **OCTIVIO™ PULSE/A** per season to soybean.
- DO NOT graze or cut treated soybean fields for forage or hay for at least 30 days after the last application of **OCTIVIO™ PULSE**.

Herbicide Combinations

OCTIVIO™ PULSE may be applied to soybean in a tank mix or sequential herbicide program including, but not limited to, the following products:

- Basagran® 5L herbicide
- Outlook® herbicide
- Poast® herbicide
- Prowl® H2O herbicide (sequential only; not for tank mix)
- Zidua® herbicide
- glyphosate (glyphosate-resistant soybean only)

ROTATIONAL CROP RESTRICTIONS

Rotational crops may be planted after applying the specified rate of **OCTIVIO™ PULSE** in Region 1 and Region 2, as indicated on the map.



Region 1 - States and parts of states WEST of US Highway 83 (Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, and western parts of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas)

Region 2 - States and parts of states EAST of US Highway 83 (includes the eastern parts of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas, and the states east of these states)

Table 2. Rotational Interval (months) following OCTIVIO™ PULSE Application

Plant-back Interval (months)	Region 1	Region 2
Anytime	Clearfield® corn (field and seed) Clearfield lentil Clearfield rice Dry beans and dry peas except non-Clearfield lentil English pea Lima bean (succulent) Snap bean Soybean	Clearfield corn (field and seed) Clearfield lentil Clearfield rice Dry beans and dry peas except non-Clearfield lentil English pea Lima bean (succulent) Snap bean Soybean
1	Clearfield canola Clearfield and Clearfield® Plus sunflower Clearfield and Clearfield Plus wheat Edamame	Clearfield canola Clearfield and Clearfield Plus sunflower Clearfield and Clearfield Plus wheat Edamame
3	Alfalfa ^{1,4} Wheat (non-Clearfield)	Alfalfa ⁴ Wheat (non-Clearfield)
4	Rye	Rye
8-1/2	Corn (non-Clearfield field, seed, sweet, and popcorn)	Corn (non-Clearfield field, seed, sweet, and popcorn)

(continued)

Table 2. Rotational Interval (months) following OCTIVIO™ PULSE Application (cont.)

Plant-back Interval (months)	Region 1	Region 2
9	¹ Barley Cantaloupe Cotton Grain sorghum ⁵ Lentil (non-Clearfield) Lettuce Millet Oat Onion Peanut Pumpkin Rice Squash Sunflower Tobacco Watermelon	¹ Barley Broccoli Cabbage Cantaloupe Carrot Cotton Cucumber Grain sorghum ⁵ Lentil (non-Clearfield) Lettuce Millet Oat Onion Peanut Pepper ¹ Potato Pumpkin Rice Squash Sunflower Tobacco Tomato Turnip Watermelon
18	¹ Barley Broccoli Cabbage Carrot Cucumber Lentil (non-Clearfield) Pepper Potato Tomato Turnip All other crops not listed in the Rotational Crop Restrictions	¹ Barley Canola (non-Clearfield) Condiment mustard Lentil (non-Clearfield) ² Sugar beet ² Table beet All other crops not listed in the Rotational Crop Restrictions
26	Canola (non-Clearfield) Condiment mustard ³ Sugar beet Table beet	² Sugar beet ² Table beet

¹ Refer to the following tables for rotational intervals for planting following application of **OCTIVIO™ PULSE**.

² In Region 2, sugar beet and table beet can be planted 18 months following an application of **OCTIVIO™ PULSE** if the soil pH is uniformly 6.2 or greater. If the soil pH is less than 6.2, the rotational interval is 26 months. Sugar beet yield can be reduced when grown in soil conditions with a pH less than 6.2. If the soil is limed to adjust the soil pH, apply the lime at least 18 months before planting sugar beet or other rotational crops under the 18-month rotational interval.

³ For sugar beet grown in parts of Nebraska west of Highway 83, and Platte, Goshen, and Laramie counties in Wyoming, follow the sugar beet rotational crop restrictions for Region 2 for sprinkler-irrigated fields only. If fields are dryland, flood or furrow irrigated, follow restrictions for Region 1. A minimum of 10 inches of overhead irrigation must be applied each season to qualify for Region 2 guidelines.

⁴ Planting non-Clearfield spring or winter wheat in areas receiving less than 10 inches of precipitation from the time of **OCTIVIO™ PULSE** application up until wheat planting may result in wheat injury. The possibility of injury increases if less than normal precipitation occurs from the time of application to planting and/or within the first 2 months after **OCTIVIO™ PULSE** application.

⁵ In Region 1 and Region 2, non-Clearfield lentil may be planted 9 months following an application of **OCTIVIO™ PULSE** if no more than 27 fl ozs/A of **OCTIVIO™ PULSE** has been applied and the soil pH is uniformly greater than 6.2.

Table 2. Rotational Interval (months) following OCTIVIO™ PULSE Application (cont.)

Barley Rotational Interval based on pH, Moisture, and Tillage		Moldboard Plowing	
Region 1 and Region 2		NO	YES
pH and Rainfall requirements	> 18 inches R+I AND pH >6.2	9 months	
	< 18 inches R+I OR pH <6.2	18 months	9 months
Potato Rotational Interval based on pH and Moisture			
Region 2			
pH and Rainfall requirements	> 18 inches R+I AND pH >6.2	9 months	
	< 18 inches R+I OR pH <6.2	18 months	
Non-Clearfield® Wheat Rotational Interval based on pH, Moisture, and Tillage		Moldboard Plowing	
Region 1		NO	YES
pH and Rainfall requirements	> 10 inches R+I AND pH >6.2	3 months	
	< 10 inches R+I OR pH <6.2	15 months	3 months
Non-Clearfield® Wheat Rotational Interval based on pH and Moisture			
Washington and selected counties in Idaho* and Oregon**			
pH and Rainfall requirements	> 16 inches R+I AND pH >6.2	3 months	
	< 16 inches R+I OR pH <6.2	15 months	
*Selected counties in Idaho - Benewah, Bonner, Boundary, Clearwater, Idaho, Kootenai, Latah, Lewis, Nez Perce, and Shoshone			
**Selected counties in Oregon - All but Malheur			

When taking soil samples to determine soil pH, use a grid sampling technique, sampling to a depth of 3 to 4 inches.

R+I = Rainfall and overhead irrigation from the time of **OCTIVIO™ PULSE** application up until time of barley, potato, or non-clearfield wheat planting. Does not include furrow or flood irrigation.

If the rainfall or pH requirements are not fully met, and barley or non-Clearfield wheat is planted before the specified rotation interval, injury may be reduced by tillage, such as deep disking (greater than 6-inches deep) after crop harvest but before November 1.

The possibility of injury to barley or non-Clearfield wheat planted the next season increases if less than normal precipitation occurs from the time of application to planting and/or within the first two months after application of **OCTIVIO™ PULSE**.

FURROW-IRRIGATED AND FLOOD-IRRIGATED CROPS

Following harvest of furrow-irrigated or flood-irrigated crops, thoroughly mix soil by plowing or deep disking to a minimum of 8 inches to minimize the potential for herbicide carryover to the following crop.

Failure to irrigate every furrow can increase rotational crop injury potential.

Use of **OCTIVIO™ PULSE** in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors, such as arid conditions, make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

CROP INJURY PRECAUTIONS

In the event of a crop loss due to weather, Clearfield corn, Clearfield lentil, Clearfield rice, dry beans, dry peas, lima bean (succulent), pea (English), snap bean, or soybean can be replanted. **DO NOT** make an additional application of **OCTIVIO™ PULSE**.

Application of products containing chlorimuron ethyl (Canopy® herbicide), metsulfuron-methyl (Harmony® Extra herbicide), imazamox (Beyond® herbicide, Raptor® herbicide), imazaquin (Scepter® 70 DG herbicide), or imazethapyr (Pursuit® herbicide, Pursuit® Plus EC herbicide) the same year as **OCTIVIO™ PULSE** may increase the risk of injury to sensitive rotational crops. Consult all pertinent labels for use of these products in combinations.

If arid conditions occur during the year of application, rotational crop injury may occur.

Uses with Other Products (Tank Mixes)

If this product is used in combination with any other product except as specifically instructed in writing by Atticus, then to the extent consistent with applicable law, Atticus shall have no liability for any loss, damage or injury arising out of its use in any such combination not so specifically specified. 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. Basagran, Beyond, Clearfield, Kixor, Outlook, Poast, Prowl, Pursuit, Raptor, Scepter, Sharpen, and Zidua are registered trademarks of BASF. Canopy and Harmony are registered trademarks of E.I. duPont de Nemours and Co., Inc.



STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area. KEEP FROM FREEZING. DO NOT store below 32°F.

PESTICIDE DISPOSAL: Pesticide spray mixture or rinsate that cannot be used must be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. If empty: Offer for recycling if available or discard in a sanitary landfill. If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

For plastic containers ≤ 5 gallons: Nonrefillable Container: Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or other procedures allowed by state and local authorities.

For plastic containers > 5 gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Recap 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or other procedures allowed by state and local authorities.

LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability. **CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

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