

For control and/or suppression of certain weeds in alfalfa; artichoke; asparagus; bushberries; caneberries; celery; citrus fruit; cotton; dry beans; field corn; garlic; grape; mint; olive; pome fruit; pomegranate; potato; stone fruit; strawberry; sweet potato; tree nuts; non-bearing fruit trees; fallowbed use on transplanted melon, pepper, and tomato beds; fallow land and to maintain bare ground on non-crop areas of farms; orchards and vineyards.

 ACTIVE INGREDIENT:
 (% by weight)

 Flumioxazin\*
 41.4%

 OTHER INGREDIENTS:
 58.6%

 TOTAL:
 100.0%

 \* 2-7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione

EPA Reg. No.: 91234-203

**ZALTUS SC CA** is a suspension concentrate containing 4.0 lb a.i. per gallon.

## **KEEP OUT OF REACH OF CHILDREN**

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

See inside for Precautionary Statements and Directions for Use.

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)



# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS & DOMESTIC ANIMALS

Harmful if inhaled or absorbed through the skin. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

## PERSONAL PROTECTIVE EQUIPMENT (PPE):

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material including polyethylene or polyvinyl chloride, shoes and socks.

**For aerial application to artichoke, mixer/loaders must also wear:** filtering face piece respirator (N95, R95 or P95).

For ground boom application to olive and pomegranate, mixer/loaders must also wear: filtering face piece respirator (N95, R95 or P95).

## **USER SAFETY REQUIREMENTS**

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

## **User Safety Recommendations**

## **Users should:**

- 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 product is toxic to non-target plants and aquatic invertebrates. **DO NOT** apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas. **DO NOT** apply where runoff is likely to occur. **DO NOT** apply when weather conditions favor drift from treated areas. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, including no till, limited till and contour plowing; these methods also reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands or on the downhill side of fields where run-off could occur will minimize water run-off.

## PHYSICAL OR CHEMICAL HAZARDS

**DO NOT** mix or allow coming in contact with oxidizing agent. 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.

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

**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.

## **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 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 12 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, including plants, soil or water is: coveralls, chemical resistant gloves made of water-proof material, shoes plus socks.

## **NON-AGRICULTURAL USE REQUIREMENTS**

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

Keep all unprotected persons out of operating areas, or vicinity where there may be drift. **DO NOT** enter or allow others to enter treated areas until sprays have dried.

#### PRODUCT INFORMATION

- Zaltus SC CA provides residual control of susceptible weeds.
- Zaltus SC CA provides additional burndown activity when used as part of a burndown program.
- Zaltus SC CA can be applied as part of a fall burndown program for control of susceptible winter annuals.
- Zaltus SC CA can be applied with a hooded or shielded sprayer, as well as part of a layby application, in selected crops for postemergence weed control as well as residual control of susceptible weeds.
- Zaltus SC CA can be used on farms, orchards and vineyards for non-selective vegetation control to maintain bare ground non-crop areas that must be kept weed free.
- Zaltus SC CA, when applied according to label use directions, will control the weeds claimed in crop specific use directions. This label makes no claims concerning control of other weed species. 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.



Zaltus SC CA Rate Summary			
FL OZ of Zaltus SC CA Pounds of Flumioxazin			
0.5	0.016		
1	0.031		
1.5	0.047		
2	0.063		
2.5	0.080		
3	0.094		
4	0.125		
6	0.188		
8	0.250		
12	0.375		
24	0.750		

## AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.

The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making decisions. Where states have more stringent regulations, they must be observed.

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply this product when weather conditions favor spray drift from treated areas.
- DO NOT apply during low-level inversion conditions, including fog.
- DO NOT apply to frozen or snow-covered soil.
- DO NOT apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation.
- **DO NOT** apply within 300 yards of non-dormant pears.
- DO NOT apply to powdery soils or soils that are susceptible to wind displacement unless irrigation can be applied immediately after application.

#### **PRECAUTIONS**

- When applying by air, observe drift management restrictions and precautions listed under AERIAL APPLICATION.
- Mechanical incorporation into the soil will reduce residual weed control.
- Apply post directed and layby applications of Zaltus SC CA only to healthy growing crops.
   Before using spray equipment to apply other products to crop foliage follow cleanout procedures identified in this label. See SPRAYER CLEANUP for more information.

## ENVIRONMENTAL CONDITIONS AND BIOLOGICAL PERFORMANCE

## Preemergence Application (Conventional Tillage)

Important: Crop injury may occur from applications made to poorly drained soils and/ or applications made under cool, wet conditions. Risk of crop injury can be minimized by using on well drained soils, planting at least 1.5 inches deep, using high quality seed and completely covering seeds with soil prior to preemergence applications. Treated soil that is splashed onto newly emerged crops may result in temporary crop injury. Moisture is necessary to activate Zaltus SC CA in soil for residual weed control. Dry weather following applications of Zaltus SC CA may reduce effectiveness. However, when adequate moisture is received after dry conditions, Zaltus SC CA will control susceptible germinating weeds. Zaltus SC CA may not control weeds that germinate after application but before an activating rainfall/irrigation or weeds that germinate through cracks resulting from dry soil.

When adequate moisture is not received after a **Zaltus SC CA** application, weed control may be improved by irrigation with at least 1/4 inch of water. If emerged weeds are controlled by cultivation, residual weed control will be reduced.

#### **Burndown Application**

For best results, apply **Zaltus SC CA** as part of a burndown program to actively growing weeds. Applying **Zaltus SC CA** under conditions that **DO NOT** promote active weed growth will reduce herbicide effectiveness. **DO NOT** apply **Zaltus SC CA** when weeds are under stress due to drought, excessive water, extremes in temperature, disease or low humidity. Weeds under stress tend to become less susceptible to herbicidal action. **Zaltus SC CA** is most effective when applied under warm sunny conditions.

Reduced residual weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

## **Postemergence Application**

Only apply **Zaltus SC CA** to healthy crops labeled for postemergence use. **DO NOT** apply **Zaltus SC CA** to crops that have been weakened by disease, drought, flooding, excessive fertilization, soil salts, previously applied pesticides, nematodes, insects or winter injury.

#### Rainfastness

**Zaltus SC CA** is rainfast one hour after application. **DO NOT** make applications if rain is expected within one hour of application or postemergence efficacy may be reduced.

#### **Soil Characteristics**

Application of **Zaltus SC CA** to soils with high organic matter and/or high clay content may require higher dosages than soils with low organic matter and/or low clay content. Application to cloddy seedbeds can result in reduced weed control.

#### HERBICIDE RATE

## Residual Weed Control (Including Preemergence Applications or Applications as Part of a Fall or Spring Burndown and Fallow Seedbed Program)

Based upon soil characteristics (organic matter content and texture), the most difficult to control weed species being targeted, and the crop being grown, select the proper **Zaltus SC CA** dosage from the rate range tables contained in this label.

## **CARRIER VOLUME AND SPRAY PRESSURE**

(Ground Equipment only. See Information for Aerial Equipment under **AERIAL APPLICATION**.)

## **Preemergence Application (Conventional Tillage)**

To ensure uniform coverage, use 10 to 30 **gallons** of spray solution per acre for conventional tillage applications. Nozzle selection must meet manufacturer's gallonage and pressure guidelines for preemergence herbicide application.

#### **Burndown Application (Prior to Crop Emergence)**

To ensure thorough coverage in burndown applications, use 15 to 60 **gallons** spray solution per acre. Use 20 to 60 **gallons** per acre if dense vegetation or heavy crop residue is present. Nozzle selection must meet manufacturer's gallonage and pressure guidelines for postemergence herbicide application. **DO NOT** use flood jet nozzles.

#### Postemergence Application (Emerged Crop)

Check use directions for specific crops in which **Zaltus SC CA** can be applied postemergence. To ensure thorough coverage in burndown applications, use a minimum of 15 gallons spray solution per acre. Use a minimum of 20 gallons per acre if dense vegetation or heavy crop residue is present. Nozzle selection must meet manufacturer's gallonage and pressure guidelines for postemergence herbicide application.

#### **ADDITIVES**

#### Burndown Application (Prior to Crop Emergence)

Postemergence control of weeds from **Zaltus SC CA** tank mixes will require the addition of an agronomically approved adjuvant to the spray mixture. When an adjuvant is to be used with **Zaltus SC CA**, Atticus, LLC recommends the use of a Chemical Producers and Distributors Association certified adjuvant. Either a crop oil concentrate or methylated seed



oil which contains at least 15% emulsifiers and 80% oil or a non-ionic surfactant at 0.25% v/v, may be used when applying **Zaltus SC CA** as part of a burndown program. Some tank mix partners, for example glyphosate, are formulated with sufficient adjuvants and **DO NOT** require the addition of a crop oil concentrate, methylated seed oil or non-ionic surfactant when tank mixed with **Zaltus SC CA**. The addition of a crop oil concentrate or methylated seed oil may increase the burndown activity on certain weeds including cutleaf evening primrose and Carolina geranium. Verify mixing compatibility qualities by a jar test.

A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lb/A or a 28 to 32% nitrogen solution at 1 to 2 qt/A) may be added to the spray mixture along with either a crop oil concentrate, methylated seed oil or non-ionic surfactant to enhance weed control. The addition of a nitrogen source does not replace the need for a crop oil concentrate, a methylated seed oil or a non-ionic surfactant.

## JAR TEST TO DETERMINE COMPATIBILITY OF ADJUVANTS AND ZALTUS SC CA

When using **Zaltus SC CA** and an adjuvant, including in stale seed bed, layby, hooded/shielded or reduced tillage situations, perform a jar test before mixing commercial quantities of **Zaltus SC CA**, when using **Zaltus SC CA** for the first time, when using new adjuvants or when a new water source is being used.

- 1. Add 1 pt of the water to a quart jar. Use water from the same source and temperature as which will be used in the spray tank mixing operation.
- Add 1 g of Zaltus SC CA to the quart jar for every 3 fl oz of Zaltus SC CA per acre being applied (4 g if 12 fl oz/A is the desired Zaltus SC CA rate), gently mix until product goes into suspension.
- Add 60 ml (4 Tbsp or 2 fl oz) of the crop oil or methylated seed oil to the quart jar or 1 ml of non-ionic surfactant if it is being used in place of oil, gently mix.
- 4. If nitrogen is being used, add 16 ml (1 Tbsp or 0.5 fl oz) of the 28 to 32% nitrogen source to the quart jar. If ammonium sulfate is being used, add 19 g AMS to the quart jar in place of the 28 to 32% nitrogen.
- 5. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
- 6. An ideal tank mix combination will be uniform and free of suspended particles.

  Question the choice of adjuvant if any of the following conditions are observed:
- a) Layer of oil or globules on the mixture's surface.
- b) Flocculation: fine particles in suspension or as a layer on the bottom of the jar.
- c) Clabbering: thickening texture (coagulated) like gelatin.

#### **SPRAYER PREPARATION**

Before applying **Zaltus SC CA**, start with clean, well maintained application equipment. The spray tank, as well as all hoses and booms, must be cleaned to ensure no residue from the previous spraying operation remains in the sprayer. Some pesticides, including but not limited to, the sulfonylurea and phenoxy herbicides, are active at very small amounts and can cause crop injury when applied to susceptible crops. The spray equipment must be cleaned according to the manufacturer's directions for the last product used before the equipment is used to apply **Zaltus SC CA**. If two or more products were tank mixed prior to **Zaltus SC CA** application, follow the most restrictive cleanup procedure.

## **MIXING INSTRUCTIONS**

- 1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
- If a drift retardant is to be used, add 10 lb of spray grade ammonium sulfate per 100 gallons of spray solution.
- 3. While agitating, slowly add **Zaltus SC CA** to the spray tank. Agitation creates a rippling or rolling action on the water surface.
- 4. If tank mixing Zaltus SC CA with other labeled herbicides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
- 5. Add any required adjuvants.

- 6. Fill spray tank to desired level with water. **Continue agitation until all spray solution has been applied.**
- Mix only the amount of spray solution that can be applied the day of mixing. Apply Zaltus SC CA within 6 hours of mixing.

#### SPRAYER CLEANUP

Spray equipment, including mixing vessels and nurse tanks, must be cleaned each day following **Zaltus SC CA** application. After **Zaltus SC CA** is applied, the following steps must be used to clean the spray equipment:

- 1. Completely drain the spray tank, rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
- 2. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
- 3. Top off tank, add 1 gallon of 3% household ammonia (or equivalent) for every 100 gallons of water, circulate through sprayer for 5 minutes, and then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes. If diaphragms are being used on the spray boom, loosen diaphragms before flushing the spray system, allowing cleaning solution to spray through the open diaphragm. If spray lines have any end caps, they must be loosened before flushing the system, allowing cleaning solution to spray through the loosened caps. To enhance removal of Zaltus SC CA from the spray system, add a tank cleaner in place of ammonia and allow the cleaning solution to remain in the pressurized spray system (spray tank, hoses and boom) overnight before flushing the system for a minimum of 15 minutes.
- 4. Drain tank completely.
- Add enough clean water to the spray tank to allow all hoses, booms, screens and nozzles to be flushed for 2 minutes.
- 6. Remove all nozzles and screens and rinse them in clean water.

Thoroughly clean spray equipment, including all tanks, hoses, booms, screens and nozzles, cleaned before it is used to apply postemergence pesticides. Equipment with **Zaltus SC CA** residue remaining in the system may result in crop injury to the subsequently treated crop.

#### APPLICATION EQUIPMENT

Ensure application equipment is clean and in good repair, nozzles are uniformly spaced on the boom and frequently checked for accuracy.

#### **BROADCAST APPLICATION**

Apply **Zaltus SC CA**, and **Zaltus SC CA** tank mixes, with ground equipment using standard commercial sprayers equipped with flat fan or flood nozzles (preemergence applications only) designed to deliver the desired spray pressure and spray volume.

## **BAND APPLICATION**

When banding, use proportionately less water and **Zaltus SC CA** per acre. The rate of **Zaltus SC CA** required per acre, when applied as a banded application, can be calculated with the following formula:

Amount Needed per Acre for Banded Application =  $\frac{Band \ Width \ in \ Inches}{Row \ Width \ in \ Inches}$  X Rate per Broadcast Acre

#### **AERIAL APPLICATION**

Spray drift away from the site of application may cause damage to non-target vegetation. To minimize drift, apply the largest droplet size consistent with uniform coverage and satisfactory weed control. To obtain satisfactory application and avoid drift, the following directions must be observed:

#### Restrictions

- **DO NOT** apply during low-level inversion conditions (including fog), when winds are gusty or under other conditions that favor drift. **DO NOT** spray when wind velocity is less than 2 mph or more than 10 mph.
- DO NOT apply this product by air within 40 ft of non-target plants including non-target crops.
- DO NOT apply this product by air within 100 ft of emerged cotton crops.



 DO NOT apply this product by air within 40 ft of streams, wetlands, marshes, ponds, lakes and reservoirs.

## **Mandatory Spray Drift**

#### **Aerial Applications**

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

## **Ground Applications**

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a medium or coarser spray droplet size (ASABE S572.1).
- DO NOT apply when wind speeds exceed 10 miles per hour at the application site.
- DO NOT apply during temperature inversions.

#### **Boom-less Ground Applications**

- Applicators are required to use a medium or coarser droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- DO NOT apply during temperature inversions.

## **Spray Drift Advisories**

- THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
- BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.
- IMPORTANCE OF DROPLET SIZE

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

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

- Volume Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle Use a spray nozzle that is designed for the intended application.
   Consider using nozzles designed to reduce drift.

#### **Controlling Droplet Size - Aircraft**

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

### **BOOM HEIGHT - Ground Boom**

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

#### ■ RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift. When applying 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.

#### SHIELDED SPRAYERS

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

#### TEMPERATURE AND HUMIDITY

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

#### TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

#### WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

## Boom-less Ground Applications:

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

## Handheld Technology Applications:

Take precautions to minimize spray drift.

#### RESISTANCE MANAGEMENT

For resistance management, **Zaltus SC CA** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **Zaltus SC CA** and other Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

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

- Rotate the use of Zaltus SC CA or other Group 14 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 resistanceprone 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 Atticus, LLC at (984) 465-4800.

#### **CHEMIGATION**

Follow all label directions for crops regarding rates, timing of application, special instructions and precautions.

Apply this product only through center pivot systems. End guns must be turned off due to uneven application. Restriction: **DO NOT** apply this product through any other type of irrigation system.

Crop injury, lack of efficacy or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

The system must be properly calibrated (with water only) to ensure that the amount of **Zaltus SC CA** applied corresponds to the specified rate.

Apply **Zaltus SC CA** in 1/2 to 3/4 inches of water during the first sprinkler set. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide, a dye indicator may be injected into the lines to mark the end of the application period. Once chemigation has begun, the run must be completed to ensure no product is left in the system.

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

#### **Special Precautions for Chemigation**

- DO NOT connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments if the need arises.
- 3. The system must be free of leaks and clogged nozzles.
- 4. The pesticide must be supplied continuously for the duration of the aqueous application. An uneven application may cause injury to the crop or poor weed control.
- 5. Agitation must be maintained in the nurse tank.
- 6. The sprinkler chemigation system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
- 8. The pesticide injection pipeline must contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in the case where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 10. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 11. Systems must use a metering pump, for example a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with the pesticides and capable of being fitted with a system interlock.
- 12. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

#### Chemination Systems Connected to Public Water Systems

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

## **APPLICATION WITH DRY BULK FERTILIZERS**

Dry bulk fertilizer may be impregnated or coated with **Zaltus SC CA**. Application of dry bulk fertilizer with **Zaltus SC CA** provides weed control equal to, or slightly below, the same rate of **Zaltus SC CA** applied in liquid carriers, due to better coverage with application via spray equipment. Follow label directions for **Zaltus SC CA** regarding rates, special instructions, cautions and special precautions. Apply 400 to 700 lbs of the fertilizer/herbicide mixture per acre to obtain adequate soil coverage. Apply the mixture to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury and to obtain uniform weed control.

**DO NOT** use ammonium nitrate and/or limestone as the sole source of fertilizer, as the **Zaltus SC CA** may not adhere to these materials.

Compliance with all Federal and State regulations relating to blending pesticide mixtures with dry bulk fertilizer, registrations, labeling and application are the responsibility of the individual and/or company offering the fertilizer and **Zaltus SC CA** mixture for sale.

Zaltus SC CA must be premixed with water to form a slurry prior to impregnation on dry bulk fertilizer. For best results, use a minimum of 1 pt of water for each 2 fl oz of Zaltus SC CA. Use a minimum of 6 pt of the Zaltus SC CA slurry to impregnate 2000 lbs of the fertilizer for uniform coverage of the fertilizer. Closed drum, belt, ribbon or other commonly used dry bulk blenders may be used.

The amount of **Zaltus SC CA** required can be calculated with the following formula:

fluid ounces of		fluid ounces of				pounds of
Zaltus SC CA per	=	Zaltus SC CA	Χ	2000	÷	fertilizer
ton of fertilizer		per acre				per acre

Thoroughly clean dry fertilizer blending equipment after **Zaltus SC CA** has been placed in the system to avoid injury to sensitive crops that may be treated with fertilizers blended after the equipment has been used for **Zaltus SC CA**. Rinse the sides of the blender and the herbicide tank with water. Then impregnate the rinsate onto a load of dry fertilizer intended for an approved crop. Use a maximum rate of 1 gallon of rinsate per ton of fertilizer. Follow with 1 to 2 loads of unimpregnated fertilizer in the blender before switching herbicides.

## **ROTATIONAL RESTRICTIONS**

The following rotational crops may be planted after applying **Zaltus SC CA** at the listed rate. Planting earlier than the specified rotational interval may result in crop injury.

• **DO NOT** plant any crop, except corn (field), cotton, peanut, soybean, sugarcane and sweet potato earlier than 30 days after applying **Zaltus SC CA**.



Application Rates	Crops	Rotation Intervals
1 fl oz/A	Cotton (no-till or strip-till only)	14 days <sup>(1)</sup>
1.5 to 2 fl oz/A	Cotton (no-till or strip-till only)	21 days <sup>(1)</sup>
2 fl oz/A or less	Peanut, Soybean, Sugarcane and Sweet Potato	Immediately
	Field Corn (minimum and no-till)	7 days
	Cotton and Field Corn (conventional tillage), Rice, Sorghum, Sunflower, Tobacco and Wheat	30 days <sup>(1)</sup>
	Barley, Dry and Snap Beans, Flax, Peas, Rye, Safflower and Sweet Corn	3 months
	Alfalfa, Canola, Clover, Oats, Potato, Sugar Beet and all other crops not listed <sup>(2)</sup>	4 months if soil is tilled prior to planting 8 months if no tillage is performed
	Lentil	6 months
Up to 3 fl oz/A	Peanut, Soybean, Sugarcane and Sweet Potato	Immediately
	Field Corn (minimum and no-till)	14 days
	Field Corn (conventional tillage) and Sorghum	30 days <sup>(1)</sup>
	Cotton, Rice, Sunflower, Tobacco and Wheat	2 months <sup>(1)</sup>
	Barley, Dry and Snap Beans, Flax, Pea, Rye, Safflower and Sweet Corn	4 months
	Alfalfa, Clover, Oats, Potato, Sugar Beet	5 months if soil is tilled prior to planting 10 months if no tillage is performed
	Canola and all other crops not listed <sup>(2)</sup>	6 months if soil is tilled prior to planting 12 months if no tillage is performed
	Lentil	7 months
Up to 4 fl oz/A	Sugarcane	Immediately
	Alfalfa, Canola, Potato, Sugar Beet and all other crops not listed <sup>(2)</sup>	6 months if soil is tilled prior to planting 12 months if no tillage is performed
	Cotton, Field Corn, Peanut, Rice, Sorghum, Soybean, Sunflower, Tobacco and Wheat	4 months
	Transplanted on raised beds only: melon, pepper and tomato	2 months (if the top 4 inches of the beds have been removed)
6 to 12 fl oz/A	Cotton, Field Corn, Peanut, Rice, Sorghum, Soybean, Sunflower, Tobacco and Wheat	9 months
	Alfalfa, Canola, Sugar Beet and all other crops not listed <sup>(2)</sup>	12 months if soil is tilled prior to planting
	Trees can be transplanted 2 months after an application of <b>Zaltus SC CA</b> (3)	18 months if no tillage is performed

<sup>(1)</sup> At least one inch of rainfall/irrigation must occur between application and planting or crop injury may occur.



<sup>&</sup>lt;sup>(2)</sup> Successful soil bioassay must be performed prior to planting these crops.

<sup>(3)</sup> Transplanted apple, apricot, avocado, bushberries (including blueberry), cherry, fig, grape, grapefruit, lemon, nectarine, olive, orange, peach, pear, plum (including dried plum), tangerine and tree nuts (including pistachio) can be planted 2 months after a **Zaltus SC CA** application of 2 to 12 fl oz/A.

Table 1. Broadleaf Weeds Controlled by Residual Activity of Zaltus SC CA

Broadleaf Weed Species				
Section A				
Common Name	Scientific Name	Organic Matter	Soil Type	Application Rate
Carpetweed	Mollugo verticillata	Up to 5%	All Soil Types	2 fl oz/A
Chickweeds				
Common	Stellaria media			
Mouseear	Cerastium vulgatum			
Dandelion	Taraxacum officinale			
Eclipta	Eclipta prostrate			
Evening primrose, Cutleaf	Oenothera laciniata			
Field Pennycress	Thlaspi arvense			
Florida Pusley	Richardia scabra			
Henbit	Lamium amplexicaule			
Lambsquarters, Common	Chenopodium album			
Little Mallow	Malva parviflora			
Marestail/Horseweed	Conyza canadensis			
Mayweed/False Chamomile	Matricaria maritima			
Nightshades				
Black	Solanum nigrum			
Eastern Black	Solanum ptycanthum			
Hairy	Solanum sarrachoides			
Pigweeds				
Redroot	Amaranthus retroflexus			
Smooth	Amaranthus hybridus			
Spiny Amaranth	Amaranthus spinosus			
Tumble	Amaranthus albus			
Prickly Lettuce	Lactuca serriola			
Prickly Sida (Teaweed)	Sida spinosa			
Puncturevine	Tribulus terrestris			
Purslane, Common	Portulaca oleracea			
Radish, Wild	Raphanus raphanistrum			
Redmaids	Calandrinia ciliata var. menziesii			
Shepherd's-purse	Capsella bursa-pastoris			
Smallflower Morningglory	Jacquemontia tamnifolia			
Spotted Spurge	Euphorbia maculata			
Venice Mallow	Hibiscus trionum			



Table 1. Broadleaf Weeds Controlled by Residual Activity of Zaltus SC CA (continued)

#### **Broadleaf Weed Species (continued)** Section B - All weeds listed in Section A plus: **Common Name** Scientific Name **Organic Matter Soil Type Application Rates**(1) Coffee Senna Cassia occidentalis Up to 3% **All Soil Types** 2 fl oz/A Cotton and Dry Bean Common Ragweed Ambrosia artemisiifolia 2.5 fl oz/A Florida Beggarweed Desmodium tortuosum Field Corn 3 fl oz/A Golden Crownbeard Verbesina encelioides all other labeled crops Hairy Indigo Indiaofera hirsute Coarse and Hemp Sesbania 3 to 5%2 fl oz/A Sesbania exaltata Medium Soils: Cotton and Dry Bean Jimsonweed Datura stramonium (sandy loam, 2.5 fl oz/A Kochia Kochia scoparia loamy sand, loamy, Field Corn silt-loam, silt, sandy 3 fl oz/A **London Rocket** Sisymbrium irio clay, sandy clay loam) all other labeled crops Morningglories(2)

Ipomoea hederacea var. integriuscula

Ipomoea hederacea
Ipomoea coccinea

Ipomoea purpurea

Amaranthus palmeri

Croton glandulosus

Amaranthus rudis

Amaranthus tuberculatus

Euphorbia heterophylla

Brassica kaber

Anoda cristata



Entireleaf

Red/Scarlet

Mustard, Wild

Palmer Amaranth

Spurred Anoda

**Tropic Croton** 

Waterhemps

Wild Poinsettia

Common

Tall

lvyleaf

Tall

Fine Soils:

(silty clay, silty clay

loam, clay, clay loam)

2 fl oz/A

Cotton and Dry Bean

3 fl nz/A

Field Corn and all other labeled crops

<sup>(1)</sup> **Zaltus SC CA** will provide residual control of these weeds at 2 fl oz/A when applied under a cotton canopy.

<sup>(2)</sup> Morningglory species are not adequately controlled on fine soils or soils with greater than 3% organic matter.

Table 2. Weeds Suppressed by Residual Activity of Zaltus SC CA Application Rates

Broadleaf Weed Species				
Common Name	Scientific Name	Organic Matter	Application Rates	
Bristly Starbur	Acanthospermum hispidum	Up to 5%	2 to 3 fl oz/A	
Copperleaf, Hophornbeam	Acalypha ostryifolia			
Ragweed, Giant	Ambrosia trifida			
Russian Thistle	Salsola iberica			
Smartweeds				
Ladysthumb	Polygonum persicaria			
Pennsylvania	Polygonum pensylvanicum			
Velvetleaf	Abutilon theophrasti			
Wild Buckwheat	Polygonum convolvulus			
Wormwood, Biennial	Artemisia biennis			
Grass Weed Species				
Barnyardgrass	Echinochloa crus-galli	Up to 5%	2 to 3 fl oz/A	
Bluegrass, Annual	Poa annua			
Crabgrass, Large	Digitaria sanguinalis			
Foxtail, Giant	Setaria faberi			
Goosegrass	Eleusine indica			
Lovegrass, California	Eragrostis diffusa			
Panicums				
Fall	Panicum dichotomiflorum			
Texas	Panicum texanum			
Ryegrass, Italian	Lolium multiflorum			
Signalgrass, Broadleaf	Brachiaria platyphylla			
Cheat	Bromus secalinus		1.5 to 3 fl oz/A	
Downy Brome	Bromus tectorum			

## DIRECTIONS FOR USE IN FALL AND SPRING PREPLANT BURNDOWN AND FALLOW SEEDBED PROGRAMS IN FIELD CORN

(Preemergence to Crop)

## RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 12 fl oz of Zaltus SC CA per acre.
- DO NOT apply to frozen or snow-covered soil.
- DO NOT perform any tillage operation after application or residual weed control will be reduced.
- Observe all rotational intervals prior to planting as listed in the **ROTATIONAL RESTRICTIONS** table.

## FALL BURNDOWN AND FALLOW SEEDBED PROGRAMS

Zaltus SC CA at 2 to 3 fl oz/A can be used in the fall to provide residual weed control in fields that will be planted the following spring with field corn (refer to ROTATIONAL RESTRICTIONS table for rates and rotational intervals prior to planting). Weeds controlled by residual activity are listed in Table 1. Broadleaf Weeds Controlled by Residual Activity of Zaltus SC CA, (Sections A and B); Table 3. Weeds Controlled by Fall and Spring Preplant Burndown Programs; and Table 7. Weeds Controlled by Residual Activity of Zaltus SC CA. If weeds have emerged at the time of application, use Zaltus SC CA in combination with a labeled burndown herbicide. Zaltus SC CA can be used in a fall burndown or fallow seedbed program, however the length of residual control may be variable.



Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

Weeds controlled by postemergence or residual activity are listed in Table 3. Preplant burndown treatment tank mixes and rates are:

Herbicide	Product Rate
Program 1 <sup>(1)</sup>	
Zaltus SC CA Plus	2 to 3 fl oz/A
glyphosate <b>Plus</b>	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of Roundup Original®)
2,4-D LVE (2,4-D for use on preplant soybeans only) <b>Plus</b>	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of 2,4-D 4 LVE)
NIS + AMS	0.5% v/v + 17 lb/100 <b>gallons</b> of water

or

Herbicide	Product Rate
Program 2 <sup>(1)</sup>	
Zaltus SC CA Plus	2 to 3 fl oz/A
glyphosate <b>Plus</b>	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of Roundup Original)
COC <sup>(2)</sup> or NIS + AMS	1 pt/A or 0.5% v/v + 17 lb/100 gallons of water

or

Herbicide	Product Rate
Program 3 <sup>(1)</sup>	
Zaltus SC CA Plus	2 to 3 fl oz/A
2,4-D LVE (2,4-D for use on preplant soybeans only) <b>Plus</b>	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of 2,4-D 4 LVE)
COC	1 pt/A

<sup>(1)</sup> Dicamba, at 0.188 lb ai/A (6 fl oz/A of dicamba) can be added to Programs 1, 2 & 3 to assist in the control emerged broadleaves. Refer to dicamba label for rotational restrictions.



<sup>(2)</sup> Crop oil concentrate has been found to increase glyphosate burndown of emerged cutleaf evening primrose and Carolina geranium.

Table 3. Weeds Controlled by Fall and Spring Preplant Burndown Programs

Weeds Controlled <sup>(1)</sup>			Postemergence		
Common Name Scientific Name		Program 1	Program 2	Program 3	Residual
		W	eeds 3 inches or l	ess	
Chamomile, False	Matricaria maritima	Yes	Yes	No	Yes
Cheatgrass	Bromus tectorum	Yes	Yes	No	Yes
Chickweed, Common	Stellaria media	Yes	Yes	No	Yes
Chickweed, Mouseear	Cerastium vulgatum	Yes	Yes	No	Yes
Cockle, White	Silene latifolia	No	Yes	Yes	Yes
Dandelion	Taraxacum officinale	Yes	No	Yes <sup>(2)</sup>	Yes
Deadnettle, Purple	Lamium purpureum	Yes	Yes	Yes	Yes
Groundsel, Cressleaf	Senecio glabellus	Yes	Yes	-	Yes
Henbit	Lamium amplexicaule	Yes	Yes	Yes	Yes
Kochia	Kochia scoparia	Yes	Yes	Yes	Yes
Marestail/Horseweed	Conyza canadensis	Yes	Yes <sup>(3)</sup>	Yes	Yes
Mallow, Common	Malva neglecta	Yes	Yes	No	Yes
Prickly Lettuce	Lactuca serriola	Yes	Yes	Yes	Yes
Wormwood, Biennial	Artemisia biennis	Yes	Yes	Yes	Yes
		We	eds 12 inches or	less	
Canola, Volunteer	Brassica napus	Yes	Yes	Yes	Yes
Carolina Geranium	Geranium carolinianum	Yes	Yes	Yes	-
Evening Primrose, Cutleaf <sup>(4)</sup>	Oenothera laciniata	Yes	Yes	Yes	Yes
Flixweed	Descurainia sophia	Yes	Yes	Yes	Yes
Mustard, Tansy	Descurainia pinnata	Yes	Yes	Yes	Yes
Mustard, Wild	Brassica kaber	Yes	Yes	Yes	Yes
Shepherd's-purse	Capsella bursa-pastoris	Yes	Yes	Yes	Yes

<sup>(1)</sup> Refer to glyphosate and/or 2,4-D labels for additional weeds controlled and rotational restrictions.

#### **SPRING BURNDOWN PROGRAMS**

Zaltus SC CA can be used in combination with labeled preplant burndown herbicides to assist in the postemergence burndown of emerged weeds and provide residual weed control prior to crop emergence. Weeds controlled by residual activity are listed in Table 1.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row. Zaltus SC CA cannot be applied after planting field corn.

Zaltus SC CA can be used at 1 to 3 fl oz/A with labeled preplant burndown herbicides to enhance the speed of burndown and increase weed spectrum.

Zaltus SC CA can be used at 1 to 3 fl oz/A in field corn burndown programs. See DIRECTIONS FOR USE IN FIELD CORN for more information.



<sup>(2)</sup> Use 1 lb ai/A of 2,4-D LVE (equivalent to 2 pt/A of 2,4-D 4 LVE) for control of emerged dandelion.

<sup>&</sup>lt;sup>(3)</sup> Program 2 will not control emerged glyphosate resistant marestail/horseweed.

<sup>(4)</sup> Use Program 1 to control cutleaf evening primrose that are nearing 12 inches in height or are past the rosette stage. Use Programs 2 or 3 to control cutleaf evening primrose that are 12 inches or less and in the rosette stage.

## DIRECTIONS FOR USE IN FALL AND SPRING BURNDOWN PROGRAMS IN COTTON

## RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 12 fl oz per acre per application.
- DO NOT apply to frozen or snow-covered soil.
- DO NOT perform any tillage operation after application or residual weed control will be reduced.
- Zaltus SC CA can be used at 1 to 2 fl oz/A with labeled burndown herbicides to enhance the speed of burndown and increase weed spectrum.
- A minimum of 30 days must pass, and 1 inch of rainfall/irrigation must occur, between Zaltus SC CA application and planting of conventionally tilled cotton.
- A minimum of 14 days must pass, and 1 inch of rainfall/irrigation must occur, between **Zaltus SC CA** application and planting of no-till or strip-till cotton when a **Zaltus SC CA** rate of 1 fl oz/A is used and 21 days when a **Zaltus SC CA** rate of 1.5 to 2 fl oz/A is used. The field must contain the stubble from the previous crop.
- Observe all rotational intervals prior to planting as listed in the ROTATIONAL RESTRICTIONS table.
- Refer to most restrictive label for minimum interval between application and planting.

#### **FALL BURNDOWN PROGRAMS**

Zaltus SC CA at 2 to 4 fl oz/A, can be used in the fall to provide residual weed control in fields that will be planted the following spring with cotton (refer to ROTATIONAL RESTRICTIONS table for rates and rotational intervals prior to planting). Weeds controlled by residual activity are listed in Table 1 and Table 7. If weeds have emerged at the time of application, use Zaltus SC CA in combination with a labeled burndown herbicide.

Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

#### **SPRING BURNDOWN PROGRAMS**

**Zaltus SC CA** at 1 to 2 fl oz/A, can be used in combination with labeled preplant burndown herbicides to assist in the postemergence burndown of emerged weeds and provide residual weed control prior to crop emergence in fields that will be planted with cotton. Weeds controlled by residual activity are listed in **Table 1**.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row.

## DIRECTIONS FOR USE IN FALL AND SPRING BURNDOWN PROGRAMS IN RICE, SORGHUM, SUNFLOWER AND WHEAT

(Preplant to Crop)

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 12 fl oz per acre per application.
- DO NOT apply to frozen or snow-covered soil.
- DO NOT perform any tillage operation after application or residual weed control will be reduced.
- Zaltus SC CA can be used at 1 to 2 fl oz/A with labeled burndown herbicides to enhance the speed of burndown and increase weed spectrum. A minimum of 30 days must pass, and 1 inch of rainfall/irrigation must occur, between Zaltus SC CA application and planting of rice, sorghum, sugarcane, sunflowers or wheat. Refer to most restrictive label for minimum interval between application and planting.
- Observe all rotational intervals prior to planting as listed in the **ROTATIONAL RESTRICTIONS** table.

#### **FALL BURNDOWN PROGRAMS**

**Zaltus SC CA** can be used in combination with labeled burndown programs to control emerged weeds and provide residual weed control in fields that will be planted the following spring (refer to **ROTATIONAL RESTRICTIONS** table for rates and rotational intervals prior to planting).

Abnormally warm winters may reduce the length of weed control observed in the spring.

#### SPRING BURNDOWN PROGRAMS

Zaltus SC CA can be used in combination with labeled burndown programs to control emerged weeds and provide residual weed control prior to crop emergence. Weeds controlled by residual activity are listed in Table 1, Section A. Crops that will be planted following application must be in compliance with the rotational interval listed in the ROTATIONAL RESTRICTIONS table above.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row.

# DIRECTIONS FOR USE IN FALL BURNDOWN PROGRAMS IN FIELDS TO BE PLANTED TO BARLEY, FIELD PEAS, FLAX, LENTIL, SAFFLOWER, SUNFLOWER AND SPRING WHEAT

(Preplant to Crop)

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 12 fl oz per acre per application.
- DO NOT apply to frozen or snow-covered soil.
- **DO NOT** perform any tillage operation after application or residual weed control will be reduced.



- Zaltus SC CA can be mixed with 2,4-D and/or glyphosate formulations labeled for burndown programs (preplant to crop) in accordance with the most restrictive label limitations and precautions.
- DO NOT mix Zaltus SC CA with any product containing a label prohibition against such mixing.
- Observe all rotational intervals prior to planting as listed in the **ROTATIONAL RESTRICTIONS** table.

## **FALL BURNDOWN PROGRAMS**

Zaltus SC CA can be used at 2 to 4 fl oz/A with labeled burndown herbicides to enhance the speed of burndown, increase weed spectrum and provide residual weed control of the weeds listed in Table 3 until the following spring. Rotational intervals must be followed for crop to be planted in the spring following the fall Zaltus SC CA application. Refer to most restrictive label for minimum interval between application and planting.

## DIRECTIONS FOR USE IN FALLOW LAND

Zaltus SC CA may be used as a preemergence fallow treatment. Weeds controlled by residual activity are listed in Table 1.

Zaltus SC CA at 2 to 4 fl oz/A, can be used in the fall to provide residual weed control in fallow fields (refer to ROTATIONAL RESTRICTIONS table for rates and rotational intervals prior to planting). If weeds have emerged at the time of application, use Zaltus SC CA in combination with a labeled fallow herbicide.

Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

Zaltus SC CA at 1 to 4 fl oz/A, can be used in spring in combination with labeled burndown herbicides to control emerged weeds and provide residual weed control.

#### RESTRICTIONS AND LIMITATIONS

- **DO NOT** make more than 4 fl oz per acre application.
- DO NOT make more than 2 applications per year.
- DO NOT make more than 8 fl oz per year.
- DO NOT make a sequential Zaltus SC CA application within 30 days of the first Zaltus SC CA application.

## DIRECTIONS FOR USE IN ESTABLISHED ALFALFA

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 4 fl oz of Zaltus SC CA per acre per application.
- DO NOT apply more than 2 applications of Zaltus SC CA per acre per year.
- DO NOT apply more than 8 fl oz of Zaltus SC CA per acre per year.
- DO NOT make a sequential Zaltus SC CA application within 60 days of the first Zaltus SC CA application.
- DO NOT apply to alfalfa with greater than 6 inches of growth. Application will result in burning of treated leaves and stems. Understand and accept this risk before using Zaltus SC CA on alfalfa.
- DO NOT apply within 25 days of harvest or grazing.
- DO NOT use on alfalfa grown for seed unless approved by a State authority to support a Special Local Need (SLN) under FIFRA section 24(c).
- Only apply with an adjuvant or tank mix with products formulated as an emulsifiable concentrate "EC" when targeting control of emerged weeds (expect and accept crop burn and/or stunting if **Zaltus SC CA** is used with an adjuvant, a tank mix partner formulated as an emulsifiable concentrate (EC) or a tank mix partner formulated with an adjuvant.)
- Application with paraquat can be used to burndown winter annuals prior to winter dormant period.
- DO NOT use on intended mixed alfalfa-grass stands.

#### TIMING TO ALFALFA

Zaltus SC CA may be applied to established alfalfa with a maximum amount of growth of 6 inches or less for the preemergence control of the weeds listed in Table 7. Weeds Controlled by Residual Activity of Zaltus SC CA. Established alfalfa is defined as alfalfa planted in the fall or spring which has gone through a first cutting/mowing. Application to alfalfa with greater than 6 inches of growth may result in unacceptable crop injury.

For control of winter annual weeds: the best timing for preemergence control is in the fall immediately after the last cutting or sheeping-off has occurred.

For control of summer annual weeds: the best timing for preemergence control is in the spring prior to alfalfa growth and before 6 inches of growth.

#### TIMING TO WEEDS

## **Preemergence - Preemergence to Weeds**

Apply Zaltus SC CA before alfalfa growth exceeds 6 inches in height for the preemergence control of weeds listed in Table 7. Weeds Controlled by Residual Activity of Zaltus SC CA. Make applications as soon as possible after cutting and removing alfalfa to minimize injury to alfalfa growth.



## **DIRECTIONS FOR USE IN ARTICHOKE**

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 4 fl oz of Zaltus SC CA per acre per application on annual or perennial artichoke varieties after new planting.
- DO NOT apply more than 6 fl oz of Zaltus SC CA per acre per application on perennial artichoke varieties after cutback.
- DO NOT make more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 6 fl oz of Zaltus SC CA per acre per year.
- Application to artichoke foliage may result in unacceptable crop injury.

#### TIMING TO ARTICHOKE

Annual Varieties: Zaltus SC CA may be applied to artichoke beds prior to transplanting. Application of Zaltus SC CA must be made to the beds no later than 2 days prior to transplanting. Irrigation or rainfall after transplanting is necessary to activate the Zaltus SC CA. DO NOT irrigate the Zaltus SC CA before transplanting. Heavy irrigation or rainfall may result in crop injury. The injury is usually transitory and the plants will quickly grow out of the crop damage. Take care to minimize soil disturbance during transplanting, as preemergence weed control will decrease as soil disturbance increases.

**Perennial Varieties: Zaltus SC CA** may be applied to artichokes after planting of crown pieces or "cut back" of mature plants. Applications of **Zaltus SC CA** must be made within 2 days after planting or cut back and prior to artichoke emergence. Application after the artichokes have begun to crack, or are emerged, will result in crop injury. Apply before artichokes have begun to emerge (cracking).

#### **TIMING TO WEEDS**

## Pre-plant (annual)/Preemergence (perennial) to Artichokes - Preemergence to Weeds

Apply Zaltus SC CA pre-plant to annual artichokes for preemergence control of the weeds. For perennial artichokes apply before cracking for preemergence control the weeds. Apply prior to weed emergence. A post-emergence herbicide may be necessary to control emerged weeds. Zaltus SC CA may be applied to annual or perennial artichokes as specified above for preemergence control of weeds listed in Table 7. Weeds Controlled by Residual Activity of Zaltus SC CA.

## DIRECTIONS FOR USE IN ESTABLISHED ASPARAGUS

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 6 fl oz of Zaltus SC CA per acre per application.
- DO NOT make more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 6 fl oz of Zaltus SC CA per acre per year.
- Apply only to dormant asparagus no less than 14 days before spears emerge. Application to non-dormant asparagus may result in unacceptable crop injury.
- **DO NOT** work soil within 60 days prior to application in the spring. Soil can be worked after spear harvest in preparation for **Zaltus SC CA** application prior to fern emergence. Treated soil that is splashed onto the ferns may result in spotting.

## **TIMING TO ASPARAGUS - Dormant**

Zaltus SC CA may be applied to dormant asparagus for preemergence control of the weeds listed in Table 9. Weeds Controlled by Preemergence Application of Zaltus SC CA. Application to non-dormant asparagus will result in unacceptable crop injury. Apply a minimum of two weeks before spear emergence. Scoring may result if a minimum of 0.5 inch of either rainfall or irrigation has not occurred two weeks prior to emergence.

## **TIMING TO ASPARAGUS - Post Harvest**

Apply Zaltus SC CA after the final harvest of the year, but prior to fern emergence, for preemergence control of the weeds listed in Table 9. Weeds Controlled by Preemergence Application of Zaltus SC CA. Application after fern emergence will result in unacceptable crop injury. Apply no less than two weeks prior to fern emergence and must be sprinkler or rainfall incorporated with 1/2 to 3/4 inches of water. Add a burndown tank mix partner for the control of emerged weeds labeled for asparagus in accordance with the most restrictive labeled limitations and precautions.

#### **TIMING TO WEEDS**

#### Burndown - Dormant Asparagus, Postemergence to Weeds

Zaltus SC CA may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where asparagus is dormant. For control of emerged weeds, tank mix Zaltus SC CA with paraquat. Refer to paraquat label for rates and application parameters. To ensure thorough coverage, use a minimum of 15 gallons of spray solution per acre. Zaltus SC CA tank mixes applied to assist in the control of emerged weeds must be applied with a non-ionic surfactant at 0.25% v/v. A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lb/A or 28 to 32% nitrogen solution at 1 to 2 qt/A) may be added to increase herbicidal activity.

#### Burndown - After Last Harvest of Season, Postemergence to Weeds

Use **Zaltus SC CA** for residual weed control and to assist in postemergence burndown for many annual and perennial weeds where asparagus harvest has been completed for the year. For control of emerged weeds, use a labeled tank mix partner with activity on the emerged weeds.

## Preemergence - Dormant Asparagus or After Last Harvest of the Year, Preemergence to Weeds

Apply Zaltus SC CA for the preemergence control of weeds listed in Table 9. Weeds Controlled by Preemergence Application of Zaltus SC CA.



## **DIRECTIONS FOR USE IN CELERY**

## RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre during a pre-transplant application.
- DO NOT make more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre during per year.
- DO NOT use with an adjuvant.
- DO NOT apply as part of a tank mix.

#### **PRECAUTIONS**

In the state of California, use as pre-transplant application only.

#### TIMING TO CELERY

Apply Zaltus SC CA at 3 fl oz/A prior to transplanting for preemergence control of the weeds listed in Table 1. Broadleaf Weeds Controlled by Residual Activity of Zaltus SC CA.

## **TIMING TO WEEDS**

Use **Zaltus SC CA** prior to weed emergence for residual control.

Refer to PRODUCT INFORMATION section for tank mix guidance. Zaltus SC CA, when applied according to label use directions, will control the weeds listed in Table 1. Broadleaf Weeds Controlled by Residual Activity of Zaltus SC CA.

## **DIRECTIONS FOR USE IN COTTON**

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 2 fl oz of Zaltus SC CA per acre per application.
- DO NOT make more than 2 applications of Zaltus SC CA per acre per year.
- DO NOT apply more than 4 fl oz of Zaltus SC CA per acre per year.
- DO NOT make a sequential Zaltus SC CA application within 30 days of the first Zaltus SC CA application.
- DO NOT apply within 60 days of harvest.

## **ENVIRONMENTAL CONDITIONS AND BIOLOGICAL PERFORMANCE**

#### Hooded, Shielded and Layby Application

For best results, apply Zaltus SC CA to actively growing weeds within the growth stages indicated in this label. Applying Zaltus SC CA under conditions that DO NOT promote active weed growth will reduce herbicide effectiveness. DO NOT apply Zaltus SC CA when the crop or weeds are under stress due to drought, excessive water, extremes in temperature, disease or low humidity. Weeds under stress tend to become less susceptible to herbicidal action. Zaltus SC CA is most effective when applied under sunny conditions at temperatures above 65°F.

Zaltus SC CA is rainfast one hour after application. DO NOT make applications if rain is expected within one hour of application or postemergence efficacy may be reduced.

## HERBICIDE RATE

#### **Hooded, Shielded and Layby Application**

For postemergence weed control, apply Zaltus SC CA through a hooded or shielded sprayer or at layby, at 2 fl oz/A, in combinations with MSMA or at 1 to 2 fl oz/A in combination with glyphosate, to assist in the control of weeds listed in Table 4. Residual weed control can also be obtained through hooded, shielded and layby application of Zaltus SC CA. Weeds that are controlled through residual activity of Zaltus SC CA are listed in Table 1. Weeds that are suppressed by residual activity of Zaltus SC CA are listed in Table 2.



Table 4. Emerged Broadleaf Weeds Controlled by Hooded, Shielded and Layby Application of Zaltus SC CA Tank Mixes With Glyphosate or MSMA in Cotton

Broadleaf Weed Species				
Common Name	Scientific Name	Weed Height (inches) 2 fl oz/A		
Bindweed, Field <sup>(1)</sup>	Convolvulus arvensis	4		
Carpetweed	Mollugo verticillata	4		
Chickweed, Common	Stellaria media	4		
Cocklebur, Common	Xanthium strumarium	4		
Florida Beggarweed	Desmodium tortuosum	2		
Hemp Sesbania	Sesbania exaltata	6		
Jimsonweed	Datura stramonium	4		
Lambsquarters, Common	Chenopodium album	4		
Morningglories				
Entireleaf	Ipomoea hederacea var. integriuscula	4		
lvyleaf	Ipomoea hederacea	4		
Pitted	Ipomoea lacunose	4		
Red	Ipomoea coccinea	4		
Tall	Ipomoea purpurea	2		
Mustard, Wild	Brassica kaber	6		
Nightshades				
Black	Solanum nigrum	4		
Eastern Black	Solanum ptycanthum	4		
Hairy	Solanum sarrachoides	4		
Pigweeds				
Palmer Amaranth	Amaranthus palmeri	4		
Redroot	Amaranthus retroflexus	4		
Smooth	Amaranthus hybridus	4		
Plantain, Broadleaf	Plantago major	6		
Prickly Sida (Teaweed)	Sida spinosa	4		
Purslane, Common	Portulaca oleracea	2		
Ragweeds				
Common	Ambrosia artemisiifolia	2		
Giant	Ambrosia trifida	4		
Rice Flatsedge	Cyperus iria	2		
Sicklepod	Senna obtusifolia	4		



Table 4. Emerged Broadleaf Weeds Controlled by Hooded, Shielded and Layby Application of Zaltus SC CA Tank Mixes with Glyphosate or MSMA in Cotton (continued)

Broadleaf Weed Species (continued)			
Common Name	Scientific Name	Weed Height (inches) 2 fl oz/A	
Smartweeds			
Ladysthumb	Polygonum persicaria	4	
Pale	Polygonum lapathifolium	4	
Pennsylvania	Polygonum pensylvanicum	4	
Spotted Spurge	Euphorbia maculata	4	
Velvetleaf	Abutilon theophrasti	4	
Venice Mallow	Hibiscus trionum	2	
Waterhemps			
Common	Amaranthus rudis	2	
Tall	Amaranthus tuberculatus	2	

<sup>(1)</sup> Zaltus SC CA tank mixes will control the above ground portion of field bindweed. Repeated applications will be needed to control regrowth.

## **CARRIER VOLUME AND SPRAY PRESSURE**

#### Hooded, Shielded and Layby Application

To ensure thorough coverage in hooded, shielded and layby applications, use 15 to 30 gallons spray solution per treated acre. Use 20 to 30 gallons per treated acre under heavy weed pressure. Nozzle selection must meet manufacturer's gallonage and pressure guidance for application method being used. **DO NOT** use "Flood Jet" nozzles, as they tend to increase the chance of crop injury.

#### **ADDITIVES**

## Hooded, Shielded and Layby Application

Weed control from hooded, shielded or layby application of **Zaltus SC CA** in cotton requires the addition of an agronomically approved non-ionic surfactant to the spray mixture. Non-ionic surfactant must contain at least 80% active ingredient. Verify mixing compatibility qualities by a jar test. **The use of crop oil concentrates, methylated seed oils, organo-silicant surfactants or products containing these ingredients, may result in severe crop injury.** 

#### APPLICATION EQUIPMENT

Apply Zaltus SC CA tank mixes, with ground equipment using standard commercial sprayers equipped with nozzles designed to deliver the desired spray pressure and spray volume. Application equipment must be clean and in good repair. Nozzles must meet manufacturer's guidelines for spray pattern and placement on spray boom and must be checked frequently for accuracy.

## **TIMING TO COTTON**

#### **Hooded and Shielded Application**

Zaltus SC CA tank mixes may be applied with a hooded or shielded sprayer after cotton has reached a minimum of 6 inches in height. All nozzles must be under the hood or behind the shield to ensure no spray solution comes in contact with the cotton. Care must be taken to ensure the spray solution or drift does not come in contact with the cotton or severe crop injury can occur.

## **Layby Application**

Layby application of **Zaltus SC CA** tank mixes may be made once cotton has reached a minimum of 16 inches in height. Cotton that is smaller than 16 inches in height may be injured by **Zaltus SC CA** applications. **Zaltus SC CA** application must be directed to the lower 2 inches of the cotton stem to avoid crop injury.

#### TIMING TO WEEDS

Zaltus SC CA tank mix applications must be made to weeds within the height range given in Table 4.

#### TANK MIXES

Zaltus SC CA must be tank mixed with one of the herbicides listed in Table 5 for postemergence control of the weeds listed in Table 4.



Table 5. Tank Mixes with Zaltus SC CA for Hooded, Shielded and/or Layby Use in Cotton

Tank Mix Partner	Target Weeds	Hooded and Shielded	Layby
glyphosate	Perennial Grasses and Broadleaves	Х	<b>X</b> (1)
MSMA	Annual Grasses Yellow Nutsedge	Х	Х

<sup>(1)</sup> For use only in cotton with the Roundup Ready gene.

## **DIRECTIONS FOR USE IN DRY BEANS**

Dried cultivars of bean (*Lupinus*); bean (*Phaseolus*) (includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean); bean (*Vigna*) (includes adzuki bean, black-eyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea (garbanzo bean); guar; lablab bean and lentil

### WEED SUPPRESSION IN DRY BEANS AND WEED CONTROL IN CHICKPEAS (GARBANZO BEANS)

#### RESTRICTIONS AND LIMITATIONS

- For Chickpeas, **DO NOT** apply more than 2 fl oz of **Zaltus SC CA** per acre per application. For all other Dry Beans, **DO NOT** apply more than 1.5 fl oz of **Zaltus SC CA** per acre per application.
- DO NOT make more than 1 application of Zaltus SC CA per acre per year.
- For Chickpeas, **DO NOT** apply more than 2 fl oz of **Zaltus SC CA** per acre per year. For all other Dry Beans, **DO NOT** apply more than 1.5 fl oz of **Zaltus SC CA** per acre per year. **Many weather-related factors**, including high wind, splashing or heavy rains or cool conditions at or near crop emergence, may result in dry bean injury in fields treated with **Zaltus SC CA**. On occasion this has resulted in a delay in maturity. Understand and accept these risks before using **Zaltus SC CA**.

#### TIMING TO DRY BEANS AND CHICKPEAS

Zaltus SC CA may be applied to dry beans within 2 days after planting for the preemergence suppression of the weeds listed in Table 1. Broadleaf Weeds Controlled by Residual Activity of Zaltus SC CA or Table 8. Weeds Suppressed by Residual Activity of Zaltus SC CA. Tank mix Zaltus SC CA with other labeled herbicides for broad spectrum weed control.

#### **TIMING TO WEEDS**

Zaltus SC CA may be applied to dry beans prior to planting or preemergence (after planting). Preemergence application of Zaltus SC CA must be made within 2 days after planting and prior to dry bean emergence. To avoid severe crop injury, DO NOT apply to dry beans after beans begin to crack or have emerged.

Preplant incorporation (PPI) applications may result in reduced weed control.

#### ADDITIONAL RESIDUAL GRASS CONTROL

Zaltus SC CA can be tank mixed with pendimethalin for additional grass control.

#### HARVEST AID

## RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre per application.
- DO NOT make more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre per year.
- DO NOT harvest within 5 days of application.

Desiccation from **Zaltus SC CA** requires the addition of an agronomically approved adjuvant to the spray mixture. Use a methylated seed oil which contains at least 15% emulsifiers and 80% oil at 2% v/v. A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lb/A or a 28 to 32% nitrogen solution at 1 to 2 qt/A) may be added to the spray mixture along with either a crop oil concentrate or methylated seed oil to enhance desiccation. The addition of a nitrogen source does not replace the need for a crop oil concentrate or a methylated seed oil. Tank mixing **Zaltus SC CA** with glyphosate or paraquat will increase control of emerged weeds and aid in harvest. Add a burndown tank mix partner for the control of emerged weeds labeled for dry bean in accordance with the most restrictive labeled limitations and precautions.

### TIMING TO DRY BEANS AND CHICKPEAS

Apply when crop is mature and at least 80% of the pods are yellowing and mostly ripe with no more than 40% (bush type beans) or 30% (vine type beans) of the leaves still green in color. Dry beans can be harvested 5 days after application. To ensure thorough coverage use 15 to 30 gallons spray solution per acre. Nozzle selection must meet manufacturer's gallonage and pressure guidelines for postemergence application.

## **DIRECTIONS FOR USE IN FIELD CORN**

## RESTRICTIONS AND LIMITATIONS

- Use only on no-till or minimum tillage fields where last years crop residue has not been incorporated into the soil.
- Corn must be planted between 14 and 30 days after application unless the application is made as part of a Fall burndown program.



- Corn can be planted 7 days after an application of 2 fl oz/A if a minimum of 25% of the soil surface is covered with the residue of the preceding crop and a minimum of 1/4 inch of rainfall has occurred between application and planting.
- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre per application.
- DO NOT make more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre per year.
- **DO NOT** irrigate between emergence and 2-leaf corn.
- DO NOT use on popcorn, sweet corn or corn grown for seed.

#### TIMING TO FIELD CORN

- Apply Zaltus SC CA at 2 fl oz/A between 7 and 30 days prior to planting field corn if a minimum of 25% of the soil surface is covered with the residue of the preceding crop
  and a minimum of 1/4 inch of rainfall has occurred between application and planting.
- Apply Zaltus SC CA at 3 fl oz/A between 14 and 30 days prior to planting field corn.

## **Burndown Use Directions - For Preplant Applications in Field Corn**

Zaltus SC CA, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many weeds where field corn will be planted directly into the residue of the previous year. See DIRECTIONS FOR USE IN FALL AND SPRING PREPLANT BURNDOWN AND FALLOW SEEDBED PROGRAMS IN FIELD CORN for rates and timing of applications. For control of emerged weeds, Zaltus SC CA must be applied with an appropriate burndown tank mix partner listed in Table 6.

To ensure thorough coverage, use a minimum of 15 gallons of spray solution per acre. Refer to tank mix partner's label for application pressures and adjuvant systems.

## INCREASING SPEED OF GLYPHOSATE BURNDOWN ACTIVITY

Zaltus SC CA, at 1 fl oz/A, may be tank mixed with glyphosate to increase the speed of burndown activity compared to glyphosate applied alone. Residual weed control will not be provided at rates lower than 2 fl oz/A; however, suppression of the weeds in Table 2 may occur at Zaltus SC CA rates as low as 1 fl oz/A. Applications of Zaltus SC CA at 1 fl oz/A must be made a minimum of 14 days prior to planting field corn.

#### **TANK MIXES**

**Zaltus SC CA** may be tank mixed with the herbicides listed in **Table 6** for pre-plant burndown applications. Refer to tank mix partner's label for adjuvants.

Table 6. Tank Mix Partners for Burndown and/or Residual Control of Weeds in Field Corn

Table 6. Talk Min 1 at the 3 for but had will all after the state of the cas in 1 feb both				
Tank Mix Partners <sup>(1)</sup>				
2,4-D LVE	glyphosate			
atrazine	metribuzin			
Basis® (rimsulfuron + thifensulfuron, EPA Reg. No. 352-854)	paraquat			
clopyralid	Resolve® (rimsulfuron + thifensulfuron, EPA Reg. No. 352-777)			
dicamba	simazine			
flumetsulam	tribenuron-methyl			

<sup>(1)</sup> Refer to tank mix product labels for specific application directions.

#### TANK MIX RESTRICTIONS

Tank mixes with flufenacet, metolachlor or s-metolachlor, dimethenamid or dimethenamid-p, or acetochlor may result in injury to field corn when application is followed by prolonged periods of cool wet weather.

## **DIRECTIONS FOR USE IN GARLIC**

## RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 6 fl oz of Zaltus SC CA per acre per application.
- DO NOT make more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 6 fl oz of Zaltus SC CA per acre per year.

#### TIMING TO GARLIC

Zaltus SC CA may be applied, at 6 fl oz/A, to garlic prior to garlic emergence. Make application within 3 days after planting garlic.

#### TIMING TO WEEDS

## Preemergence - Preemergence to Weeds

Apply Zaltus SC CA to weed free garlic for preemergence control of the weeds listed in Table 9. Weeds Controlled by Preemergence Application of Zaltus SC CA.



## **DIRECTIONS FOR USE IN MINT**

### (Peppermint and Spearmint)

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 4 fl oz of Zaltus SC CA per acre per application.
- DO NOT make more than 2 applications of Zaltus SC CA per acre per year.
- DO NOT apply more than 8 fl oz of Zaltus SC CA per acre per year.
- DO NOT make a sequential Zaltus SC CA application within 60 days of the first Zaltus SC CA application.
- Apply only to dormant mint. Application to non-dormant mint may result in unacceptable crop injury.
- DO NOT apply within 80 days of harvest.

#### **PRECAUTIONS**

#### To avoid crop injury:

- Application to stands established longer than 3 years may result in crop injury.
- Applications to stands with weak, thin, or damaged roots or rhizomes may result in crop injury.
- Application to mint in Southern Union County (south of Ladd Canyon) or Baker County in Oregon may result in unacceptable crop injury.
- Use only on established meadow mint.
- Applications to mint that has been weakened by diseases, insects (example mint root borer), nematodes, drought, soil salts, high soil pH, previous pesticides, winter injury or double cutting, may result in severe injury. Apply only to healthy vigorous mint with undamaged rhizomes.

Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near mint emergence, may result in mint injury in fields treated with Zaltus SC CA.

#### Understand and accept these risks before using Zaltus SC CA.

Tank mixes with labeled rates of paraquat are recommended to control emerged weeds and increase crop safety.

## **TIMING TO MINT**

As a spray, **Zaltus SC CA** may be applied only to established, dormant mint for preemergence control of the weeds listed in **Table 7** as well as to assist in the postemergence control of emerged weeds. Application to non-dormant mint or to baby (row) mint (time from planting of mint roots through the first cutting), may result in unacceptable crop injury. As a bulk fertilizer application, **Zaltus SC CA** may be applied at least 80 days prior to harvest. Leaves must be dry at the time of applications or severe injury may occur.

#### **TIMING TO WEEDS**

## **Burndown - Dormant Mint, Postemergence to Weeds**

Zaltus SC CA may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where established mint is dormant. For control of emerged weeds, tank mix Zaltus SC CA with paraquat. Refer to paraquat label for rates and use directions. To ensure thorough coverage, use a minimum of 15 gallons of spray solution per acre. Zaltus SC CA tank mixes applied to assist in the control of emerged weeds must be applied with a non-ionic surfactant at 0.25% v/v. A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lb/A or 28 to 32% nitrogen solution at 1 to 2 qt/A) may be added to increase herbicidal activity.

### Preemergence - Dormant Mint, Preemergence to Weeds

Apply Zaltus SC CA to dormant mint for the preemergence control of weeds listed in Table 7. Fall applications of Zaltus SC CA, followed by a sequential application in the Spring, have resulted in better Summer annual weed control than a single Fall or single Spring application.

Fall application is most effective for Fall germinating weeds for example groundsel. Fields plowed or harrowed after a **Zaltus SC CA** application will result in less effective preemergence activity. In furrow irrigated fields, corrugating that is done after a **Zaltus SC CA** application will expose untreated soil and break the herbicide barrier resulting in poor weed control.

#### Table 7. Weeds Controlled by Residual Activity of Zaltus SC CA

Broadleaf Weed Species				
Common Name	Scientific Name	Organic Matter	Soil Type	Application Rate
Bristly Starbur	Acanthospermum hispidum	Up to 5%	All Soil Types	4 fl oz/A
Carpetweed	Mollugo verticillata			
Chickweeds				
Common	Stellaria media			
Mouseear	Cerastium vulgatum			
Coffee Senna	Cassia occidentalis			



Table 7. Weeds Controlled by Residual Activity of Zaltus SC CA (continued)

Broadleaf Weed Species					
Common Name	Scientific Name	Organic Matter	Soil Type	Application Rate	
Copperleaf, Hophornbeam	Acalypha ostryifolia	Up to 5%	All Soil Types	4 fl oz/A	
Dandelion	Taraxacum officinale				
Eclipta	Eclipta prostrata	-			
Evening Primrose, Cutleaf	Oenothera laciniata				
Florida Beggarweed	Desmodium tortuosum				
Florida Pusley	Richardia scabra				
Golden Crownbeard	Verbesina encelioides				
Groundsel, Common	Senecio vulgaris				
Hairy Indigo	Indigofera hirsuta				
Hemp Sesbania	Sesbania exaltata				
Henbit	Lamium amplexicaule	1			
Jimsonweed	Datura stramonium	1			
Kochia	Kochia scoparia	1			
Lambsquarters, Common	Chenopodium album				
Little Mallow	Malva parviflora				
London Rocket	Sisymbrium irio				
Marestail/Horseweed	Conyza canadensis				
Mayweed/False Chamomile	Matricaria maritima				
Morningglories		-			
Entireleaf	Ipomoea hederacea var. integriuscula	-			
lvyleaf	Ipomoea hederacea	1			
Red/Scarlet	Ipomoea coccinea				
Smallflower	Jacquemontia tamnifolia				
Tall	Ipomoea purpurea				
Mustard					
Wild	Brassica kaber	]			
Nettle, Burning	Urtica urens	]			
Nightshades		]			
Black	Solanum nigrum	]			
Eastern Black	Solanum ptycanthum	]			
Hairy	Solanum sarrachoides	]			



Table 7. Weeds Controlled by Residual Activity of Zaltus SC CA (continued)

Broadleaf Weed Species (continued)				
Common Name	Scientific Name	Organic Matter	Soil Type	Application Rate
Pigweeds		Up to 5%	All Soil Types	4 fl oz/A
Palmer Amaranth	Amaranthus palmeri			
Redroot	Amaranthus retroflexus			
Smooth	Amaranthus hybridus			
Spiny Amaranth	Amaranthus spinosus			
Tumble	Amaranthus albus			
Prickly Lettuce (China Lettuce)	Lactuca serriola			
Prickly Sida (Teaweed)	Sida spinosa			
Puncturevine	Tribulus terrestris			
Purslane				
Common	Portulaca oleracea			
Radish, Wild	Raphanus raphanistrum			
Ragweed, Common	Ambrosia artemisiifolia			
Redmaids	Calandrinia ciliata var. menziesii			
Russian Thistle	Salsola iberica			
Shepherd's-purse	Capsella bursa-pastoris			
Smartweeds				
Ladysthumb	Polygonum persicaria			
Pennsylvania	Polygonum pensylvanicum			
Spotted Spurge	Euphorbia maculata			
Spurred Anoda	Anoda cristata			
Tropic Croton	Croton glandulosus			
Velvetleaf	Abutilon theophrasti			
Venice Mallow	Hibiscus trionum			
Waterhemps				
Common	Amaranthus rudis			
Tall	Amaranthus tuberculatus			
Wild Poinsettia	Euphorbia heterophylla			
Wormwood, Biennial	Artemisia biennis			



Table 7. Weeds Controlled by Residual Activity of Zaltus SC CA (continued)

GRASS WEED SPECIES				
Common Name	Scientific Name	Organic Matter	Soil Type	Application Rate
Barnyardgrass	Echinochloa crus-galli	Up to 5%	All Soil Types	4 fl oz/A
Bluegrass, Annual	Poa annua			
Crabgrass, Large	Digitaria sanguinalis			
Foxtail, Giant	Setaria faberi			
Goosegrass	Eleusine indica			
Lovegrass, California	Eragrostis diffusa			
Panicums				
Fall	Panicum dichotomiflorum			
Texas	Panicum texanum			
Ryegrass, Italian	Lolium multiflorum			
Signalgrass, Broadleaf	Brachiaria platyphylla			

<sup>(1)</sup> Zaltus SC CA at 4 fl oz/A will provide postemergence dodder suppression when applied in combination with imazethapyr or imazamox at labeled rates. Imazethapyr and imazamox require the use of NIS, which will result in burn and stunting of alfalfa. Understand and accept these risks before tank mixing with Zaltus SC CA.

## **DIRECTIONS FOR USE IN POTATO**

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 1.5 fl oz of Zaltus SC CA per acre per application.
- DO NOT apply more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 1.5 fl oz of Zaltus SC CA per acre per year.
- DO NOT apply to Rill (furrow) irrigated potatoes.

Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near potato emergence, may result in potato injury in fields treated with Zaltus SC CA. On occasion this has resulted in a delay in maturity. Understand and accept these risks before using Zaltus SC CA.

## **TIMING TO POTATOES**

Zaltus SC CA may be applied to potatoes after hilling for the preemergence suppression of the weeds listed in Table 8. Weeds Suppressed by Residual Activity of Zaltus SC CA at 1.5 fl oz/A. Tank mix Zaltus SC CA with other labeled herbicides for broad spectrum weed control. A minimum of 2 inches of settled soil must cover the vegetative portion of the potato plant at the time of Zaltus SC CA application.

Application to potatoes with less than 2 inches of soil covering the vegetative portion of the potato may result in crop injury. In areas with historically higher amounts of rainfall during the time of preemergence herbicide applications, including the Red River Valley, Minnesota and North Dakota, the requirement for 2 inches of settled soil is critical to avoid crop injury. Mechanical incorporation of **Zaltus SC CA** will result in decreased weed control. In areas with sprinkler irrigation, incorporate **Zaltus SC CA** with 1/4 to 3/4 inches of irrigation, after application and before <u>any</u> sprouts are within 2 inches of the settled soil surface if a rainfall event has not yet occurred.

## **TIMING TO WEEDS**

#### Preemergence - Soil Covered Potatoes, Preemergence To Weeds

Apply Zaltus SC CA to soil covered potatoes for the preemergence suppression of the weeds listed in Table 8. Harrowing, cultivation or corrugating after Zaltus SC CA application will reduce weed control.



Table 8. Weeds Suppressed by Residual Activity of Zaltus SC CA at 1.5 fl oz/A

Common Name	Scientific Name	Organic Matter	Application Rate
Lambsquarters, Common	Chenopodium album	Up to 5%	1.5 fl oz/A
Mustard, Wild	Brassica kaber		
Nightshades			
Black	Solanum nigrum		
Eastern Black	Solanum ptycanthum		
Hairy	Solanum sarrachoides		
Pigweeds			
Palmer Amaranth	Amaranthus palmeri		
Redroot	Amaranthus retroflexus		
Smooth	Amaranthus hybridus		
Spiny Amaranth	Amaranthus spinosus		
Tumble	Amaranthus albus		
Prickly Lettuce (China Lettuce)	Lactuca serriola		
Radish, Wild	Raphanus raphanistrum		

## **DIRECTIONS FOR USE IN STRAWBERRY**

## **RESTRICTIONS AND LIMITATIONS:**

- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre per application.
- DO NOT apply more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre per year.

#### **PRECAUTIONS**

- Zaltus SC CA, at 3 fl oz per acre, can be applied to the soil a minimum of 30 days prior to transplanting strawberries provided the strawberries will be transplanted through a plastic mulch.
- Zaltus SC CA at 3 fl oz per acre can be applied to dormant (established or newly planted) strawberries for the preemergence control of the weeds listed in Table 1. Broadleaf Weeds Controlled by Residual Activity of Zaltus SC CA.
- Zaltus SC CA, at 3 fl oz per acre, can be applied in strawberry row middles with a shielded or hooded sprayer for the preemergence control of the weeds listed in Table 1.

  Broadleaf Weeds Controlled by Residual Activity of Zaltus SC CA.

Application Method	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre Per Application (fl oz)	Use Rate Per Acre Per Year (fl oz)	Special Use Instructions
Pre-transplant	Not applicable	3	3	Apply a minimum of 30 days prior to transplanting and prior to plastic mulch being laid.  Apply as part of a tank mix to control emerged weeds.
Pre-emergence to dormant strawberries	Not applicable	3	3	Crop oil concentrate, at 1% v/v, or non-ionic surfactant, at 0.25% v/v, may be added to help control emerged broadleaf weeds.
Hooded or shielded sprayer application to row middles	<b>DO NOT</b> apply after fruit set	3	3	Apply only to row middles - DO NOT apply over strawberries Apply prior to weed emergence. Crop spotting may occur if an adjuvant is added. DO NOT apply after fruit set or spotting of fruit may occur. DO NOT allow spray drift to come in contact with fruit or foliage.



Table 9. Weeds Controlled by Preemergence Application of Zaltus SC CA

Broadleaf Weed Species							
Common Name	Scientific Name	Organic Matter	Soil Type	Application Rates			
Bristly Starbur	Acanthospermum hispidum	Up to 10% <sup>(1)</sup>	All Soil Types <sup>(2)</sup>	Caneberries, Garlic			
Carpetweed	Mollugo verticillata			Caneberries, Garlic 6 fl oz/A Bushberries, Citrus			
Chickweeds							
Common	Stellaria media	-	Fruit, Grapes, Olive, Pome Fruit,				
Mouseear	Cerastium vulgatum			Pomegranate, Stone			
Coffee Senna	Cassia occidentalis			Fruit, Tree Nuts and Non-Bearing Fruit			
Dandelion	Taraxacum officinale			Trees			
Eclipta	Eclipta prostrata			6 to 12 fl oz/A <sup>(2)</sup> To Maintain Bare			
Evening Primrose, Cutleaf	Oenothera laciniata			Ground on Non-Crop			
Filaree				Areas of Farms, Orchards & Vineyards			
Redstem	Erodium cicutarium			6 to 12 fl oz/A			
Whitestem	Erodium moschatum						
Fleabane, Hairy	Conyza bonariensis						
Florida Beggarweed	Desmodium tortuosum						
Florida Pusley	Richardia scabra						
Golden Crownbeard	Verbesina encelioides						
Groundsel, Common	Senecio vulgaris						
Hairy Indigo	Indigofera hirsuta						
Hemp Sesbania	Sesbania exaltata						
Henbit	Lamium amplexicaule						
Jimsonweed	Datura stramonium						
Kochia	Kochia scoparia						
Lambsquarters, Common	Chenopodium album						
Mallow							
Common (Cheeseweed)	Malva neglecta						
Little	Malva parviflora						
Horseweed/Marestail	Conyza canadensis	]					
Mayweed/False Chamomile	Matricaria maritima						
Morningglories							
Entireleaf	Ipomoea hederacea var. integriuscula	1					
lvyleaf	Ipomoea hederacea						
Red/Scarlet	Ipomoea coccinea						
Smallflower	Jacquemontia tamnifolia						
Tall	Ipomoea purpurea						



Table 9. Weeds Controlled by Pre-emergence Application of Zaltus SC CA (continued)

Broadleaf Weed Species (continued)				
Common Name	Scientific Name	Organic Matter	Soil Type	Application Rates
Mustards		Up to 10% <sup>(1)</sup>	All Soil Types <sup>(2)</sup>	Asparagus,
London Rocket	Sisymbrium irio			Caneberries, Garlic 6 fl oz/A
Tumble	Sisymbrium altissimum			Bushberries, Citrus Fruit, Grapes, Olive, Pome Fruit,
Wild	Brassica kaber			
Nettle, Burning	Urtica urens		Pomegranate, Stone	
Nightshades			Fruit, Tree Nuts and Non-Bearing Fruit	
Black	Solanum nigrum			Trees
Eastern Black	Solanum ptycanthum			6 to 12 fl oz/A <sup>(2)</sup> To Maintain Bare
Hairy	Solanum sarrachoides			Ground on Non-Crop
Pigweeds				Areas of Farms, Orchards & Vineyards
Palmer Amaranth	Amaranthus palmeri			6 to 12 fl oz/A
Redroot	Amaranthus retroflexus			
Smooth	Amaranthus hybridus			
Spiny Amaranth	Amaranthus spinosus			
Tumble	Amaranthus albus			
Prickly Lettuce (China Lettuce)	Lactuca serriola			
Prickly Sida (Teaweed)	Sida spinosa			
Puncturevine	Tribulus terrestris			
Purslane				
Common	Portulaca oleracea			
Radish, Wild	Raphanus raphanistrum			
Ragweed, Common	Ambrosia artemisiifolia			
Redmaids	Calandrinia ciliata var. menziesii			
Redweed	Melochia corchorifolia			
Shepherd's-purse	Capsella bursa-pastoris			
Sowthistle, Annual	Sonchus oleraceus			
Spotted Spurge	Euphorbia maculata			
Spurred Anoda	Anoda cristata			
Thistle, Russian	Salsola iberica			
Tropic Croton	Croton glandulosus			
Venice Mallow	Hibiscus trionum			
Waterhemps				
Common	Amaranthus rudis			
Tall	Amaranthus tuberculatus			



Table 9. Weeds Controlled by Pre-emergence Application of Zaltus SC CA (continued)

Broadleaf Weed Species (continued)				
Common Name	Scientific Name	Organic Matter	Soil Type	Application Rates
Wild Poinsettia  Wormwood, Biennial	Euphorbia heterophylla Artemisia biennis	Up to 10% <sup>(1)</sup>	All Soil Types <sup>(2)</sup>	Asparagus, Caneberries, Garlic 6 fl oz/A Bushberries, Citrus Fruit, Grapes, Olive, Pome Fruit, Pomegranate, Stone Fruit, Tree Nuts and Non-Bearing Fruit Trees 6 to 12 fl oz/A <sup>(2)</sup> To Maintain Bare Ground on Non-Crop Areas of Farms, Orchards & Vineyards 6 to 12 fl oz/A
Grass Weed Species				
Barnyardgrass	Echinochloa crus-galli	Up to 10% <sup>(1)</sup>	All Soil Types <sup>(2)</sup>	Asparagus, Caneberries, Garlic 6 fl oz/A Bushberries, Citrus Fruit, Grapes, Olive, Pome Fruit,
Bluegrass, Annual	Poa annua			
Crabgrass				
Large	Digitaria sanguinalis			
Smooth	Digitaria ischaemum			Pomegranate, Stone
Foxtails				Fruit, Tree Nuts and Non-Bearing Fruit
Bristly	Setaria verticillata			Trees 6 to 12 fl oz/A <sup>(2)</sup>
Giant	Setaria faberi			To Maintain Bare
Green	Setaria viridis			Ground on Non-Crop
Yellow	Setaria glauca			Areas of Farms, Orchards & Vineyards
Goosegrass	Eleusine indica			6 to 12 fl oz/A
Guineagrass	Panicum maximum			
Johnsongrass, Seedling	Sorghum halepense			
Lovegrass, California	Eragrostis diffusa			
Panicum				
Fall	Panicum dichotomiflorum			
Texas	Panicum texanum			
Ryegrass, Italian	Lolium multiflorum			
Signalgrass, Broadleaf	Brachiaria platyphylla			

<sup>(1)</sup> Zaltus SC CA can be used on soils with greater than 10% organic matter; however, length of residual control may be shorter than on soils with lower organic matter content.



<sup>(2)</sup> Use a maximum Zaltus SC CA rate of 6 fl oz/A per application on any soil that has a sand plus gravel content over 80% if bushes, trees or vines are under 3 years of age.

## **DIRECTIONS FOR USE IN SWEET POTATO**

## RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre per application.
- DO NOT apply more than 1 application of Zaltus SC CA per acre per year.
- DO NOT apply more than 3 fl oz of Zaltus SC CA per acre per year.
- DO NOT apply postemergence to sweet potatoes.
- DO NOT use greenhouse grown transplants.
- DO NOT use transplants harvested more than 2 days prior to transplanting.
- DO NOT use on any sweet potato variety other than "BEAUREGARD", unless user has tested Zaltus SC CA on other variety and has found crop tolerance to be acceptable.
- DO NOT apply as a part of any tank mix, except with labeled rates of Command, if tank mix is applied prior to transplanting.

#### TIMING TO SWEET POTATOES

**Zaltus SC CA** must be applied prior to transplanting sweet potatoes.

#### TIMING TO WEEDS

#### **Preemergence to Weeds**

Apply Zaltus SC CA to soil prior to transplanting sweet potato slips for the preemergence control of the weeds listed in Table 1.

## DIRECTIONS FOR USE IN BUSHBERRIES, CANEBERRIES, CITRUS FRUIT, GRAPE, OLIVE, POME FRUIT, POMEGRANATE, STONE FRUIT, TREE NUTS AND NON-BEARING FRUIT TREES

Bushberries (Subgroup 13-07B): Aronia Berry; Blueberry, Highbush; Blueberry, Lowbush; Buffalo Currant; Chilean Guava; Cranberry, Highbush; Currant, Black; Currant, Red; Elderberry; European Barberry; Gooseberry; Honeysuckle, edible; Huckleberry; Jostaberry; Juneberry (Saskatoon Berry); Lingonberry; Native Currant; Salal; Sea Buckthorn; cultivars, varieties, and/or hybrids of these.

Caneberries (Subgroup 13-07A): Blackberry, Loganberry, Black Raspberry, Red Raspberry, Wild Raspberry cultivars, varieties and/or hybrids of these.

Citrus Fruit (Crop Group 10-10): Australian Desert Lime; Australian Finger-lime; Australian Round Lime; Brown River Finger Lime; Calamondin; Citron; Citrus hybrids; Grapefruit; Japanese Summer Grapefruit; Kumquat; Lemon; Lime; Mediterranean Mandarin; Mount White Lime; New Guinea Wild Lime; Orange, Sour; Orange, Sweet; Pummelo; Russell River Lime; Satsuma Mandarin; Sweet Lime; Tachibana Orange; Tahiti Lime; Tangelo; Tangerine (mandarin); Tangor; Trifoliate Orange; Uniq Fruit; cultivars, varieties and/or hybrids of these. Tree Nuts (Crop Group 14-12): African Nut-tree; Almond; Beechnut; Brazil Nut; Brazilian Pine; Bunya; Bur Oak; Butternut; Cajou Nut; Candlenut; Cashew; Chestnut; Chinquapin; Coconut; Coquito Nut; Dika Nut; Ginkgo; Guiana Chestnut; Hazelnut (Filbert); Heartnut; Hickory Nut; Japanese Horse-chestnut; Macadamia Nut; Mongongo Nut; Monkey-pot; Monkey Puzzle Nut; Okari Nut; Pachira Nut; Peach Palm Nut; Pecan; Pequi; Pili Nut; Pistachio; Sapucaia Nut; Tropical Almond; Walnut, Black; Walnut, English; Yellowhorn, cultivars, varieties and/or hybrids of these.

Pome Fruit (Crop Group 11-10): Apple; Azarole; Crabapple; Loquat; Mayhaw; Medlar; Pear; Pear, Asian; Quince; Quince, Chinese; Quince, Japanese; Tejocote; cultivars, varieties and/or hybrids of these.

Stone Fruit (Crop Group 12-12): Apricot; Apricot, Japanese; Capulin; Cherry, Black; Cherry, Nanking; Cherry, Sweet; Cherry, Tart; Jujube, Chinese; Nectarine; Peach; Plum, Plum, Plum, Plum, Plum, Chickasaw; Plum, Damson; Plum, Japanese; Plum, Klamath; Plum, Prune; Plumcot; Sloe and cultivars, varieties and/or hybrids of these.

## RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 12 fl oz of Zaltus SC CA per acre per application, except Caneberries DO NOT apply more than 6 fl oz Zaltus SC CA per acre per application.
- **DO NOT** make more than 12 applications per year.
- DO NOT apply more than 24 fl oz of Zaltus SC CA per acre per year, except Bushberries; for Bushberries DO NOT apply more than 12 fl oz of Zaltus SC CA per acre per year.
- DO NOT make a sequential application within 30 days of the first application, except tree nuts, DO NOT make a sequential application within 60 days of the first application.
- DO NOT apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation.
- **DO NOT** apply within 300 yards of non-dormant pears.
- Raise mower height during all mowing to reduce dust. Dust created by mowing can drift onto desirable vegetation resulting in injury.
- DO NOT apply to powdery soils or soils that are susceptible to wind displacement unless irrigation can be applied immediately after application.
- DO NOT mow treated areas between bud break and final harvest. Dust created by mowing may drift onto desirable vegetation resulting in injury.
- Follow the most restrictive label limitations and precautions of the tank mix product(s) being used.
- Avoid direct or indirect spray contact to foliage and green bark (non-barked trunk and non-barked vines with the exception of undesirable suckers).
- DO NOT apply to tree nuts established less than one year, unless protected from spray contact by non-porous wraps, grow tubes, or waxed containers.
- For non-bearing fruit trees (avocado and fig), DO NOT harvest fruit from treated trees within one year of application.
- Preharvest Interval (PHI)

- Citrus Fruit: 3 days
 - Bushberries: 7 days
 - Caneberries: 7 days
 - Caneberries: 7 days
 - Olive: 60 days
 - Stone Fruit: 60 days
 - Stone Fruit: 60 days



#### **PRECAUTIONS**

- Use a maximum **Zaltus SC GA** rate of 6 fl oz/A per application on any soil that has a sand plus gravel content over 80% if bushes, trees or vines are less than 3 years of age. (Two applications of 6 fl oz/A in a 12 month period can still be made as long as there have been 60 days between applications).
- Raise mower height during all mowing to reduce dust. Dust created by mowing can drift onto desirable vegetation resulting in injury.
- Follow the most restrictive label limitations and precautions of the tank mix product(s) being used.
- Avoid direct or indirect spray contact to foliage and green bark or canes (non-barked trunk and non-barked vines with the exception of undesirable suckers).
- Irrigate after application with minimum of 1/4 inch of water to activate the herbicide and to reduce wind displacement of soil.

#### **USE PRECAUTIONS FOR BUSHBERRIES**

• If bushberries are established less than 2 years ensure that they are protected from spray contact by non-porous wrap, grow tubes or waxed containers.

## **USE PRECAUTIONS FOR GRAPES**

- If grapes are established less than 2 years ensure that they are trellised at least 3 ft from the soil surface or are protected from spray contact by non-porous wrap, grow tubes or waxed containers.
- Apply only to grapes that are trellised, staked or are free standing.
- Avoid direct or indirect spray contact to foliage and green bark (non-barked vines, with the exception of undesirable suckers).
- Plant new plantings of "own-rooted varieties", for example Concord, so that all roots are a minimum 8 inches below the soil surface to be treated. In some situations, this may require hilling soil around newly planted vines so that the settled depth of the hill will be 4 to 5 inches above the vineyard floor.

#### Juice, Raisin and Wine Grapes

• If applied during the period after bud break through final harvest, use shielded application equipment and applicator can ensure spray drift will not come in contact with crop fruit or foliage.

#### **Table Grapes**

• Apply Zaltus SC CA between final harvest up to bud break.

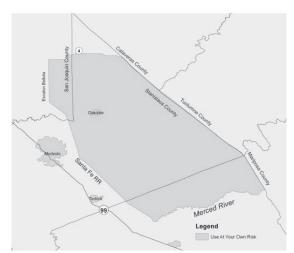
## USE PRECAUTIONS FOR CITRUS FRUIT, OLIVE, POME FRUIT, POMEGRANATE, STONE FRUIT AND TREE NUTS

- For pome fruit and stone fruit, Zaltus SC CA can only be applied as a uniform band directed at the base of the trunk prior to silver tip in apples and bud break in stone fruit.
- For pome fruit and stone fruit make applications only to berms.
- For olive, pomegranate and tree nuts apply after bud break through final harvest using shielded application equipment if the applicator can ensure the spray drift will not come into contact with non-target vegetation, crop fruit and/or foliage. Shielded application equipment is not required if the following application parameters are followed:
- Application pressure (at boom) < 30 PSI.
- Application speed < 5 MPH.
- Applicator can ensure the spray drift will not come into contact with non-target vegetation, crop fruit and/or foliage.
- If application is made to trees established less than one year, ensure they are protected from spray contact by non-porous wraps, grow tubes, paint or waxed containers.
- California only: See use precautions and stone fruit in the counties of Merced, San Joaquin and Stanislaus section of this label.

## USE PRECAUTIONS ON ALMOND AND STONE FRUIT IN DEFINED AREAS OF MERCED. SAN JOAQUIN AND STANISLAUS COUNTIES OF CALIFORNIA

The use of **Zaltus SC CA** in soils common in parts of Merced, San Joaquin and Stanislaus counties in California is known to have resulted in injury to almonds under drought stress conditions. These soils are characterized by having been cut or filled, high sand content, low clay content and shallow profiles. Growers in the Defined Area must be aware and assume the risk of using **Zaltus SC CA** on almond or stone fruit crops. The Defined Area can be seen on the Map or by the description that follows:

- Intersection of Highway 4 and Escalon-Bellota Road at Farmington in San Joaquin County;
- Directly South on Escalon-Bellota to the Santa Fe Avenue and railroad tracks at Escalon;
- Southeast on Santa Fe Avenue down to the Merced River;
- East following the Merced River to the Merced/Mariposa County line;
- Northwest following the Merced County line through the intersection of Merced and Stanislaus County line following the Stanislaus/Tuolumne County and Calaveras County line to Highway 4;
- West on Highway 4 back to the Farmington intersection of Escalon Bellota Road.





### **USE PRECAUTIONS FOR NON-BEARING FRUIT TREES**

#### Non-Bearing Avocado and Fig

- Trees are established less than one year, protected from spray contact by non-porous wraps, grow tubes or waxed containers.
- If applied after flowering through leaf drop, use shielded application equipment and ensure that spray drift will not come in contact with the crop foliage.

#### **USE DIRECTIONS**

For bushberries, caneberries, citrus fruit, grape, olive, pomegranate, tree nuts, and non-bearing fruit trees, **Zaltus SC CA** as a uniform broadcast application to the orchard or vineyard floor or as a uniform band directed at the base of the bush, cane, trunk or vine. For stone fruit and pear, **Zaltus SC CA** can only be applied as a uniform band directed at the base of the trunk prior to "bud break". For apple, herbicide can only be applied as a uniform band directed at the base of the trunk prior to "silver tip". For other pome fruit, check with Atticus, LLC personnel for application timing. The preferred application timing for **Zaltus SC CA** is in the fall to maximize the potential for rainfall to activate and set the herbicide. **DO NOT** apply over the top of crop or allow spray to come in contact with crop as a result of application or drift.

#### **Preemergence Application**

Apply 6 to 12 fl oz (maximum 6 fl oz/A for caneberries) of **Zaltus SC CA** per broadcast acre as a preemergence application. Make preemergence (to weed emergence) applications of **Zaltus SC CA** to a weed-free soil surface. Preemergence applications of **Zaltus SC CA** must be completed prior to weed emergence. Moisture is necessary to activate **Zaltus SC CA** on soil for residual weed control. Dry weather following application of **Zaltus SC CA** may reduce effectiveness. However, when adequate moisture is received after dry conditions, **Zaltus SC CA** will control susceptible germinating weeds.

#### **Postemergence Application**

Apply 6 to 12 fl oz (maximum 6 fl oz/A for caneberries) of **Zaltus SC CA** per broadcast acre plus an adjuvant (0.25% v/v non-ionic surfactant or 1 qt/A crop oil concentrate). The addition of an adjuvant enhances **Zaltus SC CA** activity on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of **Zaltus SC CA**.

Refer to **Table 9** for weeds controlled by the residual activity of **Zaltus SC CA**. **Zaltus SC CA** should be tank mixed with a labeled burndown herbicide for control of the emerged weeds listed in **Table 10**. Refer to tank mix partner's label for additional weed species and increased weed heights claimed. Refer to tank mix partner's label for additional restrictions, including minimum carrier volume and crops in which tank mix partner may be used. Burndown tank mix partners include glyphosate, paraquat, 2,4-D and glufosinate. Tank mixes with glyphosate or 2,4-D containing products are not recommended during the period after bloom through final harvest to ensure crop safety from drift.

Residual weed control will be reduced if vegetation prevents the **Zaltus SC CA** from reaching the soil surface. If vegetation is heavy, it is recommended to use a burndown herbicide with **Zaltus SC CA** and make a sequential **Zaltus SC CA** application prior to the emergence of new weeds.

## **Carrier Volume and Spray Pressure**

To ensure thorough coverage in burndown applications, use a minimum of 15 gallons of spray solution per acre. Use higher gallonage if dense vegetation or heavy crop residue is present.

Nozzle selection must meet manufacturer's gallonage and pressure guidelines.

#### Banded Application

Rates listed in **Table 10. Weeds Controlled by Postemergence Activity of Zaltus SC CA Tank Mixes**, refer to a broadcast application covering the entire acre. Refer to the **Band Application** table in **PRODUCT INFORMATION** section to calculate amount needed per acre when making a banded application.

Table 10. Weeds Controlled by Postemergence Activity of Zaltus SC CA Tank Mixes

Broadleaf Weed Species	Broadleaf Weed Species		
Common Name	Scientific Name	Weed Height/Length (Inches)	Application Rates
Bindweed, Field <sup>(1)</sup>	Convolvulus arvensis	8	6 to 12 fl oz/A
Carpetweed	Mollugo verticillata	4	
Chickweeds			
Common	Stellaria media	4	
Mouseear	Cerastium vulgatum	4	
Cocklebur, Common	Xanthium strumarium	4	
Evening Primrose, Cutleaf <sup>(2)</sup>	Oenothera laciniata	12	
Filaree			
Broadleaf	Erodium botrys	4	
Redstem	Erodium cicutarium	4	
Florida Beggarweed	Desmodium tortuosum	2	



Table 10. Weeds Controlled by Postemergence Activity of Zaltus SC CA Tank Mixes (continued)

Broadleaf Weed Species (continued)					
Common Name	Scientific Name	Weed Height/Length (Inches)	Application Rates		
Hemp Sesbania	Sesbania exaltata	8	6 to 12 fl oz/A		
Jimsonweed	Datura stramonium	4			
Lambsquarters, Common	Chenopodium album	4			
Morningglories					
Entireleaf	Ipomoea hederacea var. integriuscula	4			
lvyleaf	Ipomoea hederacea	4			
Pitted	Ipomoea lacunosa	6			
Red/Scarlet	Ipomoea coccinea	4			
Tall	lpomoea purpurea	4			
Mustard, Wild	Brassica kaber	6			
Pigweeds					
Palmer Amaranth	Amaranthus palmeri	6			
Redroot	Amaranthus retroflexus	6			
Smooth	Amaranthus hybridus	6			
Plantain, Broadleaf	Plantago major	6			
Prickly Sida (Teaweed)	Sida spinosa	6			
Purslanes	PLU				
Common	Portulaca oleracea	4			
Rock	Calandrinia spp.	2			
Ragweeds					
Common	Ambrosia artemisiifolia	2			
Giant	Ambrosia trifida	4			
Rice Flatsedge	Cyperus iria	4			
Sicklepod	Senna obtusifolia	4			
Smartweeds					
Ladysthumb	Polygonum persicaria	4			
Pale	Polygonum lapathifolium	4			
Pennsylvania	Polygonum pensylvanicum	4			
Spotted Spurge	Euphorbia maculata	4			
Velvetleaf	Abutilon theophrasti	4			
Venice Mallow	Hibiscus trionum	4			



## Table 10. Weeds Controlled by Postemergence Activity of Zaltus SC CA Tank Mixes (continued)

Broadleaf Weed Species (continued)					
Common Name	Scientific Name	Weed Height/Length (Inches)	Application Rates		
Waterhemps			6 to 12 fl oz/A		
Common	Amaranthus rudis	2			
Tall	Amaranthus tuberculatus	2			

<sup>(1)</sup> Zaltus SC CA will only provide control of the above ground portion of bindweed. Repeated applications will be needed to control regrowth.

#### ADDITIONAL RESIDUAL WEED CONTROL

Zaltus SC CA maybe tank mixed with oryzalin, simazine or diuron for additional residual weed control. Always read and follow label use directions for all products being used.

## FALLOWBED USE ON TRANSPLANTED MELON, PEPPER AND TOMATO BEDS

#### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 4 fl oz of Zaltus SC CA per acre per application.
- DO NOT make more than 2 applications of Zaltus SC CA per acre per year.
- DO NOT apply more than 8 fl oz of Zaltus SC CA per acre per year.
- DO NOT make a sequential Zaltus SC CA application within 14 days of the first Zaltus SC CA application.

Many weather-related factors, including high wind or heavy rains or cool conditions at or near crop transplanting, may result in crop injury in fields treated with **Zaltus SC CA**. On occasion this has resulted in a delay in maturity. Understand and accept these risks before using **Zaltus SC CA**.

Application Rate	Adjuvant	GPA	Transplanting Interval
4 fl oz/A	Required by burndown tank mix partner	Ground - 20 to 40	2 Months

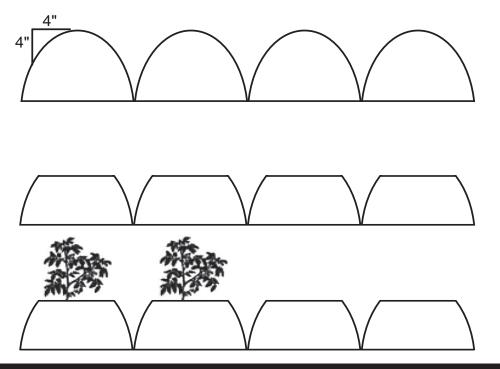
**Application Method:** Apply with a burndown herbicide labeled for the control of emerged weeds. **Zaltus SC CA**, when used alone, will not provide satisfactory control of emerged weeds.

#### Use for Preemergence Fallowbed Weed Control Prior To Transplanting

- Always read and follow all label directions when using any pesticide alone or in tank mix combinations.
- The top 4 inches of the bed, from a horizontal and vertical perspective, where the crop will be transplanted, must be removed prior to transplanting.
- Irrigate treated field after application and prior to transplanting with minimum of 1/4 inch of water if rainfall does not occur between application and transplanting.
- Use only healthy transplants. DO NOT use on direct seeded crops.
- On flat beds (tomato only), the soil must be incorporated to a depth of at least 4 inches, twice, prior to transplanting. Failure to incorporate may result in stand reduction and/or crop injury.
- This use pattern makes no claim for in-season weed control after the beds have been disturbed.



<sup>(2)</sup> For acceptable control, cutleaf evening primrose must be 12 inches or less and in the rosette stage. Add crop oil concentrate, at 1 pt/A, or non-ionic surfactant at 0.25% v/v, to glyphosate tank mixes for cutleaf evening primrose control, including glyphosate formulations that contain a built-in adjuvant system.



Beds are formed and **ZALTUS SC CA** is applied with a burndown herbicide.

A minimum of 2 months after **ZALTUS SC CA** application, the tops of the beds are removed and the soil from the tops of the beds is placed in the area between the beds.

Crops are transplanted into beds.

## DIRECTIONS FOR USE TO MAINTAIN BARE GROUND ON NON-CROP AREAS OF FARMS, ORCHARDS AND VINEYARDS

#### RESTRICTIONS AND LIMITATIONS

- **DO NOT** apply more than 12 fl oz/A per application.
- **DO NOT** apply more than 2 applications per year.
- DO NOT apply more than 24 fl oz/A per year.
- DO NOT make a sequential Zaltus SC CA application within 14 days of the first Zaltus SC CA application.
- DO NOT apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation.
- DO NOT apply to ditch banks.

**Zaltus SC CA**, when used as directed, can be used on farms, orchards and vineyards for non-selective vegetation control to maintain bare ground on non-crop areas that must be kept weed free. Follow all applicable directions as outlined above under **PRODUCT INFORMATION**.

Zaltus SC CA offers residual and postemergence control of susceptible broadleaf and grass weeds as well as an additional mode of action to assist in the control of ALS (acetolactate synthase) resistant weeds. Zaltus SC CA can be tank mixed with the herbicides listed in Table 11 for increased residual or postemergence control. The length of residual control is dependent on the rate applied as well as on rainfall and temperature conditions. Length of residual control will decrease as temperature and precipitation increase. Zaltus SC CA rates of 6 to 12 fl oz/A are required to provide residual control of the weeds listed in Table 9.

#### PREEMERGENCE APPLICATION

Apply 6 to 12 fl oz (0.188 to 0.38 lb ai/A) of Zaltus SC CA per broadcast acre as a preemergence application. Make preemergence (to weed emergence) applications of Zaltus SC CA to a weed-free soil surface. Preemergence applications of Zaltus SC CA must be completed prior to weed emergence. Moisture is necessary to activate Zaltus SC CA on soil for residual weed control. Dry weather following application of Zaltus SC CA may reduce effectiveness. However, when adequate moisture is received after dry conditions, Zaltus SC CA will control susceptible germinating weeds.

## POSTEMERGENCE APPLICATION

Apply 6 to 12 fl oz (0.188 to 0.38 lb ai/A) of **Zaltus SC CA** per broadcast acre plus an adjuvant (0.25% v/v non-ionic surfactant or 1 qt/A crop oil concentrate). The addition of an adjuvant enhances **Zaltus SC CA** activity on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of **Zaltus SC CA**. Emerged weeds are controlled postemergence with **Zaltus SC CA**, however, translocation of **Zaltus SC CA** within a weed is limited, and control is affected by spray coverage and by the addition of an adjuvant. The most effective postemergence weed control with **Zaltus SC CA** occurs when applied in combination with a surfactant to weeds less than 2 inches in height. Use a tank mix partner in combination with **Zaltus SC CA** for the postemergence control of weeds larger than 2 inches. Specified tank mix partners are listed in **Table 11**.

**IMPORTANT:** Completely read and follow the label of any potential tank mix partner with **Zaltus SC CA**. When using tank mixtures, use conditions must be in accordance with the most restrictive of the label limitations and precautions on either herbicide label.

Table 11. Tank Mix Combinations to Maintain Bare Ground on Non-Crop Areas

glyphosate 2,4-D Rely paraquat	
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#### 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.

PESTICIDE DISPOSAL: Pesticide spray mixture or rinsate that cannot be used should 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:**

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 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by 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 1/4 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 by 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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