

ARBITRON™ 4F

Contains sulfentrazone, the active ingredient used in Authority®, Spartan®, & Zeus®.

ACTIVE INGREDIENT:

Sulfentrazone* 39.6%

OTHER INGREDIENTS: 60.4%

TOTAL: 100.0%

*Equivalent to 4 pounds of active ingredient per gallon.

EPA Reg. No.: 93930-3

KEEP OUT OF REACH OF CHILDREN CAUTION

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

See below for additional Precautionary Statements.

FIRST AID	
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at 1-984-465-4791 for emergency medical treatment information.	

**For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night Within USA and Canada:
1-800-424-9300 or +1 703-527-3887 (collect calls accepted)**

Arbitron™ 4 F is not manufactured, or distributed by FMC Corporation, seller of Authority®, Spartan®, & Zeus®.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants,
- Waterproof gloves,
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not re-use them.

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:

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to marine/estuarine 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 and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

Groundwater advisory:

This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Do not use on coarse soils classified as sand, which have less than 1% organic matter.

Surface water advisory:

Sulfentrazone can contaminate surface water through spray drift. Under some conditions, sulfentrazone may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, and areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlying tile drainage systems that drain to surface waters.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

Not for Residential Use.

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Applicators must not exceed labeled rates of this product. Refer to specific crop directions for use for maximum use rates. Calculate the 12 month period for the purpose of maximum use rates from when **Arbitron 4 F** is first applied.

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 instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. These **Arbitron 4 F** requirements 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.

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

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

WEED RESISTANCE MANAGEMENT

For resistance management, **Arbitron 4 F** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **Arbitron 4 F** 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.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

To delay herbicide resistance:

- Rotate the use of **Arbitron 4 F** 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 resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.

- Fields should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective.
- Fields should be scouted after application to verify that the treatment was effective.
- 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.

Report any incidence of non-performance of this product against a particular weed species to your Avalaire, LLC retailer or representative. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemicals means to remove escapes, as practical, with the goal of preventing further seed production.

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

PRODUCT INFORMATION

Arbitron 4 F is a soil-applied selective herbicide. It will control listed grasses, sedges and broadleaf weeds. **Arbitron 4 F** is a flowable product that contains 4 pounds of active ingredient (sulfentrazone) per gallon.

The active ingredient sulfentrazone inhibits an enzyme required by plants in order to produce chlorophyll.

Inhibiting this enzyme leads to the release of singlet oxygen (O) which then disrupts cellular membranes, resulting in cellular leakage and cellular death ultimately resulting in plant death.

Arbitron 4 F has a selective mode of action because sulfentrazone has a greater affinity for the PRO IX enzyme in listed weed species as opposed to listed crops.

Arbitron 4 F must be prepared and used in such a way so as to prevent the following:

- spills
- improper disposal of spray mixtures, rinsate or any excess pesticide
- back siphoning in wells

Setback

The following activities must not be carried out within 50 feet of any well (including drainage and abandoned wells) unless the activity is carried out on an impervious pad that has been built to withstand the heaviest possible weight that will be moved across the pad or placed upon it:

- Loading
- Mixing
- Washing/rinsing **Arbitron 4 F** from application equipment

The impervious pad must be made to contain any leaks or spills, as well as any rinsate/washwaters and rain that may fall upon it. An impervious pad that does not have a roof must have enough capacity to contain a minimum of 110% of the volume of the largest container that will be placed on the pad. Those pads that are covered by a roof must have enough capacity to contain a minimum of 100% of the volume of the largest container that will be placed on the pad. The roof must be big enough to completely exclude contact with the pad from rainfall.

The above containment volume minimum must be maintained. The minimum capacity volumes do not apply to the following:

- Vehicles delivering pesticide product to the load/mix area

Applicators must ensure that they are aware of any State requirements for containment and set back from wells.

The impervious pad must be self-contained so that surface water cannot flow over or from one pad. They must also be sloped to allow for material removal.

Do not load or mix **Arbitron 4 F** within 50 feet of any sinkholes, reservoirs, impounded or natural lakes, wells (including drainage and abandoned wells) or intermittent/perennial rivers and streams. This restriction does not apply where there are properly diked loading/mixing areas or impervious pads. The restriction also does not apply where abandoned wells are properly plugged or capped.

APPLICATION INSTRUCTIONS

Apply this product in one of the following ways:

- as a surface application, pre-emergence treatment (i.e. before crop and/or weed emergence)
- as a incorporated treatment prior to planting
- post-plant application
- over-the-top
- layby

For further detail, refer to the **Crop Specific Use Directions** below.

When **Arbitron 4 F** is used as an incorporated treatment, the product must be incorporated following a uniform surface application to a depth of 2 inches maximum. If it is incorporated to a greater depth, reduced control of target species may result. Applicators must ensure that there is no overlap between areas that have been treated with **Arbitron 4 F** due to soil movement. Such an overlap could cause an adverse crop response.

When **Arbitron 4 F** is soil applied or applied as a post-plant treatment, the herbicidal action of the product must be activated by moisture. The amount of moisture required depends upon a number of factors including:

- soil type
- organic matter content
- tilth
- existing soil moisture at the time of treatment

For an effective application of **Arbitron 4 F**, 0.5 to 1 inch of irrigation or rainfall is required within 7 to 10 days following treatment. If that level of moisture is not received, shallow incorporation must be undertaken in order to obtain sufficient control of target species. Activating moisture can be delayed for 10 - 14 days, and sometimes longer, depending on the factors listed above. If activating moisture is delayed, however, control of listed species may be reduced, due to the growth of weeds during the delay.

When **Arbitron 4 F** has been activated, it will provide control of listed weed species. The level of control will depend on the size and type of weed species when **Arbitron 4 F** is activated. The control of listed germinating weed species will be reduced when rain or irrigation follows a period of dry weather.

Apply **Arbitron 4 F** prior to the germination of crop seeds in order to avoid damage to emerging seedlings. Crop damage may occur where treatment is delayed if seeds are germinating, or are close to the soil surface.

If **Arbitron 4 F** is applied by surface application and activation has not been triggered by rainfall, or irrigation' (1/2" to 1" moisture) within 10 days" of treatment, make a shallow incorporation" (less than 2") of the product so that germinating weed species can be controlled. Soil incorporation will also facilitate product activation with existing soil moisture.

Where there is prolonged periods when rainfall/irrigation is not available, alternative weed control methods should be considered.

Follow Crop Specific Use Directions exactly and with care, particularly for post plant treatments.

Lay-by/Over-the-top applications provide control of listed species through contact and residual control (depending on weed species).

Combining this product with a surfactant may improve control of listed species, but may also increase the risk of crop injury.

Applicators must be aware that certain crops will react differently to treatment with **Arbitron 4 F** according to the following factors:

- use rate
- specific crop species sensitivity
- soil composition

Once a treatment with **Arbitron 4 F** has been made, seedlings and germinating seeds absorb sulfentrazone from the soil solution. The amount of available active ingredient contained in the soil solution, is determined by the following factors:

- soil type
- soil pH
- soil organic matter content

Sulfentrazone is adsorbed by the organic matter and clay parts of soils. This absorption reduces the amount of active ingredient available for weed uptake. Clay content in soil tends to increase as the soil gets finer. Crop Use Directions are indicated per soil types. Refer to the following chart to determine the category of a particular soil type:

Coarse Soil	Sand
	Loamy Sand
	Sandy Loam
Medium Soil	Sandy clay loam
	Sandy Clay
	Loam
	Silt Loam
	Silt
Fine Soil	Silty clay loam
	Silty clay
	Clay loam
	Clay

The organic matter soil will vary widely within soil classifications. In order to assess organic matter soil content, a detailed analysis will be required.

The amount of sulfentrazone available for uptake by weed species will increase as the pH of the soil increases. The pH of the soil must be accurately assessed using representative soil samples. In addition, irrigation with water with a high pH (i.e. alkaline water) following treatment, will increase the amount of available sulfentrazone for uptake by target species. However, if irrigation water pH exceeds 7.5, crop damage may result. The likelihood of an adverse response by crops will decrease as the growth stage of crops advances.

The use rate of this product will be determined by the following factors:

- Timing of treatment
- The amount of activating moisture (rainfall/irrigation)
- Soil parameters
- Soil pH

The **Crop Specific Use Directions** (below) for each crop, are based on:

- soil type
- soil organic matter
- soil pH interactions

The performance of **Arbitron 4 F** and crop tolerance is based on strictly following the Crop Specific Use Directions.

Application by Air

- Aerial application is allowed only when environmental conditions prohibit ground application.
- Aerial applications will be allowed when the field is too wet to safely apply pesticides using ground equipment.
- The maximum release height must be 10 feet from the top of the crop canopy, unless a greater application is required for pilot safety.
- Apply **Arbitron 4 F** using appropriate nozzles that will allow for optimal coverage, will minimize drift and will keep fine spray droplets to a minimum.
- Apply **Arbitron 4 F** in an appropriate volume for sufficient coverage. Use minimum spray volume of 5 gallons per acre.
- Do not apply **Arbitron 4 F** when wind speed is likely to cause drift outside the target area.

Application by Ground

- Apply **Arbitron 4 F** using a boom and nozzle sprayer with the appropriate spray tips, screens and nozzles. Application equipment must be calibrated for optimal coverage and spray distribution at the appropriate pressure.
- The maximum release height is 30 inches from the soil.
- Use spray nozzles that will minimize drift by keeping fine spray droplets to a minimum.
- Apply **Arbitron 4 F** in a minimum spray volume of 10 gallons per acre. Avoid overlapping applications which may result in excessive treatment and adverse crop response. When starting, turning or stopping, slower ground speed of application equipment may also lead to excessive treatment.
- When this product is tank mixed with a contact burndown herbicide, spray volume must be at least 15 gallons per acre.
- Do not apply **Arbitron 4 F** when wind speed is likely to cause drift outside the target area.

CALIFORNIA ONLY SPECIFIC RESTRICTIONS ON APPLICATIONS OF ARBITRON 4 F

Runoff Ground Water Protection Areas. Do not use in areas identified by the California Department of Pesticide Regulation as runoff ground water protection areas* unless one of the following management practices can be met:

- Soil disturbance. Within seven days before this product is applied, the soil to be treated shall be disturbed by using a disc, narrow, rotary tiller, or other mechanical method. This subsection does not apply to the area to be treated that is immediately adjacent to the crop row and that does not exceed 33 percent of the distance between crop row or in citrus, to the band from the tree row to the dripline; or
- Incorporation of the pesticide. Within 48 hours after the day this product is applied, the pesticide shall be incorporated on at least 90 percent of the area treated; using a disc, harrow, rotary tiller, or other mechanical method, or by sprinkler or low flow irrigation, including chemigation where allowed by the label, using a minimum of 1/4 inch of irrigation water and a maximum of one inch as described under Application Instructions, at application rates that do not cause surface water runoff from the treated property or to wells on the treated property; or

- c) Band treatment: This product is applied as band treatment immediately adjacent to the crop row so that not more than 33 percent of the distance between rows is treated, or, in citrus, not more than the area from the tree row to the dripline is treated; or
- d) Timing of application. This product is applied between April 1 and July 31; or
- e) Retention of runoff on field. For six months following the application, the field shall be designed, by berms, levees, or nondraining circulation systems, to retain all irrigation runoff and all precipitation on, and drainage through, the field. The retention area on the field shall not have a percolation rate of more than 0.2 inches per hour (5 inches per 24 hours); or
- f) Retention of runoff in a holding area off the field. For six months following application, all runoff shall be channeled to a holding area off the application site, under the control of the property owner, that is designed to retain all irrigation runoff and all precipitation on, and drainage through, the treated field and all other areas draining onto that holding area. The holding area shall not have a percolation rate of more than 0.2 inches per hour (5 inches per 24 hours); or
- g) Runoff onto a fallow field. For six months following application, runoff shall be managed so that it runs off onto an adjacent unenclosed fallow field at least 300 feet long that is not irrigated for six months after application with the exception of the addition of adequate moisture that is required for herbicidal activation following application as described under Application Instructions, with full consideration of any plant back restrictions.

Leaching Ground Water Protection Areas. Do not use in areas designated by the California Department of Pesticide Regulation as leaching ground water protection areas* unless either (a) the user does not apply any irrigation water for six months following the application of this product, or (b) the user applies this product to the planting bed or the berm above the level of irrigation water in the furrow or basin and the water level shall remain at or below that level for six months following application of the pesticide with the exception of the addition of adequate moisture that is required for herbicidal activation following application as described under Application Instructions, or (c) irrigation is managed so that the ratio of the amount of irrigation water applied divided by the net irrigation requirement is 1.25 or less for six months following application of this product.

*Consult with your County Agricultural Commissioner to determine whether the application will be within an area designated by the California Department of Pesticide Regulation as either a Runoff Ground Water Protection Area or a Leaching Ground Water Protection Area. Details regarding the locations of these Areas are also available via the internet at <http://www.cdpr.ca.gov/docs/emon/ehap.htm>

Chemigation Application

Arbitron 4 F may be applied through sprinkler irrigation systems including center pivot, lateral move, end tow, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system. Crop injury, lack of effectiveness or illegal residues on or in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The 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 also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to

prevent fluid from being withdrawn from the supply tank when the irrigation systems either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. 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.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Arbitron 4 F should be metered into the irrigation system continuously for the duration of the water application. **Arbitron 4 F** should be diluted in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the soil surface. Continuous agitation is required to maintain product suspension in the solution tank. A jar test should be conducted to ensure that phase separation would not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable weed control. Flush the lines at the completion of the application and then turn the water off promptly.

When using water from public water systems; **DO NOT APPLY Arbitron 4 F THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.** Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. **Arbitron 4 F** may be applied through irrigation systems, which may be supplied by a public water system only if water from the water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Crop response to treatment with **Arbitron 4 F** will depend on the following factors:

- application rate and timing
- volume of water applied and pH
- sensitivity of crop type to treatment with **Arbitron 4 F**
- growth stage of the crop when irrigated

The amount of sulfentrazone available for uptake by weed species will increase as the pH of the soil increases. The pH of the soil must be accurately assessed using representative soil samples. In addition, irrigation with water with a high pH (i.e. alkaline water) following treatment, will increase the amount of available sulfentrazone for uptake by target species. However, if irrigation water pH exceeds 7.5, crop damage may result. The likelihood of an adverse response by crops will decrease as the growth stage of crops advances.

Application in Combination with Dry Fertilizers

- **Arbitron 4 F** may be impregnated on and applied in conjunction with a dry bulk fertilizer.
- Only apply, combinations of this product and dry fertilizer with ground equipment.
- Do not apply via aerial application.
- Applicators using dry fertilizer must follow state regulations on the preparation of the **Arbitron 4 F**/fertilizer combination, including mixture preparation, storage, transportation, selling and treatment.

Directions for Dry Fertilizer Impregnation:

1. Use the following method for impregnation:

1. Ensure that spray nozzles are calibrated and positioned for uniform **Arbitron 4 F** coverage of the dry fertilizer during the mixture process.
 2. Make a slurry with **Arbitron 4 F** and water in a clean container.
 3. Once made, add the **Arbitron 4 F**/water slurry to the impregnation spray tank.
 4. Finish the solution by adding water as required.
2. For impregnation and application of **Arbitron 4 F** and dry fertilizer, use a dry bulk fertilizer blender such as a closed rotary-drum mixer that is fitted with appropriate spray application equipment.
3. See the **CLEANING APPLICATION EQUIPMENT** section (below) prior to cleaning equipment used for impregnation, transportation, loading and application of the **Arbitron 4 F**/dry fertilizer combination.
4. DO NOT attempt to impregnate coated ammonium nitrate or limestone with **Arbitron 4 F** as neither can absorb the herbicide.

Application instructions for **Arbitron 4 F** impregnated dry fertilizers:

- Dry fertilizer impregnated with **Arbitron 4 F** must be applied using a dry fertilizer spreader. The application equipment must be correctly calibrated for sufficient and uniform coverage of the soil surface. If treatment is not uniform, some areas may go untreated which may cause reduced control of target species.
- Avoid overlapping applications, which may cause labeled use rates to be exceeded, and may cause adverse crop response.
- Apply the dry fertilizer/**Arbitron 4 F** combination at a rate of at least 200 pounds of impregnated dry bulk fertilizer per acre in order to provide sufficient soil coverage.
 - o See the appropriate crop specific section of this label for the use rate of **Arbitron 4 F** per acre.
 - o Next, use the following equation to calculate the amount of **Arbitron 4 F** that must be used to impregnate 2000 pounds (one ton) of dry bulk fertilizer.

Fl. oz. of Arbitron 4 F to be applied per ton of Dry Bulk Fertilizer	=	Fl. oz. of Arbitron 4 F per acre	X	2000	+	Lbs. dry bulk fertilizer applied per acre
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Example 1: If use rate of **Arbitron 4 F** is 8 fl. oz. per acre, and 200 lbs. fertilizer will be applied per acre:

$$(8)(2000 / 200) = 80 \text{ fl. oz. Arbitron 4 F per ton of dry bulk fertilizer}$$

Example 2: If use rate of **Arbitron 4 F** is 12 fl. oz. per acre and 400 lbs. fertilizer will be applied per acre:

$$(12)(2000 / 400) = 60 \text{ fl. oz. Arbitron 4 F per ton of dry bulk fertilizer}$$

Application in Combination with Liquid Fertilizers

- **Arbitron 4 F**, when applied in combination with a liquid fertilizer will provide control of listed weeds.
- Sufficient soil coverage is crucial for control of target species.
- Fertilizer solutions that may be used as a carrier for **Arbitron 4 F** may be concentrate formulations as blended or diluted in water.

Directions for Liquid Fertilizer Combination:

- The selected spray system must have the spray capacity to allow uniform application of the treatment solution, and must be capable of maintaining agitation in the spray tank throughout the mixture and application procedures.
- Some spray application systems might need separate pumps to apply the solution and maintain agitation at the same time.
- Prior to combining the liquid fertilizer and **Arbitron 4 F** in the application tank, carry out a compatibility test to ensure that the mixture is stable, homogenous and compatible. In a lidded glass jar (~1 quart size), add all mix partners, in their

relative proportions. Invert, shake or mix the jar thoroughly. If mixture forms precipitates (flakes or sludge), gels, balls up or forms oily films or layers, this indicates incompatibility. Though signs of incompatibility will typically be seen within 5 minutes of mixing, mixture should be observed for approximately 30 minutes.

Combine **Arbitron 4 F** and the carrier liquid fertilizer as follows:

1. Fill a clean spray tank 1/2 full of fertilizer solution.
2. Begin agitation of the fertilizer solution.
3. Use a clean container to create a slurry of **Arbitron 4 F** and water (equal parts of both)*.
4. Add the slurry slowly to the spray tank, continuing agitation throughout.
5. Rinse the slurry mix container and add rinsate solution to spray tank.
6. Finish filling spray tank to required level.
7. Maintain agitation throughout. The **Arbitron 4 F**/water slurry must be mixed thoroughly prior to application.

*For best mixing of the **Arbitron 4 F**/water slurry, add the slurry using induction systems on the sprayer fill plumbing system.

- It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Application instructions for **Arbitron 4 F** mixed with liquid fertilizers:

- The spray application solution must be applied immediately following preparation.
- Maintain agitation throughout mixture and application.
- Do not store spray solution in the spray tank for an extended period of time, or overnight.
- A combination of **Arbitron 4 F** and liquid fertilizer must not be premixed in nurse tanks.
- Applicators/sellers of liquid fertilizer must follow state regulations for liquid fertilizers, including those regarding preparation, blending, registration, transportation, selling, treatment and storage.

Band Treatment Applications

Arbitron 4 F can be applied as a banded treatment application. When calculating rates for band treatment, apply the equivalent volume per acre rate for broadcast treatment by using the following equation:

Band Rate or Volume	=	Broadcast Rate (fl. oz./acre) or Volume Per acre	X	Band width (in inches)	+	Row width (in inches)
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Mixing and Loading Instructions

- **Arbitron 4 F** may be applied on its own or in combination with other herbicides for a broader spectrum of weed control. Combinations with other products may not have been tested, therefore, carry out a compatibility test before mixing and applying. In a lidded glass jar (~1 quart size), add all mix partners, in their relative proportions. Invert, shake or mix the jar thoroughly. If mixture forms precipitates (flakes or sludge), gels, balls up or forms oily films or layers, this indicates incompatibility. Though signs of incompatibility will typically be seen within 5 minutes of mixing, mixture should be observed for approximately 30 minutes.
- It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Spray equipment must be clean and free of product residue prior to mixing an application solution of **Arbitron 4 F**. Refer to **Cleaning Directions** below and to the cleaning directions of the product(s) previously applied.

- Mix **Arbitron 4 F** using the following procedure:
 1. Fill a clean spray tank with 1/2 of Water required for treatment.
 2. Begin agitation.
 3. Use a clean container to create a slurry of **Arbitron 4 F** and water*.
 4. Add the slurry slowly to the spray tank, continuing agitation throughout.
 5. Rinse the slurry mix container and add rinsate solution to spray tank.
 6. Finish filling spray tank to required level.
 7. Maintain agitation throughout. The **Arbitron 4 F**/water slurry must be mixed thoroughly prior to application.

*For best mixing of the **Arbitron 4 F**/water slurry, add the slurry using induction systems on the sprayer fill plumbing system.
- The spray application solution must be applied immediately following mixture.
- Maintain agitation throughout mixture and application.
- Do not store spray solution in the spray tank for an extended period of time, or overnight.
- A tank mixture containing **Arbitron 4 F** must not be premixed in nurse tanks.

Cleaning Application Equipment

Adverse crop reaction may result if residues of this product are left in spray equipment following application. Spray equipment must be cleaned immediately after treatment with **Arbitron 4 F**, and before applications with other products.

- Use the following procedure:
 1. Drain the spray application equipment, including tank, hoses, spray boom and nozzles.
 2. Clean inside the spray tank with a high-pressure detergent, removing residues and sediment.
 3. Thoroughly rinse the spray tank.
 4. Flush the spray system out using water, including hoses, spray boom and spray nozzles.
 5. Combine 3 gallons of ammonia (with a minimum of 3% active ingredient) in 100 gallons of water. Make sufficient cleaning solution to operate the spray application equipment for a minimum of 15 minutes so that the system is thoroughly flushed.
 6. Remove spray tips, and all screens and filters and clean separately using the ammonia solution (step 5).
 7. Leave the cleaning solution or water in the nozzles, spray booms, hoses and spray tank overnight (or during storage) to ensure thorough cleaning.
 8. Drain the system completely prior to re-use. Use clean water to rinse/flush nozzles, spray booms, hoses and the spray tank. Remove spray tips, and all screens and filters and clean separately using the ammonia solution (step 5).
 9. Dispose of rinsate and excess cleaning solution in compliance with Federal, State, and local regulations and guidelines.
- Rinsate and cleaning solution must not be applied to sensitive crops.
- Spray application equipment must not be stored for any extended period while **Arbitron 4 F** application solution remains in the spray lines, nozzles, strainers, or boom plumbing.
- When application equipment has been idle or in storage, flush the nozzles and spray boom with clean water prior to use for application of product.
- If small amounts of this product remain in equipment after cleaning, **Arbitron 4 F** may be released during later applications, which may cause an adverse reaction from certain crops/other vegetation. The applicator is solely responsible for any damage caused by equipment that is not properly cleaned.
- Equipment must not be flushed or drained near desirable plants/trees.

- Ensure that bodies of water are not contaminated with application solution, rinsate or cleaning solution, including water that may be used for other crops, i.e. irrigation water.

SPRAY DRIFT REDUCTION ADVISORY

To avoid drift, do not apply when wind speeds exceed 10 mph. Do not exceed spray pressures of 40 psi unless specified by the manufacturer of drift reducing spray tips and nozzles. Select nozzles and application pressure that deliver medium to coarse or larger spray droplets as indicated in the nozzle manufacturer's recommendations and in accordance with ASABE Standard S-572.

- Select coarse to very coarse droplet size when sulfentrazone is used as a pre-emergent/pre-plant application.
- Select medium to very coarse droplet size when sulfentrazone is used post-emergence with a contact burndown herbicide.
- Applicators may spray only when wind speed is between 3 and 10 mph.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).

Spray Drift Management

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

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from aerial applications. These requirements do not apply to forestry applications, public health uses or to applications of dry materials.

1. The distance of the outermost nozzles on the boom must not exceed 75% the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.
3. Observe the regulations of the State where applications are made.
4. Applicators must observe and abide by the requirements of the Aerial Drift Reduction Advisory.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage for pesticide performance. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions. (See information on **Wind, Temperature and Humidity**, and **Temperature Inversions** in subsequent sections).

Controlling Spray Droplet Size

Volume - Use high flow rate nozzles to apply the greatest practical spray volume. Nozzles with higher rated flow generally produce larger droplets. .

Pressure - When higher flow rates are needed, use higher flow rate nozzles rather than increasing spray pressure.

Do not exceed the nozzle manufacturer's specified pressures. Lower pressure produces larger droplets in many types of nozzles.

Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation - For aerial application, the recommended practice is to orient nozzles so that the spray is released parallel to the airstream. This orientation usually produces larger droplets as compared to other nozzle orientations. Significant nozzle deflection from horizontal will reduce droplet size and increase drift potential.

Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles for both ground and aerial applications. Solid stream nozzles oriented straight back usually produce the largest droplets and the lowest drift potential in aerial applications.

Boom Length - For some aerial use patterns, reducing the effective boom length to less than 75% of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height - To minimize spray drift, make applications at a height <10 feet above the top of the target plant canopy unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment - When aerial applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by the path of the aircraft upwind. Increase swath adjustment or offset distance when conditions favor increased drift potential (higher winds, smaller droplets, etc).

Wind - Drift potential is lowest between wind speeds of 3 - 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Do not make applications below 3 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they may potentially affect spray drift.

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

Temperature Inversions - Do not make applications during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the low speed and variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common during conditions of limited cloud cover and little to no wind. They often begin to form as the sun sets and may often continue into the morning. The presence of a temperature inversion may be indicated by ground fog. However if fog is not present, the movement of smoke from a ground source or an aircraft smoke generator can also identify inversions. Smoke that

remains in layers and moves laterally in a concentrated cloud (under low speed wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas - Only apply pesticide when the wind is blowing away from sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops).

Arbitron 4 F Drift

If **Arbitron 4 F** solutions drift into non-target areas, contact with other plants/crops can cause adverse reaction. Initially, adverse crop/plant reaction may be in localized areas, depending on factors such as plant sensitivity to the application solution and spray solution droplet size. Lesions or spots caused by drift may or may not coalesce. The effects of drift will not normally cause lasting effects on plant growth, but may adversely affect the value of fruit or foliage where value is affected by appearance. Where plants are sensitive to **Arbitron 4 F** and drift is significant, defoliation may result.

Avoid drift of this product/solutions containing this product to non-target areas by taking adequate notice of the prevailing environmental conditions. Use appropriate and accurately calibrated application equipment and utilize treatment procedures that will minimize the risk of drift.

Misapplication of this product where label directions are not followed may result in drift. The applicator/user of this product is solely responsible for any misapplication of **Arbitron 4 F**.

REPLANTING AND ROTATIONAL CROPS

- During replanting, keep soil tillage to a minimum so that the herbicide barrier is preserved, thereby maximizing weed control.
- In the event that the planting of crops listed in label directions does not produce a stand, only crops specified in this label or the tank mix partner may be planted. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- The planted area must not be retreated with **Arbitron 4 F** or any other-product containing sulfentrazone.
- Do not plant crops in previously treated areas unless in full compliance with the **Rotational Restrictions** (below).

Crop Rotation: Refer to the table below for the minimum interval from the time **Arbitron 4 F** was last applied until treated areas can be replanted with listed crops.

Crop	Minimum Rotational Interval
Barley Rye Triticale Wheat	4 months
Corn, Field Rice Sorghum ¹	10 months
Alfalfa Cereal Grains (Buckwheat, Oats, Pearl Millet, Proso Millet, Teosinte, Wild Rice) Sweet Potatoes	12 months
Corn, Pop Corn, Sweet Cotton	18 months
Canola	24 months
Asparagus Berries Brassica, head and stem (Broccoli and Cabbage) Brassica, leafy greens Citrus Cowpea, succulent (TN Only) Dry Shell Peas and Beans Flax Fruiting Vegetables (except cucurbits), Okra Grapes Horseradish Lima beans, succulent (TN Only) Melons Mint Peanuts Potatoes Rhubarb Soybeans Strawberry Succulent peas Sugarcane Sunflower subgroup 20B Tobacco Tree nuts Turf Turnips Wheat, spring (Pacific Northwest states ID, OR, WA only)	Crops can be planted at any point following the application of Arbitron 4 F .

¹ 18 month minimum rotational interval for sorghum where use rates are greater than 8 oz. of **Arbitron 4 F** per acre.

- Certain crops have a rotational interval of more than 12 months because of sensitivity and the risk of crop injury. Carry out a representative bioassay of the target area on the rotational crop in order to assess the crop's sensitivity to applications of this product.
- For all crops not listed in the table above, there must be a minimum rotational interval of 12 months.

For all Tank Mixtures: 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.

LISTED WEED SPECIES

When applied in accordance with these label directions (alone or in a tank mixture), **Arbitron 4 F** will provide control of the following weed species (refer to crop specific section for more details):

Amaranth, livid (<i>Amaranthus lividus</i>)	Morningglory, purple (<i>Ipomoea turbinata</i>)
Amaranth, Palmer (<i>Amaranthus palmeri</i>)	Morningglory, red (<i>Ipomoea, coccinea</i> L)
Amaranth, Powell (<i>Amaranthus Powell II</i>)	Morningglory, scarlet (<i>Ipomoea coccinea</i>)
Amaranth, spiny (<i>Amaranthus spinosus</i>)	Morningglory, smallflower (<i>Jacquemontia tamnifolia</i>)
Amaranth, spleen (<i>Amaranthus dubius</i>)	Morningglory, tall (<i>Ipomoea purpurea</i>)
Anoda, spurred (<i>Anoda cristata</i>)	Mustard, tumble (<i>Sisymbrium altissimum</i>)
Bedstraw, catchweed (<i>Galium aparine</i>)	Nightshade, black (<i>Solanum nigrum</i>)
Carpetweed (<i>Mollugo verticillata</i>)	Nightshade, Eastern black (<i>Solanum ptycanthum</i>)
Chickweed, common (<i>Stellaria media</i>)	Nutsedge, purple (<i>Cyperus rotundus</i>)
Copperleaf, hophornbeam (<i>Acalypha ostryifolia</i>)	Nutsedge, yellow (<i>Cyperus esculentus</i>)
Copperleaf, Virginia (<i>Acalypha virginica</i>)	Orchardgrass (<i>Dactylis glomerata</i>)
Crabgrass, large (<i>Digitaria sanguinalis</i>)	Panicum, fall (<i>Panicum dichotomiflorum</i>)
Crabgrass, smooth (<i>Digitaria ischaemum</i>)	Pigweed, redroot (<i>Amaranthus retroflexus</i>)
Crabgrass, Southern (<i>Digitaria ciliaris</i>)	Pigweed, smooth (<i>Amaranthus hybridus</i>)
Croton, tropic (<i>Croton glandulosus</i>)	Plantain, blackseed (<i>Plantago rugelii decne</i>)
Crownbeard, golden (<i>Verbesina encelioides</i>)	Plantain, narrow-leaved (<i>Plantago lanceolata</i>)
Cupgrass, woolly (<i>Eriochloa villosa</i>)	Poorjoe (<i>Diodia teres</i>)
Cyperus, hedgehog (<i>Cyperus compressus</i>)	Porophyllum (<i>Porophyllum ruderale</i>)
Daisy, American (<i>Eclipta alba</i>)	Poinsettia, wild (<i>Euphorbia heterophylla</i>)
Devilscaw (<i>Proboscidea Louisiana</i>)	Purslane, common (<i>Portulaca oleracea</i>)
Dock, curly (<i>Rumex crispus</i>)	Redmaids (<i>Calandrinia ciliata</i>)
Eclipta (<i>Eclipta prostrate</i>)	Redweed (<i>Melochia corchorifolia</i>)
Filaree, redstem (<i>Erodium cicutarium</i>)	Sedge annual (<i>Carex</i> spp.)
Flixweed (<i>Descurainia sophia</i>)	Senna, coffee (<i>Cassia occidentalis</i>)
Galinsoga, hairy (<i>Galinsoga ciliata</i>)	Shepherdspurse (<i>Capsella bursa-pastoris</i>)
Goosegrass (<i>Eleusine indica</i>)	Sida, prickly (<i>Sida spinosa</i>)
Groundcherry, clammy (seedling) (<i>Physalis heterophylla</i>)	Sida, Southern (<i>Sida acuta</i>)
Groundcherry, cutleaf (<i>Physalis angulata</i>)	Signalgrass, broadleaf (<i>Brachiaria platyphylla</i>)
Jimsonweed (<i>Datura stramonium</i>)	Smartweed, PA (seedling) (<i>Polygonum pensylvanicum</i>)
Kochia (ALS and Triazine Resistant) (<i>Kochia scoparia</i>)	Smellmelon (<i>Cucumis melo</i>)
Ladysthumb (<i>Polygonum persicaria</i>)	Starbur, bristly (<i>Acanthospermum hispidum</i>)
Lambsquarters, common (<i>Chenopodium album</i>)	Stinkgrass (<i>Eragrostis cilianensis</i>)
Lettuce, miners (<i>Montia perfoliata</i>)	Toadflax, yellow (<i>Linaria vulgaris</i>)
Mallow, common (<i>Malva neglecta wall r.</i>)	Tasselflower, red (<i>Emilio sonchifolia</i>)
Mayweed, Chamomile (<i>Anthemis cotula</i> L.)	Thistle, Russian (<i>Salsola kali</i>)
Milkweed, honeyvine (<i>Ampelamus albidus</i>)	Waterhemp, common (<i>Amaranthus rudis</i>)
Morningglory, entireleaf (<i>Ipomoea hederacea integruscula</i>)	Waterhemp, tall (<i>Amaranthus tuberculatus</i>)
Morningglory, ivyleaf (<i>Ipomoea hederacea</i>)	Waterprimrose, winged (<i>Ludwigia decurrens</i>)
Morningglory, palmleaf (<i>Ipomoea wrightii</i>)	Witchgrass (<i>Panicum capillare</i>)

ASPARAGUS

Arbitron 4 F can be applied preemergence in the spring, prior to weed and crop emergence. Apply to asparagus crowns that have been established for at least one year. When applied as indicated on this label, the following weeds in asparagus will be controlled with **Arbitron 4 F**:

Amaranth, Palmer

Morningglory, ivyleaf

Pigweed (redroot, smooth)

Galinsoga, hairy

Nightshade, Eastern black

Lambsquarters, common

Nutsedge, yellow

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 8.0 - 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 8.0 - 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 10.1 - 12.0 fl. oz. (0.316 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 10.1 fl. oz. (0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions: Apply amount of **Arbitron 4 F** indicated above to the soil in the spring, before crop or weeds have emerged. Apply product in 10 to 40 gallons of finished spray per acre.

Tank Mixes: For control of a broader spectrum of weeds or pests, **Arbitron 4 F** can be mixed with other pesticides registered for use on asparagus. 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.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of asparagus.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period.
- Pre-harvest interval (PHI) is 14 days.
- Do not make more than one **Arbitron 4 F** application in a 12 month period. The 12 month period starts at the point of first application.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').

BERRIES (Crop Group 13-07)*

(Aronia berry, bayberry, bearberry, bilberry, blackberry (including Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these), blueberry (highbush, lowbush), buffalo currant, buffaloberry, chew, Chilean guava, chokecherry, cloudberry, cranberry (highbush), currant (black, red), elderberry, European barberry, gooseberry, honeysuckle (edible, jostaberry), Juneberry (Saskatoon berry), kiwifruit (fuzzy, hardy), lingonberry, maypop, mountain pepper berries, mulberry, muntries, native currant, partridgeberry, phalsa, pincherry, raspberry (black, red), riberry, salal, schisandra berry, sea buckthorn, serviceberry, wild raspberry, cultivars, varieties, and or/hybrids of these)

To control susceptible weeds, make a broadcast application of **Arbitron 4 F** to soil when no weeds are present or in a tank mix with a postemergence herbicide for control of emerged weeds. Make applications to crops that have been established for one full growing season and are healthy and vigorous.

See **Listed Weed Species** section of this label for information on controlled weeds.

*Not for Use in California.

Application Rates and Instructions:

- Apply with ground application equipment only.
- Apply when soil is moist and application will be followed by 1/2" rainfall or irrigation within two weeks after application. Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation which may not provide uniform incorporation into the soil.
- Apply amount of **Arbitron 4 F** indicated below under **Broadcast Applications** to orchard and vineyard floors, to berry beds, and furrows as a single uniform broadcast soil application or as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0 - 9.0 and nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Arbitron 4 F** contact with green tissues.
- **Broadcast applications:** Make a single application of 4.0 - 12.0 fl. oz. (0.125 - 0.375 lb. a.i.) per acre.
- **Banded applications:** Refer to the following chart for the appropriate rate and volume of **Arbitron 4 F** to be applied. **Arbitron 4 F** can be applied twice in one year (50% or less bands). For band treatments, apply the broadcast rate and volume per acre. To determine these:

Band rate	=	Band Width (ft.)	X	Broadcast Rate/Acre
		Row Within Feet		
Band volume	=	Band Width Feet	X	Broadcast Volume/Acre

Important:

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of berries.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./A) per year (12-month period from when **Arbitron 4 F** is first applied).
- Do not apply **Arbitron 4 F** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Arbitron 4 F**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-harvest interval (PHI) is 3 days.
- If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the seasonal maximum use rate.

Control/Suppression of Sedge/Nutsedge:

- Make a post-emergence application of **Arbitron 4 F** at 12 fl. oz. per acre.
- Use 25% volume/volume non-ionic surfactant (NIS).
- Post-emergence applications may be most effective since **Arbitron 4 F** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Arbitron 4 F** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Arbitron 4 F**. Make an initial application of 4.0 - 6.0 fl. oz. per acre followed by a 2nd application to actively growing purple nutsedge. Do not exceed the maximum application rate of 12.0 fl. oz. per acre per year. Optimal control may not occur until the 2nd year after the initial application of **Arbitron 4 F**.

Tank Mixes: **Arbitron 4 F** can be split applied or mixed with burndown herbicides or residual soil herbicides labeled for use on berries to control emerged weeds or broaden the herbicide control spectrum. Do not tank mix with products containing flumioxazin or sulfentrazone. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Replanting in New or Established Orchards and Vineyards: Wait at least 30 days after applying **Arbitron 4 F** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

BRASSICA, HEAD AND STEM*

(Broccoli, Chinese broccoli, brussels sprouts, Chinese (napa) cabbage, Chinese mustard, cauliflower, cavalo broccoli, kohlrabi)

To control susceptible weeds, **Arbitron 4 F** can be applied to head and stem brassica at the following times:

In the fall (Preplant), before spring growing season

In the spring (early preplant, preplant incorporated, preemergence)

When applied as indicated on this label, the following weeds in head and stem brassica will be controlled with **Arbitron 4 F**:

Galinsoga, hairy

Lambsquarters, common

Pigweed, redroot

Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.0 fl. oz. (0.07 - 0.095 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions: Apply amount of **Arbitron 4 F** indicated above to stubble or to the soil surface, in the fall, or in the spring up to 72 hours before transplanting. Unless applying preplant incorporated, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. If applying this product preplant incorporated in the spring, prior to transplantation, mix thoroughly or shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

Tank Mixes: **Arbitron 4 F** can be split applied or mixed with burndown herbicides or residual soil herbicides labeled for use on head and stem brassica to control emerged weeds or broaden the herbicide control spectrum.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of head and stem brassica.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.

BRASSICA, LEAFY GREENS*

(Broccoli raab, Chinese (bok choy) cabbage, collards, kale, mizuna, mustard greens, mustard spinach, rape greens)

To control susceptible weeds, **Arbitron 4 F** can be applied to brassica, leafy greens at the following times:

In the fall (Preplant), before spring growing season

In the spring (early preplant, preplant incorporated, preemergence)

When applied as indicated on this label, the following weeds in brassica, leafy greens will be controlled with **Arbitron 4 F**:

Galinsoga, hairy

Lambsquarters, common

Pigweed, redroot

Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.0 fl. oz. (0.07 - 0.095 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 6.4 fl. oz. (0.19 - 0.2 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 6.4 fl. oz. (0.19 - 0.2 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 6.4 fl. oz. (0.19 - 0.2 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 6.4 fl. oz. (0.19 - 0.2 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 6.4 fl. oz. (0.19 - 0.2 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions: Apply amount of **Arbitron 4 F** indicated above to stubble or to the soil surface, in the fall, or in the spring up to 72 hours before transplanting. Unless applying preplant incorporated, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. If applying this product preplant incorporated in the spring, prior to transplantation, mix thoroughly or shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

Tank Mixes: **Arbitron 4 F** can be split-applied or mixed with burndown herbicides or residual soil herbicides labeled for use on brassica, leafy greens to control emerged weeds or broaden the herbicide control spectrum.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of brassica, leafy greens.
- Do not apply more than 0.2 lb. sulfentrazone (6.4 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.

CABBAGE (Transplanted only)

To control susceptible weeds, **Arbitron 4 F** can be applied cabbage (transplanted only) at the following times:

In the fall (Preplant), before spring growing season

In the spring (early preplant, preplant incorporated, preemergence)

When applying early preplant to cabbage, the product may be applied only in CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY.

When applied as indicated on this label, the following weeds in cabbage will be controlled with **Arbitron 4 F**:

Galinsoga, hairy

Lambsquarters, common

Pigweed, redroot

Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.0 fl. oz. (0.07 - 0.095 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions: Apply amount of **Arbitron 4 F** indicated above to stubble or to the soil surface, in the fall, or in the spring from 60 days prior to planting or transplanting up to 72 hours after transplant. Unless applying preplant incorporated, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.

If applying preemergence, applications before transplant can be broadcast or banded. Preemergence applications up to 72 hours after transplant should be a banded treatment in the row middles.

If applying this product preplant incorporated in the spring, prior to transplantation, mix thoroughly or shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

Tank Mixes: **Arbitron 4 F** can be split-applied or mixed with burndown herbicides or residual soil herbicides labeled for use on cabbage to control emerged weeds or broaden the herbicide control spectrum.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of brassica, leafy greens.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.

CITRUS (Crop Group 10)

(Australian desert lime*, Australian finger-ling*, Australian round lime*, Brown River finger lime*, calamodin*, citron*, citrus hybrids*, grapefruit*, Japanese summer grapefruit*, kumquat*, lemon, lime*, Mediterranean mandarin*, mount white lime*, New Guinea wild lime*, orange (sour, sweet)*, pummelo*, Russell River lime*, satsuma mandarin*, sweet lime*, tachibana orange*, Tahini lime*, tangelo*, tangerine (mandarin)*, tangor*, trifoliate orange*, uniq fruit*, cultivars*, varieties*, and/or hybrids of these)

To control susceptible weeds, apply **Arbitron 4 F** when no weeds are present or in a tank mix with a postemergence herbicide for control of emerged weeds. Make applications to crops that have been established for one full growing season and are healthy and vigorous.

See **Listed Weed Species** section of this label for information on controlled weeds.

*Not for Use in California.

Application Rates and Instructions:

- Apply with ground application equipment only.
- Apply when soil is moist and application will be followed by 1/2" rainfall or irrigation within two weeks after application. Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation which may not provide uniform incorporation into the soil.
- Apply amount of **Arbitron 4 F** indicated below under **Broadcast Applications** to orchard and vineyard floors, to berry beds, and furrows as a single uniform broadcast soil application or as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0 - 9.0 and nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Arbitron 4 F** contact with green tissues.
- **Broadcast applications:** Make a single application of 4.0 - 12.0 fl. oz. (0.125 - 0.375 lb. a.i.) per acre.
- **Banded applications:** Refer to the following chart for the appropriate rate and volume of **Arbitron 4 F** to be applied. **Arbitron 4 F** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

Band rate	=	$\frac{\text{Band Width (ft.)}}{\text{Row Within Feet}}$	X	Broadcast Rate/Acre
Band volume	=	Band Width Feet	X	Broadcast Volume/Acre

Control/Suppression of Sedge/Nutsedge:

- Make a post-emergence application of **Arbitron 4 F** at 12 fl. oz. per acre.
- Use 25% volume/volume non-ionic surfactant (NIS).
- Post-emergence applications may be most effective since **Arbitron 4 F** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Arbitron 4 F** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Arbitron 4 F**. Make an initial application of 4.0 - 6.0 fl. oz. per acre followed by a 2nd application to actively growing purple nutsedge. Do not exceed the maximum application rate of 12.0 fl. oz. per acre per year. Optimal control may not occur until the 2nd year after the initial application of **Arbitron 4 F**.

Tank Mixes: **Arbitron 4 F** can be split applied or mixed with burndown herbicides or residual soil herbicides labeled for use on citrus to control emerged weeds or broaden the herbicide control spectrum. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Replanting in New or Established Orchards and Vineyards: Wait at least 30 days after applying **Arbitron 4 F** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Important:

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of citrus.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./A) per year (12-month period from when **Arbitron 4 F** is first applied).
- Do not apply **Arbitron 4 F** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Arbitron 4 F**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-harvest interval (PHI) is 3 days.
- If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the seasonal maximum use rate.

CORN (Field Corn, Seed Corn, Popcorn)*

For use only with Varieties resistant to PPO Herbicides

To control susceptible broadleaves, grasses and sedges in corn, **Arbitron 4 F** can be applied to corn at the following times:

In the fall (Preplant), before spring planting of corn

In the spring (Early Preplant, Preplant Incorporated or Postemergence) prior to planting

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Up to 3.0% OM, apply 3.0 to 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 3.75 to 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 to 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 to 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 to 6.75 fl. oz. (0.14 - 0.21 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 to 5.25 fl. oz. (0.12 - 0.165 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 to 6.75 fl. oz. (0.14 - 0.21 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 to 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions: Apply amount of **Arbitron 4 F** indicated above to stubble or to the soil surface, in the fall or in the spring 45 days prior to planting up to 3 days after planting (if seed furrow is closed completely and seedlings have not broken the soil surface), using a broadcast or banded soil application. **Arbitron 4 F** can be applied in conventional, conservation, reduced or no tillage cropping systems. For application in the fall or up to 14 day prior to planting in the spring, use the mid to higher rate range for your soil type, because of the extended time period between application and planting.

If applying this product preplant incorporated in the spring, mix thoroughly or shallowly incorporate the **Arbitron 4 F** into the soil using a field cultivator, disk harrower, field finisher or other correctly adjusted incorporation tool. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.

For maximum weed control, disturb the soil surface as little as possible after application. Minimize soil disturbance when planting into soil that has been treated with **Arbitron 4 F**. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

More effective season-long control of existing weeds that are difficult to control or late emerging weeds can be obtained by applying **Arbitron 4 F** in a split or sequential application.

Tank Mixes: **Arbitron 4 F** can be mixed with burndown herbicides or residual soil herbicides to control emerged weeds. **Arbitron 4 F** can be mixed with insecticides including insecticides that contain the active ingredients (Mustang Max or Capture EC) to control cutworms, armyworms or other insect pests. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of corn.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. If making a preplant fall application, the 12 month period starts at this point.
- To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').

DRY SHELLED BEANS AND PEAS*

(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, blackeyed pea, catjang, cowpea, crowder pea moth bean, lentil, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea; guar; lab lab bean; pea (*Posum*) (includes field pea) and pigeon pea.

To control susceptible weeds, **Arbitron 4 F** can be applied to dry shelled beans at the following times:

In the fall (Preplant), before spring growing season (only in CO, ID, KS, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY).

In the spring (early preplant, preplant incorporated, preemergence)

When applied as indicated on this label, the following weeds in dry shelled beans and peas will be controlled with **Arbitron 4 F**:

Amaranth, Palmer	Filaree, redstem	Kochia (ALS and Triazone resistant)
Lambsquarters, common	Morningglory (ivyleaf, tall)	Nightshade, Eastern black
Pigweed (red root, smooth)	Sida, prickly	Thistle, Russian
Waterhemp (common, tall)		

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.0 fl. oz. (0.07 - 0.095 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 - 6.75 fl. oz. (0.14 - 0.21 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 5.25 - 8.0 fl. oz. (0.165 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions: Apply amount of **Arbitron 4 F** indicated above to stubble or to the soil surface, in the fall, or in the spring from 60 days prior to planting up to 3 days after planting (if seed furrow is completely closed and if seedlings have not broken the soil furrow).

When applying preplant fall applications, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

When applying in the spring early preplant greater than three weeks prior to planting, use the higher rate listed in **Application Rates** for appropriate soil and organic matter type. Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter. Moisture (in the form of rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed. If applying this product preplant incorporated in the spring prior to planting reduced and conventional tillage dry beans and dry peas, mix thoroughly or shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Tank Mixes: **Arbitron 4 F** can be split-applied or mixed with burndown herbicides or soil-applied herbicides labeled for use on dry beans and peas to control emerged weeds or broaden the herbicide control spectrum. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Reduce rate of **Arbitron 4 F** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of dry beans and peas.
- Do not apply more than 0.25 lb. sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.
- If seedlings are close to soil surface or crop has emerged, do not apply **Arbitron 4 F**.
- To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have existing snow cover.

FALLOW OR POST HARVEST BURNDOWN

Fall application (MN, ND, SD, MT, CO, NE, WY, ID, WA, OR, WI, MI)

Or Spring Preemerge application

To control or suppress susceptible weeds (including the weed list indicated below, and additional weeds indicated in the Weeds Controlled portion of this label, **Arbitron 4 F** can be applied at the following times:

In the Fall: after crop has been harvested

In the spring before weeds have emerged.

- Fall applications can be made in the states of MN, ND, SD, MT, CO, NE, WY, ID, OR, WI or MI
- Spring application can be made to existing fallow fields of asparagus, cabbage, corn, dry shell peas and beans, horseradish, limas, mint, peanuts, potatoes, soybeans, sugarcane, sunflowers, or tobacco

When applied as indicated on this label, **Arbitron 4 F** will control the following weeds:

Filaree, redstem	Kochia (ALS and Triazine Resistant)	Lambsquarters, common
Morningglory (ivyleaf, tall)	Nightshade, Eastern Black	Pigweed (redroot, smooth)
Thistle, Russian	Waterhemp (common, tall)	

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 3.0 to 3.75 fl. oz. (0.095 - 0.12 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 to 5.25 fl. oz. (0.12 - 0.165 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 to 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 to 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 to 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 to 8.0 fl. oz. (0.14 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 to 5.25 fl. oz. (0.12 - 0.165 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 to 6.75 fl. oz. (0.14 - 0.21 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 5.25 to 8.0 fl. oz. (0.165 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above to stubble or soil surface in the fall, or as a fallow treatment in the spring. Do not incorporate **Arbitron 4 F** into the soil.

Moisture (in the form of rain or snow) after application will move the product into the soil. For maximum weed control, disturb the soil surface as little as possible after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

If weed size is such that the weeds interfere with **Arbitron 4 F** getting to soil surface, a separate burndown herbicide should be used prior to application of **Arbitron 4 F**. Use higher listed application rates, or more than one application of a burndown herbicide, if necessary, to remove emerged weeds. If applying aerially, use higher listed spray volumes of burndown herbicide to control dense weeds or canopy.

Tank Mixes: **Arbitron 4 F** can be mixed with burndown herbicides or residual soil herbicides to control emerged weeds. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, replanting instructions, and any other information on this label prior to use.
- Follow rotational crop guidelines listed on this table when planting crops in the next season.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties of given crop species.
- Do not apply more than 0.25 lb. sulfentrazone (8.0 fl. oz. product) per 12 month period. If making a fall fallow application, the 12 month period starts at this point.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

FLAX

To control susceptible weeds, **Arbitron 4 F** can be applied preemergence to flax.

When applied as indicated on this label, the following weeds in flax will be controlled with **Arbitron 4 F**:

Copperleaf/hophornbeam

Kochia (ALS and Triazine Resistant)

Morningglory (entireleaf, ivyleaf, tall)

Nightshade, Eastern black

Pigweed (redroot, smooth)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.0 fl. oz. (0.07 - 0.095 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above as a preemergence treatment prior to planting up to just before seedling emergence. To avoid severe injury to flax, do not make application after seedlings have emerged.

For control of broadleaf and grass weeds, **Arbitron 4 F** application can be followed with a postemergence flax herbicide.

Tank Mixes: **Arbitron 4 F** can be applied alone or in combination with other herbicides labeled for use on flax to enhance control to broadleaf weeds and grasses. Tank mix **Arbitron 4 F** with burndown herbicides to control emerged weeds. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of flax.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter.
- Eliminate use or reduce rate of **Arbitron 4 F** to 3.0 oz./acre (0.94 lb. active) on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Reduced weed control can occur if crop is experiencing extended periods of dry weather.
- Product is not to be incorporated any deeper than 2 inches.
- To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- If seedlings are close to soil surface or have emerged, do not apply **Arbitron 4 F** directly to crop.

FRUITING VEGETABLES (except Cucurbits)* and OKRA*

Eggplant; groundcherry (*Physalis*, spp.); pepino; pepper (including bell pepper); okra; tomatillo; tomato

To control susceptible weeds, **Arbitron 4 F** can be applied preemergence to fruiting vegetables.

When applied as indicated on this label, the following weeds in fruiting vegetables will be controlled with **Arbitron 4 F**:

Lambsquarters, common

Morningglory, ivyleaf

Nutsedge, yellow

Pigweed, red root

Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.0 fl. oz. (0.07 - 0.095 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions: Apply amount of **Arbitron 4 F** indicated above as a preemergence treatment (broadcast or banded) to fruiting vegetables. Make applications before transplanting.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of fruiting vegetables.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').

GRAPES

(wine, raisin, table and juice, Amur river grape*)

To control susceptible weeds, apply **Arbitron 4 F** when no weeds are present or in a tank mix with a postemergence herbicide for control of emerged weeds. Make applications to crops that have been established for one full growing season and are healthy and vigorous.

See **Listed Weed Species** section of this label for information on controlled weeds.

*Not for Use in California.

Application Rates and Instructions:

- Apply with ground application equipment only.
- Apply when soil is moist and application will be followed by 1/2" rainfall or irrigation within two weeks after application. Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation which may not provide uniform incorporation into the soil.
- Apply amount of **Arbitron 4 F** indicated below under **Broadcast Applications** to orchard and vineyard floors, to berry beds, and furrows as a single uniform broadcast soil application or as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0 - 9.0 and nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Arbitron 4 F** contact with green tissues.
- **Broadcast applications:** Make a single application of 4.0 - 12.0 fl. oz. (0.125 - 0.375 lb. a.i.) per acre.
- **Banded applications:** Refer to the following chart for the appropriate rate and volume of **Arbitron 4 F** to be applied. **Arbitron 4 F** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

Band rate	=	Band Width (ft.)	X	Broadcast Rate/Acre
		Row Within Feet		
Band volume	=	Band Width Feet	X	Broadcast Volume/Acre

Control/Suppression of Sedge/Nutsedge:

- Make a post-emergence application of **Arbitron 4 F** at 12 fl. oz. per acre.
- Use 25% volume/volume non-ionic surfactant (NIS).
- Post-emergence applications may be most effective since **Arbitron 4 F** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Arbitron 4 F** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Arbitron 4 F**. Make an initial application of 4.0 - 6.0 fl. oz. per acre followed by a 2nd application to actively growing purple nutsedge. Do not exceed the maximum application rate of 12.0 fl. oz. per acre per year. Optimal control may not occur until the 2nd year after the initial application of **Arbitron 4 F**.

Tank Mixes: **Arbitron 4 F** can be split applied or mixed with burndown herbicides or residual soil herbicides labeled for use on grapes to control emerged weeds or broaden the herbicide control spectrum. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Do not tank mix with products containing flumioxazin or sulfentrazone.

Replanting in New or Established Orchards and Vineyards: Wait at least 30 days after applying **Arbitron 4 F** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Important:

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of grapes.
- Do not make more than one **Arbitron 4 F** broadcast application for up to 2 banded applications or applications for purple nutsedge in a 12 month period. The 12 month period starts at the point of first application.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./A) per year (12-month period from when **Arbitron 4 F** is first applied).
- Do not apply **Arbitron 4 F** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Arbitron 4 F**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-harvest interval (PHI) is 3 days.
- If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the seasonal maximum use rate.

HORSERADISH

To control susceptible weeds, **Arbitron 4 F** can be applied to horseradish at the following times:

In the fall (preplant), before spring growing season

In the spring (early preplant, preplant incorporated, preemergence)

When applying early preplant to horseradish, the product may be applied only in CO, ID, MI, MN, MT, NE, ND, OR, SD, WA, WI, WY.

When applied as indicated on this label, the following weeds in horseradish will be controlled with **Arbitron 4 F**:

Lambsquarters, common

Morningglory, ivyleaf

Nutsedge, yellow

Pigweed, red root

Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 4.5 fl. oz. (0.07 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 7.5 fl. oz. (0.19 - 0.233 lb. a.i.) **Arbitron 4 F** per acre.

For Medium or Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above to stubble or to the soil surface.

Unless applying preplant incorporated, do not incorporate the product into the soil after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur.

If applying preplant in the spring, product can be applied 60 days prior to planting up to planting.

If applying preemergence, applications before planting, and up to 5 days before crop emergence can be broadcast or banded. After crop emergence, **Arbitron 4 F** can be applied to row middles as a banded treatment. If soil has more than 1% organic matter or is clay, higher rates of **Arbitron 4 F** should be used.

If applying this product preplant incorporated in the spring, prior to planting, mix thoroughly or shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) after application will activate and move the product into the soil. To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

Tank Mixes: **Arbitron 4 F** can be split-applied or mixed with burndown herbicides, residual soil herbicides or other pesticides labeled for use on horseradish to control emerged weeds or broaden the pesticide control spectrum. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of horseradish.
- Do not apply more than 0.25 lb. sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.
- If seedlings are close to soil surface or have emerged, do not apply **Arbitron 4 F** directly to the crop (apply a banded treatment to row middles).

LIMA BEANS, SUCCULENT (TENNESSEE ONLY)

To control susceptible weeds, **Arbitron 4 F** can be applied preemergence to succulent lima beans (TN only). Make pre-emergence applications before transplanting.

When applied as indicated on this label, the following weeds in lima beans will be controlled with **Arbitron 4 F**:

Copperleaf, hophornbeam

Morningglory (entireleaf, ivyleaf)

Pigweed (redroot, smooth)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.75 fl. oz. (0.07 - 0.12 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 5.25 - 6.0 fl. oz. (0.165 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above as a preemergence treatment. Apply product in at least 10 gallons of finished spray per acre. Make application with ground equipment.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of lima beans.
- Do not apply more than 0.1875 lb. sulfentrazone (6.0 fl. oz. product) per acre per 12 month period) The 12 month period starts at the point of first application.
- Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter.
- Reduce rate of **Arbitron 4 F** on coarse textured soil with organic matter <1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Reduced weed control can occur if crop is experiencing extended periods of dry weather.
- Do not incorporate **Arbitron 4 F** into the soil when using product on lima beans (TN).

MELONS*

(Citron melon, muskmelon, watermelon)

To control susceptible weeds, **Arbitron 4 F** can be applied preemergence to melons.

When applied as indicated on this label, the following weeds in melons will be controlled with **Arbitron 4 F**:

Lambsquarters, common

Morningglory, ivyleaf

Nutsedge, yellow

Pigweed, red root

Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 3.0 - 3.75 fl. oz. (0.095 - 0.12 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 - 6.8 fl. oz. (0.14 - 0.213 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 - 5.25 fl. oz. (0.12 - 0.165 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 - 6.8 fl. oz. (0.14 - 0.213 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above as a preemergence treatment from 48 hours prior to planting up to just before seedling emergence. To avoid severe injury to melons, do not make application after seedlings have emerged.

For control of broadleaf and grass weeds, **Arbitron 4 F** application can be followed with a postemergence melon herbicide.

Tank Mixes: **Arbitron 4 F** can be split-applied or mixed with burndown herbicide to control emerged weeds. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of melons.
- Do not apply more than 0.25 lb. sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- If seedlings are close to soil surface or have emerged, do not apply **Arbitron 4 F** directly to melons.

MINT

To control susceptible weeds, **Arbitron 4 F** can be applied to established stands of dormant mint or to newly planted mint, prior to emergence of new growth.

When applied as indicated on this label, the following weeds in mint will be controlled with **Arbitron 4 F**:

Amaranth, Powell	Bedstraw, catchweed	Chamomile, mayweed
Kochia (ALS and Triazine resistant)	Lambsquarters, common	Morningglory, ivyleaf
Nightshade, Eastern black	Nutsedge, yellow	Pigweed, redroot
Shepherdspurse	Toadflax, yellow	Thistle, Russian
Nutsedge, yellow	Waterhemp (common, tall)	

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 8.0 - 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 8.0 - 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 10.1 - 12.0 fl. oz. (0.316 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, 10.1 fl. oz. (0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above can be applied to dormant mint in the fall or spring, or pre-emergence to new mint plantings.

Dormant Applications: Application can be made to established stands of mint in the spring (after spring cultivation has been completed) or in the fall (after post-harvest cultivation has been completed), prior to emergence of new growth. Split applications of **Arbitron 4 F** can be used for preemergence control of winter and spring annual weeds.

New Planting Applications: When applying to new mint plantings, reduce rate of application by 25% of the rate listed for established plantings. Apply product preemergence to both weeds and mint.

Tank Mixes: **Arbitron 4 F** can be mixed with burndown herbicides labeled for use on mint to control emerged weeds. Control of emerged weeds can be obtained by also adding a surfactant to the tank mix.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of mint.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Do not apply **Arbitron 4 F** to mint plantings once new growth has emerged, to avoid severe injury to plant tissue.
- Application to mint fields under stress (environmental, cultural, pests, disease) may result in crop injury. Apply to healthy mint fields only.
- To activate herbicide and move product into the soil, moisture (in the form of rain or overhead irrigation) is required after application.

PEANUTS

Southeastern United States Only (AL, GA, MS, NC, SC, VA)

To control broadleaf weeds and grasses in peanut production, **Arbitron 4 F** can be applied to peanuts preplant incorporated up to 14 days prior to planting, at plant, or up to 12 hours after planting.

Use **Arbitron 4 F** on peanuts only in AL, GA, MS, NC, SC and VA.

Application Rates

For Coarse Textured Soils

- Application rate (1): apply 4.8 fl. oz. (0.15 lb. a.i.) **Arbitron 4 F** per acre.
- Application rate (2): apply 6.4 fl. oz. (0.2 lb. a.i.) **Arbitron 4 F** per acre.
- Application rate (3): apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured and Fine Textured Soils

- Application rate (1): apply 6.4 fl. oz. (0.2 lb. a.i.) **Arbitron 4 F** per acre.
- Application rate (2): apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.
- Application rate (3): apply 9.6 fl. oz. (0.3 lb. a.i.) **Arbitron 4 F** per acre.

Consult preceding information regarding Coarse, Medium or Fine soil categories.

pH considerations:

- Use the next lower application rate if the pH of the soil is greater than 7.
- Irrigation with alkaline water of pH 8 or greater can result in adverse crop response.
- Do not irrigate with water that has a pH greater than 9.
- Alkalinity of irrigation water will have minimal impact once peanuts reach 4" to 6" across in size.

Application Rate (1) will control:

Amaranth, spleen	Copperleaf, hophornbeam	Croton, tropic
Crownbeard, golden	Devils claw	Jimsonweed
Lambsquarters, common	Morningglory, entireleaf	Morningglory, red

Application Rate (2) will additionally control:

Amaranth, palmer	Crabgrass, large	Crabgrass, Southern
Eclipta	Goosegrass	Morningglory, pitted
Morningglory, smallflower	Poinsettia, wild*	Redweed
Senna, coffee	Signalgrass, broadleaf	Smartweed, PA (seedling)

Application Rate (3) will additionally control:

Anoda, spurred	Cocklebur, common	Nutsedge, yellow
Nutsedge, purple*	Purslane, common	Sida, prickly
Starbur, prickly		

*Wild Poinsettia - Application rate (2) will control initial germination as well as several continuing germinations of wild poinsettia.

*Purple Nutsedge - Application rate (3) will control purple nutsedge if applied preplant incorporated. Partial control will be obtained by preemergence application (up to 85% control) or other application methods (71% to 84% control).

See **Listed Weed Species** section of this label for information on additional weeds.

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above to soil surface via broadcast or banded application. If applying a broadcast application, apply **Arbitron 4 F** in a minimum of 10 gallons of water per acre. If applying a banded application, proportionally adjust the use rate according to the band width.

If applying the product preplant incorporated, mix thoroughly or shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control can result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Tank Mixes: Tank mixing **Arbitron 4 F** with a grass herbicide labeled for peanuts will give optimum control of weeds. Applying **Arbitron 4 F** with a postemergent peanut herbicide can be used for weeds not controlled by sulfentrazone, or under conditions of excessive weed presence. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local peanut varieties or cultivars.
- Do not apply more than 0.3 lb. sulfentrazone (9.6 fl. oz. product) per acre per 12 month period. The 12 month period starts upon the first application of **Arbitron 4 F**.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Do not feed livestock peanut forage or hay that has been treated with **Arbitron 4 F**.
- Do not irrigate crops treated with **Arbitron 4 F** with high pH water (greater than 9).
- To avoid significant adverse crop response, do not apply to exposed peanut tissue or "at-crack".

POTATOES*

To control undesirable weeds and grasses in potato production, **Arbitron 4 F** can be applied preemergence to potatoes.

When applied as indicated on this label, the following weeds in potatoes will be controlled with **Arbitron 4 F**:

Amaranth, Palmer

Lambsquarters, common

Pigweed, redroot or smooth

Filaree, redstem

Morningglory (ivyleaf, tall)

Thistle, Russian

Kochia (ALS and Triazine resistant)

Nightshade, Eastern Black

Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Up to 3.0% OM, apply 3.0 to 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 to 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 to 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 to 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 5.25 to 6.75 fl. oz. (0.165 - 0.21 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 to 5.25 fl. oz. (0.12 - 0.165 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 to 6.00 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 to 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above by aerial or ground application to potatoes as a preemergence treatment. Treatment should be made to the soil surface before potatoes emerge, but after planting and dragoff. Undesirable crop response can occur if **Arbitron 4 F** is applied after potatoes have emerged. Mix **Arbitron 4 F** in water to make a minimum of 5 gallons of spray solution for aerial application or 10 gallons of spray solution for ground application.

For best results, moisture (rain or irrigation) should occur after application to move the product into the soil. If dry conditions persist within 7 days of application, **Arbitron 4 F** can be incorporated to a depth of no more than 2 inches, to activate the product.

Chemigation Applications

Arbitron 4 F can also be applied preemergence by chemigation, using enough water for soil surface coverage, but not to runoff (0.25 to 0.5 inch per acre). **Arbitron 4 F** can be applied prior to potato emergence through solid set, lateral move, end tow, hand move or center pivot sprinkler irrigation systems.

pH considerations

- An undesirable crop response can result from irrigation with alkaline water of pH 7.5 or greater.
- Following a **Arbitron 4 F** soil application, the amount of available sulfentrazone in the soil can be significantly increased by irrigation with highly alkaline water (high pH).
- Younger or more stressed crops, or crops subjected to higher rates of **Arbitron 4 F** are more susceptible to adverse effects from higher pH irrigation water. As potato growth stage progresses, risks of undesirable crop response is minimized.

Tank Mixes: **Arbitron 4 F** can be mixed with other soil applied herbicides to improve performance or for use on weeds not controlled by sulfentrazone. **Arbitron 4 F** can be mixed with burndown herbicides and adjuvants labeled for use on potatoes to control emerged weeds. During chemigation, **Arbitron 4 F** can be applied with other properly labeled products used for chemigation in potatoes. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of potatoes.
- Certain potato varieties can exhibit sensitivity to **Arbitron 4 F**. Be cautious if planting sensitive varieties (f. ex., Sangre, Shepody, Snowden) on marginal coarse soil. Crop tolerance of untested potato varieties should be tested prior to planting.
- Do not apply more than 0.25lbs sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- To avoid undesirable crop response, do not apply to emerged potatoes.

RHUBARB*

To control susceptible weeds, **Arbitron 4 F** can be applied to rhubarb post-emergent.

When applied as indicated on this label, the following weeds in turnips will be controlled with **Arbitron 4 F**:

Galinsoga, hairy

Pigweed, redroot

Waterhemp, tall

Lambsquarters, common

Waterhemp, common

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates and Instructions:

- Apply 8.0 fl. oz. (0.25 lb. a.i.) per acre.
- Make one post-emergent application just before rhubarb plants break dormancy at 80 (+/- 5) days before harvest.
- Apply in 10 gallons of water per acre.

Important:

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Do not apply more than 8.0 fl. oz. (0.25 lb. a.i.) product per acre per year (12-month period from when **Arbitron 4 F** is first applied).
- Do not apply more than one application per acre of **Arbitron 4 F** in a 12-month period.
- Do not use on soils classified as "sand" (with <1% organic matter).

SPECIMEN

SOYBEANS

To control susceptible weeds in soybeans, **Arbitron 4 F** can be applied to soybeans in the spring (preemergence or preplant incorporated). **Arbitron 4 F** can also be applied in the fall, before spring planting of soybeans.

When applied as indicated on this label, the following weeds in soybeans will be controlled with **Arbitron 4 F**:

Amaranth, Palmer	Copperleaf, hophornbeam	Kochia (ALS and Triazine resistant)
Lambsquarters, common	Morningglory, spp.	Nightshade
Pigweed, spp.	Prickly sida	Russian Thistle
Waterhemp, spp		

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 to 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 to 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 8.0 to 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 to 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 8.0 to 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 10.1 to 12.0 fl. oz. (0.316 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 10.1 fl. oz. (0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above to the soil surface in the spring, preplant incorporated or pre-emergence, up to 3 days after planting (applications more than 3 days after planting can result in injury, if seeds are germinating) in conventional, conservation, reduced or no-tillage cropping systems. If seedlings are close to soil surface or have emerged, do not apply **Arbitron 4 F**.

The listed amount of **Arbitron 4 F** can also be applied in the fall in conservation and no-tillage cropping systems for burndown of existing crop stubble and weeds and for preemergence control of weeds. For optimum results, fall applications should be a part of weed control programs that include spring herbicide applications the following crop season, as needed. Apply in the fall when soil temperature is sustained at 55 °F down to a depth of 4 inches. If using a ridge till production system, form ridges or beds prior to **Arbitron 4 F** application.

Observe the following date restrictions:

Areas north of Interstate 90 - Apply after September 30

Areas north of Interstate 70 - Apply after October 15

Areas south of Interstate 70 - Do not make fall application

Arbitron 4 F can be applied by ground or aerial application. Mix **Arbitron 4 F** in water to make a minimum of 5 gallons of spray solution for aerial application or 10 gallons of spray solution for ground application. Be sure to use enough spray volume for acceptable soil coverage. Spray must be applied with nozzles that produce a minimum amount of fine droplets, but also generate optimum soil coverage.

If applying the product preplant incorporated, in the spring, mix thoroughly and shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control can result if product is not uniformly incorporated or incorporated deeper than the maximum incorporation depth of 2 inches.

Tank Mixes: **Arbitron 4 F** can be mixed with a burndown herbicide to control emerged weeds. For adequate weed coverage when applying in the fall, mix products with water to make a minimum of 20 gallons of finished spray per acre. If weeds are emerged, adjuvants (such as COC or MSO) can be added to the mix for burndown activity. For control of grasses and broad leaf weeds in the spring, **Arbitron 4 F** can be tank mixed with or followed by an application of a postemergence soybean herbicide. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Adverse or poor growing conditions (disease, cool weather, pH of 7.5 and above, prolonged and excessive moisture, poor agronomic practices) can cause undesirable crop response (such as discoloration or stunting). Normal growing conditions will lessen and diminish these effects.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on his label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of soybean.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. If making a preplant fall application, the 12 month period starts at this point.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.
- Do not apply after soybean seed has germinated.

STRAWBERRY

To control susceptible weeds, **Arbitron 4 F** can be applied preemergence to strawberries.

When applied as indicated on this label, the following weeds in strawberry will be controlled with **Arbitron 4 F**.

Corn Spurry	Field Pansy	Groundsel, common
Ladysthumb	Lambsquarters, common	Mayweed
Morningglory, ivyleaf	Nutsedge, yellow	Pigweed, redroot
Pineapple weed	Prostrate knotweed	Shepherdspurse
Waterhemp (common, tall)	White Campion	Wild buckwheat
Yellow nutsedge	Yellow woodsorrel	

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.0 fl. oz. (0.07 - 0.095 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 9.0 fl. oz. (0.19 - 0.28 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 12.0 fl. oz. (0.19 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above as a preemergence treatment prior to planting up to just before seedling emergence. To avoid severe injury to strawberry crop, do not make application after seedlings have emerged.

For control of broadleaf and grass weeds, **Arbitron 4 F** application can be followed with a postemergence melon herbicide.

Tank Mixes: **Arbitron 4 F** can be split-applied or mixed with other herbicides labeled for use on strawberries to enhance control to broadleaf weeds and grasses. Tank mix **Arbitron 4 F** with burndown herbicides to control emerged weeds. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of strawberries.
- Do not apply more than 8 fl oz/ (0.25 lb) per acre per application, or 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- If seedlings are close to soil surface or have emerged, do not apply **Arbitron 4 F** directly to crop.

SUCCULENT PEAS*

Cajanus cajan (includes pigeon pea); **Cicer spp.** (includes chickpea and garbanzo bean); **Lens culinaris** (lentil);
Pisum spp. (includes dwarf pea, garden pea, green pea, English pea, field pea and edible pod pea)

To control susceptible weeds, **Arbitron 4 F** can be applied preemergence to succulent peas.

When applied as indicated on this label, the following weeds in succulent peas will be controlled with **Arbitron 4 F**:

Copperleaf, hophornbeam

Morningglory (entireleaf, ivyleaf)

Pigweed (redroot, smooth)

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.75 fl. oz. (0.07 - 0.12 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 5.25 - 6.0 fl. oz. (0.165 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above as a preemergence treatment. Apply product in at least 10 gallons of finished spray per acre. Make application with ground equipment.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of succulent peas.
- Do not apply more than 0.1875 lb. sulfentrazone (6.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Wait a minimum of 7 days after application to plant in coarse textured soils with less than 1.5% organic matter.
- Reduce rate of **Arbitron 4 F** on coarse textured soil with organic matter < 1.5% and pH of 7.8 or higher, or on highly eroded soils, or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Reduced weed control can occur if crop is experiencing extended periods of dry weather.
- Do not incorporate **Arbitron 4 F** into the soil when using product on succulent peas.

SUGARCANE

To control susceptible broadleaves, grasses and sedges in sugarcane, **Arbitron 4 F** can be applied to sugarcane at the following times:

Preemergent (newly planted) - broadcast or banded; aerial or ground application

Layby - directed spray; ground application

When applied as indicated in this label, the following weeds in sugarcane will be controlled with **Arbitron 4 F**:

Morningglory (entireleaf, ivyleaf, red or tall) Pigweed, red root

Nutsedge, yellow

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 8.3 fl. oz. (0.19 - 0.26 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 8.0 - 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 8.0 - 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 10.1 - 12.0 fl. oz. (0.316 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 10.1 fl. oz. (0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above to ratoon or newly planted sugarcane (preemergent) or to sugarcane at lay-by timing (directed spray).

Arbitron 4 F can be applied aerially (for preemergent application), in a minimum of 5 gallons of spray per acre or by ground equipment (preemergent application or lay-by application), in a minimum of 15 gallons of spray per acre. For all applications, use the higher rate on soils with organic matter content higher than 2% or on clay soils.

Tank Mixes

Arbitron 4 F can be applied with other herbicides or insecticides registered for use in sugarcane. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of sugarcane.
- Pre-harvest interval is 120 days.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- Do not contact crop leaves with **Arbitron 4 F**.

SUNFLOWER*

To control or suppress weeds in sunflowers, **Arbitron 4 F** can be applied at the following times:

In the Fall (Preplant), before spring planting of sunflowers (Fall applications allowed only in ND, SD, MT, MN, WY, CO, NE, KS)

In the Spring (Early Preplant, Preemergence, Preplant Incorporated), prior to planting up to three days after planting.

When applied as indicated on this label, the following weeds in sunflowers will be controlled with **Arbitron 4 F**:

Amaranth, Palmer	Filaree, redstem	Kochia (ALS and Triazine Resistant)
Lambsquarters, common	Morningglory (ivyleaf and tall)	Nightshade, Eastern black
Pigweed (red root, smooth)	Sida, prickly	Thistle, Russian
Waterhemp (common, tall)		

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 3.0 to 3.75 fl. oz. (0.095 - 0.12 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 3.75 - 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 to 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.75 to 6.0 fl. oz. (0.12 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 4.5 to 6.75 fl. oz. (0.14 - 0.21 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.75 to 5.25 fl. oz. (0.12 - 0.165 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 4.5 to 6.75 fl. oz. (0.14 - 0.21 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 to 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above to stubble or to the soil surface preplant in the fall (fall use only in ND, SD, MT, MN, WY, CO, NE or KS), or early preplant, preemergence or preplant incorporated in the spring prior to planting up to three days after planting (if seed furrow is closed completely and seedlings have not broken the soil surface). For applications in the fall, use a mid to high rate range for your soil type and for applications in the spring greater than three weeks prior to planting, use a high rate range for your soil type, because of the extended time period between application and planting. Plant a minimum of 7 days after-application if soil is coarse textured and contains less than 1.5% organic matter.

If applying this product preplant incorporated in the spring, to reduced or conventional tillage sunflowers, mix thoroughly or shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control could result if product is incorporated deeper than the maximum incorporation depth of 2 inches.

Moisture (in the form of rain or snow) should occur after application to move the product into the soil. If dry conditions persist, a shallow incorporation may be needed.

For maximum weed control, disturb the soil surface as little as possible after application. Destroying the herbicide barrier by mechanically incorporating can allow weed escapes to occur. To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.

Tank Mixes

Arbitron 4 F can be tank mixed or split-applied with burndown herbicides such as paraquat or glyphosate at their full labeled rate to control emerged weeds. **Arbitron 4 F** can be tank mixed with other herbicides labeled for use on sunflowers to enhance weed control and suppression. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Reduce rate of **Arbitron 4 F** on coarse textured soil with organic matter less than 1.5% and pH of 7.8 or higher, or on highly eroded soils or in areas of calcareous outcroppings to minimize adverse crop response.
- Planting less than 1 inch in depth or inadequate seed furrow closure or poor growing conditions (diseases, low temperature, soil compaction, excessive moisture) can also cause adverse crop response.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of sunflowers.
- Do not apply more than 0.25 lb. sulfentrazone (8.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application.
- To prevent runoff of **Arbitron 4 F** from snowmelt or rain, do not apply **Arbitron 4 F** to soils that are frozen or have an existing snow cover.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Product is not to be incorporated any deeper than 2 inches.

TOBACCO (Burley, Flue-Cured and Dark)*

Arbitron 4 F can be applied preemergence or preplant incorporated to tobacco transplants, for control of susceptible weeds.

When applied as indicated on this label, the following weeds in tobacco will be controlled with **Arbitron 4 F**:

Amaranthus, livid	Filaree, redstem	Galinsoga, hairy
Lambsquarters, common	Morningglory (ivyleaf, tall)	Pigweed (redroot, smooth)
Sida, prickly	Signalgrass, broadleaf	Smartweed, Pennsylvania

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 4.5 - 6.0 fl. oz. (0.14 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 8.0 - 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 8.0 - 10.1 fl. oz. (0.25 - 0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 10.1 - 12.0 fl. oz. (0.316 - 0.375 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 10.1 fl. oz. (0.316 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 12.0 fl. oz. (0.375 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Amount of **Arbitron 4 F** indicated above can be broadcast applied to the soil surface preplant or preplant incorporated, in a minimum of 10 gallons of finished product per acre, from 14 days to 12 hours before transplanting tobacco.

If applying the product preplant incorporated, shallowly incorporate the **Arbitron 4 F** into the soil. Inconsistent weed control can result if product is not uniformly incorporated, or incorporated deeper than the maximum incorporation depth of 2 inches.

When applying on Non-Bedded Fields (i.e., raised beds not formed prior to transplanting) and **Arbitron 4 F** is surface applied - use light finishing equipment to remove equipment tracks from the field after application, and do not disturb the soil to a depth greater than 2 inches. Reduced or unacceptable weed control could occur in the drill if pre-transplant surface applications are not followed by timely cultivations.

When applying to Bedded Fields (i.e. raised beds formed prior to transplanting), any dragging or knocking down of beds prior to transplanting must occur prior to **Arbitron 4 F** application. **Arbitron 4 F** can concentrate in the bed if the product is not mixed thoroughly and uniformly into the soil, or incorporated deeper than the maximum incorporation depth of 2 inches.

New tobacco transplants can be replanted if the first transplant does not produce a uniform stand. If replanting:

- Do not re-treat fields with a second application of **Arbitron 4 F** or any other sulfentrazone product.
- Do not reform beds prior to replanting; plant new transplants into existing beds that have already been treated with **Arbitron 4 F**.

Tank Mixes

Arbitron 4 F can be mixed with a grass herbicide (or grass herbicide can be applied separately), to give optimum broad spectrum grass weed control. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Important

- Adverse or poor growing conditions (disease, cold weather, unfavorable pH soils, excessive moisture or drought, poor agronomic practices or other unfavorable conditions) can cause undesirable crop response in tobacco transplants, particularly if they are weakened and are in conditions of compacted or saturated soil or poor drainage. Normal growing conditions will lessen and diminish these effects.
- If transplants are set too shallowly, if heavy rainfall occurs after transplant, temporary stunting of transplants can occur.
- Observe responsible transplanting practices to avoid exposure (i.e., washing or crusting over) of transplants to treated soil. Necrosis (typically localized and inconsequential) can be caused if treated soil is splashed onto tobacco leaves.
- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- The pre-harvest interval is 14 days.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of tobacco, and for agronomic recommendations for local conditions and specific tobacco varieties.
- Do not apply **Arbitron 4 F** to shade grown tobacco, tobacco seedling beds or tobacco in greenhouses.
- To avoid unacceptable injury, do not apply **Arbitron 4 F** post transplant.
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').
- Mix thoroughly and uniformly and do not incorporate product deeper than the maximum incorporation depth of 2 inches to avoid inconsistent weed control or concentrating **Arbitron 4 F** into the soil (which can result in crop injury). Additionally, do not perform other tillage practices that could concentrate **Arbitron 4 F** into the soil.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point.

TOMATO (Transplanted only)

To control susceptible weeds, **Arbitron 4 F** can be applied to tomato (transplanted only) at the following times:

Preemergence, prior to transplant.

When applied as indicated on this label, the following weeds in cabbage will be controlled with **Arbitron 4 F**:

Lambsquarters, common

Morningglory, ivyleaf

Nutsedge, yellow

Pigweed, redroot

Waterhemp (common, tall)

See **Listed Weed Species** section of this label for information on additional weeds.

Application Rates

For Coarse Textured Soils

- Less than 1.5% OM, apply 2.25 - 3.0 fl. oz. (0.07 - 0.095 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.

For Medium Textured Soils

- Less than 1.5% OM, apply 3.0 - 4.5 fl. oz. (0.095 - 0.14 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 fl. oz. (0.19 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.

For Fine Textured Soils

- Less than 1.5% OM, apply 3.0 - 6.0 fl. oz. (0.095 - 0.19 lb. a.i.) **Arbitron 4 F** per acre.
- 1.5% to 3.0% OM, apply 6.0 - 8.0 fl. oz. (0.19 - 0.25 lb. a.i.) **Arbitron 4 F** per acre.
- Greater than 3.0% OM, apply 8.0 fl. oz. (0.25 lb. a.i.) **Arbitron 4 F** per acre.

OM - Organic Matter

Consult preceding information regarding Coarse, Medium or Fine soil categories. Use rate is inversely dependent on soil pH - use higher **Arbitron 4 F** rates with lower soil pH rates (7.0 and lower) and lower **Arbitron 4 F** rates with higher soil pH rates (greater than 7.0).

Application Instructions:

Apply amount of **Arbitron 4 F** indicated above as a banded or broadcast treatment on tomato (transplanted only). Make application before tomato is transplanted.

Important

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of tomato.
- Do not apply more than 0.375 lb. sulfentrazone (12.0 fl. oz. product) per acre per 12 month period. The 12 month period starts at the point of first application (including preplant fall application).
- Do not use on soils that contain less than 1% organic matter (soils classified as 'sand').

TREE NUTS (Crop Group 14)

(Almond*, beech nut*, Brazil nut*, butternut*, cashew*, chestnut*, chinquapin*, filbert (hazelnut) *, hickory nut*, macadamia nut (bush nut) *, pecan*, pistachio*, walnut (black, English))

To control susceptible weeds, apply **Arbitron 4 F** when no weeds are present or in a tank mix with a postemergence herbicide for control of emerged weeds. Make applications to crops that have been established for one full growing season and are healthy and vigorous.

See **Listed Weed Species** section of this label for information on controlled weeds.

*Not for Use in California.

Application Rates and Instructions:

- Apply with ground application equipment only.
- Apply when soil is moist and application will be followed by 1/2" rainfall or irrigation within two weeks after application. Time applications to take advantage of normal rainfall and cool temperatures, especially if using drip or micro sprinkler irrigation which may not provide uniform incorporation into the soil.
- Apply amount of **Arbitron 4 F** indicated below under **Broadcast Applications** to orchard and vineyard floors, to berry beds, and furrows as a single uniform broadcast soil application or as a uniform band application directed to the base of the tree trunk in trees and vines and to the base of the berry and beds in berries.
- Apply in a minimum of 10 gallons of spray solution per acre. The spray solution pH should be 5.0 - 9.0 and nozzles must meet manufacturer's spray volume and pressure specifications for pre-emergence and post-emergence herbicide applications.
- Wrap the trunks of green bark, young vines, and trees with a non-porous wrap, grow tubes, or wax containers to avoid **Arbitron 4 F** contact with green tissues.
- **Broadcast applications:** Make a single application of 4.0 - 12.0 fl. oz. (0.125 - 0.375 lb. a.i.) per acre.
- **Banded applications:** Refer to the following chart for the appropriate rate and volume of **Arbitron 4 F** to be applied. **Arbitron 4 F** can be applied twice in one year. For band treatments, apply the broadcast rate and volume per acre. To determine these:

Band rate	=	$\frac{\text{Band Width (ft.)}}{\text{Row Within Feet}}$	X	Broadcast Rate/Acre
Band volume	=	$\frac{\text{Band Width Feet}}{\text{Band Width Feet}}$	X	Broadcast Volume/Acre

Control/Suppression of Sedge/Nutsedge:

- Make a post-emergence application of **Arbitron 4 F** at 12 fl. oz. per acre.
- Use 25% volume/volume non-ionic surfactant (NIS).
- Post-emergence applications may be most effective since **Arbitron 4 F** is absorbed into the plant through the foliage and roots.
- Pre-emergence applications of **Arbitron 4 F** will suppress sedges, but will not provide complete control.
- For optimal control of purple nutsedge, make split applications of **Arbitron 4 F**. Make an initial application of 4.0 - 6.0 fl. oz. per acre followed by a 2nd application to actively growing purple nutsedge. Do not exceed the maximum application rate of 12.0 fl. oz. per acre per year. Optimal control may not occur until the 2nd year after the initial application of **Arbitron 4 F**.

Tank Mixes: **Arbitron 4 F** can be split applied or mixed with burndown herbicides or residual soil herbicides labeled for use on tree nuts to control emerged weeds or broaden the herbicide control spectrum. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Do not tank mix with products containing flumioxazin or sulfentrazone.

Replanting in New or Established Orchards and Vineyards: Wait at least 30 days after applying **Arbitron 4 F** before replanting trees and vines in newly planted and established orchards and vineyards. Use untreated soil when replanting trees and vines.

Important:

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Consult with university or extension weed management specialists for information on using **Arbitron 4 F** with specific local varieties or cultivars of tree nuts.
- Do not apply more than 12.0 fl. oz. product per acre (0.375 lb. a.i./A) per year (12-month period from when **Arbitron 4 F** is first applied).
- Do not apply **Arbitron 4 F** to green tissue, crop foliage, or fruit.
- Do not make aerial applications.
- Do not apply after petal fall unless using a hooded or shielded sprayer to avoid contact with foliage and fruit.
- Do not apply when heavy crop trash is present (leaves/branches/weed residue). Clean the area to be treated prior to applying **Arbitron 4 F**.
- Do not apply to powdery soils or soils where windy conditions may displace soil unless soil can be irrigated immediately after treatment.
- Pre-harvest interval (PHI) is 3 days.
- If banded treatments are made, wait a minimum of 60 days between applications. Do not exceed the seasonal maximum use rate.

TURNIPS*

To control susceptible weeds, **Arbitron 4 F** can be applied to turnips post-emergent.

When applied as indicated on this label, the following weeds in turnips will be controlled with **Arbitron 4 F**:

Galinsoga, hairy

Pigweed, redroot

Waterhemp, tall

Lambsquarters, common

Waterhemp, common

See **Listed Weed Species** section of this label for information on additional weeds.

*Not for Use in California.

Application Rates and Instructions:

- Apply 8.0 fl. oz. (0.25 lb. a.i.) per acre.
- Make one post-emergent application 40 - 60 days before harvest.
- Apply in 10 - 40 gallons of water per acre.

Important:

- Read and follow all precautions, instructions, rotational crop guidelines, replanting instructions, and any other information on this label prior to use.
- Do not apply more than 8.0 fl. oz. (0.25 lb. a.i.) product per acre per year (12-month period from when **Arbitron 4 F** is first applied).
- Do not apply more than one application per acre of **Arbitron 4 F** in a 12-month period.
- Do not use on soils classified as "sand" (with <1% organic matter).

SPECIMEN

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Do not use or store around the home.

PESTICIDE STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a cool, dry place and avoid excess heat.

PESTICIDE DISPOSAL: Waste resulting from the use of this product may be disposed of at an approved waste disposal facility.

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying.

For containers less than 5 gallons Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drop 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 or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

For containers greater than 5 gallons Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. 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 or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

Steps to be taken in case material is released or spilled:

In case of release or spill, isolate area and keep unprotected persons or animals away from area. Dike and contain the spill with inert material (sand, earth, cat litter or commercial clay, etc.) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

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 Avalaire, LLC. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Avalaire, 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 Avalaire, 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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