

## **CANEBERRY AND OTHER CANEBERRY SUBGROUP CROPS IN 13-07A - LESS THAN 1 % ORGANIC MATTER**

### General Information

#### PRODUCT INFORMATION

Alion Herbicide is formulated as a suspension concentrate of indaziflam at a concentration of 1.67 pounds of active ingredient per gallon.

Alion Herbicide is a preemergence herbicide for control of annual grasses and broadleaf weeds in Citrus Fruit, Grapes, Stone Fruit, Pome Fruit, Tree Nuts, and Olives. Alion Herbicide may be applied to the soil as a uniform broadcast or band application for the prevention of new weed emergence.

Alion Herbicide provides preemergence, residual control of weeds. A dry soil surface at time of application and 48 hours after application is optimum for binding the active ingredient to soil particles and preventing its downward movement to the crop's roots. Moisture is needed for activation of Alion Herbicide. Dry soil conditions following the initial 48-hour period after application of Alion Herbicide may result in reduced weed control. Weeds that germinate prior to activation by rain or irrigation may not be controlled. If weeds have emerged, the addition of a foliar active herbicide is needed. Alion Herbicide applied alone will not control weeds that are already emerged. Refer to the "Tank Mix Instructions" section.

This product controls weeds by inhibiting cellulose biosynthesis in plants. It may be applied at any time when the ground is not frozen or covered with snow. It will provide most effective residual weed control when applied to a dry soil surface followed by 48 hours without irrigation or rain, and then followed by adequate moisture from rain or an irrigation event within 21 days and prior to weed seed germination. Weed seeds and seedlings must come into contact with Alion Herbicide prior to emergence to be controlled. If insufficient moisture is present, some weeds may germinate and emerge from below the treated layer of soil. Avoid using Alion Herbicide in areas where soil runoff or erosion is likely to occur.

Excessive crop or weed debris present on the soil surface at the time of application may prevent a uniform distribution of the product reaching the soil and

consequently may reduce weed control.

Performance may be improved by removing the debris prior to applying Alion Herbicide. In very dense stands of living weeds, an application of a foliar active herbicide first then followed 3-6 weeks later with the application of Alion Herbicide is recommended for improved performance.

The level of weed control is dependent on many variables including soil texture, moisture, temperature, weed species present, the amount of weed seed present in the soil, and the crop canopy.

Do not apply within 25 feet of ponds, lakes, rivers, streams, wetlands, and habitat containing aquatic and semi-aquatic plants.

The Pre-Harvest Interval (PHI) is 7 days for citrus and 14 days for all other crops listed on the label.

#### PRECAUTIONS FOR USE

- Avoid direct or indirect spray contact with crop foliage, green bark, roots, or fruit as it may cause localized crop injury or death. Only trunks with callused, mature brown bark may be sprayed with Alion Herbicide. If the trunks are not fully callused mature brown bark, they should not be sprayed unless protected from spray contact by nonporous wraps, grow tubes or waxed containers. Contact of Alion Herbicide with tissues other than mature brown bark may result in serious damage or plant death.
- The soil surface where Alion Herbicide is to be applied should not have open channels or cracks in the soil. This is to prevent the product from reaching the crop roots either through direct contact from the spray application or with water movement from rain or irrigation as this may cause crop injury. If depressions in the soil such as from settling following transplanting exist around the base of the crop, fill them in with soil prior to applying Alion Herbicide. Crops that are stressed may be more sensitive to herbicide injury and should not be treated.
- Weed control activity may be reduced if the application is made to soil covered in heavy crop or weed debris that prevents a uniform distribution of the product reaching the soil. Removing the debris prior to applying Alion Herbicide may improve weed control.
- Rates provided on the label are based on broadcast treatment. For banded applications, reduce the broadcast rate of Alion Herbicide to the proportion of the

field being treated. No area of the field may be treated with more than the highest rate provided on the label regardless of the portion of the field that this represents.

- Do not use in crops that exhibit low vigor or poor health as they may be more susceptible to crop injury. Causes of reduced vigor may include such things as previous pesticide applications, excess fertilizer or salt, diseases, insects, nematodes, drought, flooding, wind damage, frost, nutrient deficiency, or mechanical damage.

## RESTRICTIONS FOR USE

- Alion Herbicide can only be applied in citrus trees established for a minimum of one year after transplanting and exhibiting normal growth and good vigor or in new citrus groves one month after planting if the transplanted trees were potted plants (such as citripots) and not bare-rooted, the trunks are protected from spray contact by nonporous wraps, grow tubes or waxed containers, and the trees are actively growing and exhibiting good health and vigor

- Alion Herbicide can only be applied in labeled tree nut crops (except pecan) that have been established for a minimum of one year after transplanting and exhibiting normal growth and good vigor.

- Alion Herbicide can only be applied in labeled pome and stone fruit, pecan, and olive that have been established for a minimum of three years after transplanting and exhibiting normal growth and good vigor.

- Do not use on soils with 20% or more gravel content. To determine gravel content do not remove gravel from soil samples before sending the samples for soil texture analysis, and request that gravel content be included in the analysis. The gravel content (greater than 2 mm or 0.079 inches in size, US standard sieve size 10) is defined as total percent gravel by weight before conducting soil texture analysis.

- Determine soil organic matter content (%OM) of specific orchards, vineyards, and groves by having soil core samples to a minimum depth of 6 inches of soil analyzed.

- Do not apply more than the amount of Alion Herbicide specified per application and per year or in a 12 month period on the label based on soil texture, percent organic matter content, application site, and crop.

- Allow at least 90 days between applications of Alion Herbicide.

- Only use in vineyards where the grapes have at least 6 inches of soil barrier between the soil surface and the major portion of the root system.

- Alion Herbicide can only be applied in grapes that have been established for a minimum of three years after transplanting and exhibiting normal growth and good

vigor.

- Do not apply this product through any type of irrigation system.
- Use of spot spraying around desired plants is not allowed due to the variability of the actual application rate. Excessive application rates may result in severe crop injury or death.
- Do not apply this product by aerial application.
- Do not harvest citrus crops within 7 days after the application of Alion Herbicide.
- Do not harvest crops other than citrus within 14 days after the application of Alion Herbicide.
- Only crops listed on the label may be replanted or rotated within 24 months after the last application of Alion Herbicide and while following the instructions listed in the "Rotational Crop Restrictions" section.
- Do not apply this product to frozen or snow covered soil.
- Do not apply this product to water-saturated soil.
- Do not flood-irrigate orchards or vineyards containing stone fruit, pome fruit, grapes, tree nuts, or olives within 60 days following application of Alion Herbicide.
- Do not apply irrigation, exclusive of flood-irrigation, to treated areas within 48 hours after application.
- Do not apply within 25 feet of ponds, lakes, rivers, streams, wetlands, and habitat containing aquatic and semi-aquatic plants.
- Do not use Alion Herbicide in Nassau and Suffolk Counties of New York State.

## SPRAY DRIFT MANAGEMENT

Spray equipment and weather affect spray drift. Consider all factors when making application decisions. Where states have more stringent regulations, they must be observed. Avoiding spray drift is the responsibility of the applicator or grower. To reduce the potential for drift, the application equipment must be set to apply medium to large droplets (i.e., ASAE Standard 572) with corresponding spray pressure. Use high flow rate nozzles to apply the highest practical spray volume. With most nozzle types, narrower spray angles produce larger droplets. Follow the nozzle manufacturer's directions on pressure, orientation, spray volume, etc., in order to minimize drift and optimize coverage and control.

### Wind

Avoid making applications when spray particles may be carried by air currents to areas where sensitive crops and plants are growing. Do not spray near sensitive

plants if wind is gusty, below 2 mph, or in excess of 10 mph and moving in the direction of adjacent areas of sensitive crops or plants. Do not apply during temperature inversions. Always make applications when there is some air movement to determine the direction and distance of possible spray drift.

Local terrain may influence wind patterns; the applicator should be familiar with local conditions and understand how they may impact spray drift. Boom or nozzle shielding can reduce the effects of wind or air currents on drift. Verify that the shields do not interfere with uniform deposition of product prior to application.

### Temperature Inversion

A surface temperature inversion (i.e., increasing temperature with increasing altitude) greatly increases the potential for drift. Avoid application when conditions are favorable to inversion.

Presence of ground fog is a good indicator of a surface temperature inversion.

### Sensitive Areas

Sensitive areas to Alion Herbicide are defined as natural bodies of water (ponds, lakes, rivers, and streams), wetlands, habitats of endangered species and non-labeled agricultural crop areas.

Applicators must take all precautions necessary to minimize spray drift to these sensitive areas.

### APPLICATION INFORMATION

Alion Herbicide can only be applied by ground equipment. Do not apply by aerial equipment, chemigation, or spot spraying around desired plants.

Apply Alion Herbicide alone or in an approved tank mixture in a minimum of 10 gallons of spray mixture per acre. Use higher spray volumes to improve distribution in high densities of emerged weeds or debris. Uniform, thorough spray coverage directed to the soil at the base of the crop is important to achieve consistent weed control. Do not allow spray to directly or indirectly contact crop foliage, green bark, roots, or fruit as it may cause localized crop injury.

Application may be made as a broadcast treatment or as a banded treatment under

vineyard, grove, or orchard crops. When making banded applications use proportionately less spray water and Alion Herbicide. The dosage listed on the label is for the treated area of the field regardless of the portion of the field that this represents.

## Application Equipment

To minimize spray drift to non-target areas, apply this product using nozzles that deliver a medium or larger spray droplet as defined by the ASAE standard S-572 and as shown in nozzle manufacturer's catalogues. Keep the spray boom at the lowest possible spray height recommended by the nozzle manufacturer above the target surface. Refer to nozzle manufacturer's recommendations for proper nozzle, pressure setting and sprayer speed for optimum product performance and minimal spray drift. Use sprayers that provide accurate and uniform application to ensure proper distribution. An off-center (OC) nozzle located at the end of the boom may be used to spray near the trunk but must be oriented so that it directs spray to avoid spray contact with crop foliage and green bark. Maintain adequate agitation at all times including momentary stops. Since settling may occur and be difficult to get back into suspension, spray solution should not be left in the tank overnight.

Ensure that the spray equipment including spray tank, pumps, lines, filters, screens, and nozzles are clean and free of residue from previous use before mixing and applying Alion Herbicide by following the instructions listed under SPRAYER CLEANUP PROCEDURE. Residue remaining in the spray equipment from previous uses can cause crop injury if not properly cleaned. After applying Alion Herbicide, follow the cleaning instructions again to ensure that no product remains in the spray equipment. Uniform thorough spray coverage is important to achieve consistent weed control. Select nozzles, pressure, and application speed that will deliver medium or larger droplets. Verify that application equipment is in good working condition and is properly calibrated to apply the correct amount of product.

## Application Method

### Broadcast Applications

For all crops listed on the label, apply Alion Herbicide at rates described in the Dose Rate Chart in the APPLICATION DIRECTIONS section for the specific crop or site where this product will be used.

## Banded Applications

When making banded applications, use the same dosage rate as for broadcast applications but use proportionately less spray water and Alion Herbicide. The use rate provided is for the treated area of the field regardless of the portion of the field that it represents. If weeds are emerged at application, the addition of a foliar active herbicide is needed. The spectrum of weed control may be increased when Alion Herbicide is tank mixed with other herbicides. Refer to Tank Mix Instructions section.

## Rate Ranges

Select proper use rate based on crop or application site and soil texture, and percent organic matter content. Soils with high clay content may require a higher use rate of Alion Herbicide than soils with low clay content. Where rate ranges are given, use lower rates within the range on coarser textured soils and higher rates within the range on finer textured soils. Using the higher rates will provide longer weed control and may also improve control in fields with heavy weed or crop debris.

If individual orchards, vineyards, or citrus groves have multiple %OM contents throughout the area where Alion Herbicide is to be applied by a single tank or tank mix, then use the lowest rate of Alion Herbicide corresponding to the lowest %OM content for that area.

Alion Herbicide may be used on soils with greater than 10% organic matter; however, the length and level of weed control may be reduced compared to soils with lower organic matter.

## Limitations, Restrictions, and Exceptions

**APPLICATION DIRECTIONS FOR USE ON CANEBERRY AND OTHER CANEBERRY SUBGROUP CROPS IN 13-07A (Blackberry; loganberry; raspberry, black and red; wild raspberry; cultivars, varieties, and/or hybrids of these)**

Only use Alion Herbicide in established plantings at least one year after the bushes have been planted and exhibiting normal growth and good vigor. Only apply Alion Herbicide to caneberries where the soil has completely settled around the bushes and there are no exposed roots, open channels or depressions in the soil that would

allow the product to move into the root zone or injury may occur.

Any other soil except those that contain 20% or greater gravel content

Minimum Plant Age: 1 year

Do not apply more than a total of 7.0 fl oz product/A (0.09 lb ai/A) per year on soils containing < 1 % organic matter content, or 10.0 fl oz product/A (0.13 lb ai/A) per year on soils containing  $\geq 1$  % organic matter content in a 12 month period when used in any caneberry planting.

Only apply Alion Herbicide to soil as a dormant application in late fall through early spring before bud swell.

Do not apply more than one application of Alion Herbicide per cropping season per year in California. When making more than one application per year, allow a minimum of 90 days between applications.

Apply Alion Herbicide as a directed application to the soil beneath the canes.

Do not use in Caneberry 13-07A grown on sand.

Do not use on soils with 20% or more gravel content.

Do not allow spray to contact green stems, foliage, flowers, or berries or unacceptable injury may occur.

\*Only use Alion Herbicide in established plantings at least three years after the bushes have been planted and exhibiting normal growth and good vigor in California.

**APPLICATION DIRECTIONS FOR REPLANTED LABELED CROPS IN ESTABLISHED BLUEBERRY (HIGHBUSH); CANEBERRY AND OTHER CANEBERRY SUBGROUP CROPS IN 13-07A; COFFEE; GRAPE; HOPS; POME AND STONE FRUIT; OLIVE; AND TREE NUTS.**



Alion Herbicide may be used in established orchards/groves/vineyards around new trees or vines (resets/replants) anytime following planting provided the following conditions exist:

1. The soil is completely settled around established and newly planted trees/vines and there are not open channels or depressions in the soil that would allow the product to move into the root zone through open channels.
2. The trunks are protected from spray contact by nonporous wraps, grow tubes, or waxed containers.
3. The trees/vines are exhibiting good health and vigor.
4. Alion Herbicide can be applied to resets/replants contained within 3 year old and older established grapes, pome and stone fruit, pecan and olive.

Method

[Broadcast](#)

[Soil application](#)

Restricted Entry Interval

12 hours

Timings

[Broadcast](#)