

## **GRAIN SORGHUM (MILO)**

### General Information

### Product Information

STAVE is a selective postemergence product for control of annual and perennial broadleaf weeds and volunteer potatoes in wheat, barley, oats, or triticale not under seeded with a legume, field corn, sweet corn, grain sorghum, dry bulb onions, pome fruits, fallow cropland, millet grown for grain, forage or hay, grasses grown for seed, forage or hay and on-farm non-cropland.

### Product Precautions

- Avoid applications where proximity of susceptible crops or other desirable plants is likely to result in exposure to spray or spray drift.

### Product Restrictions

- Do not apply STAVE directly to, or otherwise permit it to come in direct contact with, susceptible crops or desirable plants including, but not limited to, alfalfa, canola, cotton, lettuce, edible beans, grapes, lentils, mustard, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tomatoes, or tobacco.

- Do not contaminate irrigation ditches or water used for domestic purposes.

- Maximum Application Rate (except Pome Fruit): Do not apply more than 0.7 pint per acre of STAVE per growing season.

- Maximum Application Rate for Pome Fruit: Do not apply more than 1.4 pints per acre of STAVE per growing season.

- Plant-back Restriction: If replanting is required, plant only those crops listed on this label or Federally approved supplemental labeling for STAVE within 120 days following application.

- Chemigation: Do not apply this product through any type of irrigation system.

### Management of Kochia Biotypes

Research has suggested that many biotypes of kochia can occur within a single field. While kochia biotypes can vary in their susceptibility to STAVE, all will be

suppressed or controlled by the 0.4 pint per acre labeled rate. Application of STAVE at rates below the 0.4 pint per acre rate can result in a shift to more tolerant biotypes within a field.

**Best Resistance Management Practice:** To preserve STAVE it is recommended to use only a single application per season for the control of kochia. Populations of dicamba tolerant kochia have been identified in certain small grain and corn production regions. In these areas, apply STAVE at a minimum rate of 0.4 pint per acre for optimal control of dicamba tolerant kochia. In addition, STAVE should be rotated with products that do not contain dicamba to minimize selection pressure. Use of these practices will preserve the utility of STAVE for control of dicamba tolerant kochia biotypes.

#### Precautions for Avoiding Spray Drift

Spray drift, even very small quantities of the spray that may not be visible, may severely injure susceptible crops whether dormant or actively growing. When applying STAVE, use low-pressure equipment capable of producing sprays of uniform droplet size with a minimum of fine spray droplets. Under adverse weather conditions, fine spray droplets that do not settle rapidly onto target vegetation may be carried a considerable distance from the treatment area. A drift control or spray thickening agent may be used with this product to improve spray deposition and minimize the potential for spray drift. If used, follow all use directions and precautions on the product label.

**Ground Applications:** To minimize spray drift, apply STAVE in a total spray volume of 8 or more gallons per acre using spray equipment designed to produce large-droplet, low pressure sprays. Refer to the spray equipment manufacturer's instructions for detailed information on nozzle types, arrangement, spacing and operating height and pressure. Spot treatments should be applied only with a calibrated boom to prevent over application. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles. Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.

**Aerial Application:** Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to

variable wind direction and high potential for temperature inversion. Spray drift from aerial application can be minimized by applying a coarse spray at spray boom pressure no greater than 30 psi; by using straight-stream nozzles directed straight back; and by using a spray boom no longer than 3/4 the rotor or wing span of the aircraft. Spray pattern and droplet size distribution can be evaluated by applying sprays containing a water-soluble dye marker or appropriate drift control agents over a paper tape (adding machine tape). Mechanical flagging devices may also be used.

Do not apply under conditions of a low level air temperature inversion. A temperature inversion is characterized by little or no wind and lower air temperature near the ground than at higher levels. The behavior of smoke generated by an aircraft mounted device or continuous smoke column released at or near site of application will indicate the direction and velocity of air movement. A temperature inversion is indicated by layering of smoke at some level above the ground and little or no lateral movement.

#### APPLICATION DIRECTIONS

**Application Timing:** Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at and following time of application may reduce weed control and increase the risk of crop injury at all stages of growth. Only weeds that are emerged at the time of application will be affected. Foliage that is wet at the time of application may decrease control. Applications of STAVE are rain-fast within 1 hour after application.

**Effect of Temperature on Herbicidal Activity:** Herbicidal activity of STAVE is influenced by weather conditions. Optimum activity requires active plant growth. The temperature range for optimum herbicidal activity is 55°F to 75°F. Reduced activity will occur when temperatures are below 45°F or above 85°F. Frost before application (3 days) or shortly after (3 days) may reduce weed control and crop tolerance.

**Application Rates:** Generally, application rates at the lower end of the specified rate range will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species, perennials, and under conditions where control is more difficult (plant stress conditions such as drought or extreme temperatures, dense weed stands and/or larger weeds) the higher rates within the rate range will be needed. Weeds growing in the absence of crop competition generally require higher

rates to obtain satisfactory control or suppression.

**Coverage:** Apply in 3 or more gallons per acre by air or in 8 or more gallons per acre by ground equipment. Do not exceed 40 gallons per acre total spray volume. Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Inadequate spray volume and coverage may result in decreased weed control. As canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use larger nozzle tips or decrease spraying speed to increase spray volume rather than increasing boom pressure. Refer to manufacturer's instructions for information on relationships between spray volume, and nozzle size and arrangement.

**Adjuvants:** Generally, this product does not require the use of an adjuvant to achieve satisfactory weed control when applied alone. However, the addition of an adjuvant may optimize herbicidal activity when applications are made (a) at lower carrier volumes, (b) under conditions of cool temperature, low relative humidity or drought, or (c) to small, heavily pubescent kochia. Adjuvants may be used when required by a tank mix partner. Follow all applicable directions on the label for the tank mix partner.

**Spot Treatments:** To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers according to directions provided in the label.

**Hand-Held Sprayers:** Hand-held or backpack sprayers may be used for spot applications of STAVE if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on an area of 1,000 sq. ft. The amount of STAVE (fl. oz. or ml) in the table should be mixed with 1 gallon or more of water and applied to an area of 1,000 sq. ft. To calculate the amount of product required for larger areas, multiply the table value (fl. oz. or ml) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3,500 sq. ft. multiply the table value by 3.5 (calc.  $3,500 \div 1,000 = 3.5$ ). An area of 1000 sq. ft. is approximately 10.5 X 10.5 yards (strides) in size.

## Limitations, Restrictions, and Exceptions

### Grain Sorghum (Milo)

Apply STAVE as a broadcast treatment using ground equipment or by air. Refer to the Product Information section of this label for detailed information on application

timing, effect of temperature on herbicidal activity, application rates, spray coverage and instructions for spot application.

STAVE may be applied in tank mix combination with labeled rates of other herbicides such as atrazine. 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 and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

- See "Weeds Controlled or Suppressed" section in product label for a complete listing.

Kochia: Includes herbicide tolerant or resistant biotypes.

- Suppression is expressed as a reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree of weed control and duration of effect may vary with weed size, density, application rate, coverage, and growing conditions before, during and after treatment.

#### Application Timing

- Preemergence: For no-till or burndown applications, apply to emerged weeds after planting, but prior to grain sorghum emergence.

- Postemergence: STAVE may be broadcast applied from the 3-leaf growth stage of grain sorghum through the 7-leaf stage. Use drop nozzles and directed spray from the 8-leaf stage to boot stage. Drop nozzles should direct the spray toward the soil surface to avoid contact with grain sorghum foliage and reduce the potential for crop injury.

- For both preemergence and postemergence applications, apply when weeds are actively growing, but before weeds are 8 inches tall and before wild buckwheat is vining. Only weeds that have emerged at the time of application will be controlled.

- To control heavy weed populations, a preemergence application may be followed by a post emergent application. Do not exceed 2 applications per season.

Tank Mixing: STAVE may be applied alone or in tank mix combination with other herbicides registered for post emergence application in grain sorghum unless tank mixing is specifically prohibited by the label of the tank mix product. 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 and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

Adjuvants: Generally, this product does not require the use of an adjuvant to achieve satisfactory weed control when applied alone. Adjuvants may be used when required by a tank mix partner. Follow all applicable directions on the label for the tank mix partner. Use of a high quality adjuvant may improve weed control under hot, dry conditions.

#### Restrictions:

- Do not make more than 2 applications or apply more than 0.7 pint per acre per crop season.
- Pre harvest Interval: Do not allow livestock to graze or harvest forage within 40 days of application. Do not apply within 70 days of harvesting grain or stover.
- Do not apply after boot stage.
- Do not apply in combination with Metsulfuron-methyl.

#### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Pre-Harvest Interval

Forage: 40 days

Grain and Stover: 70 days

Restricted Entry Interval

24 hours

Timings

[Postemergence \(Crop\)](#)

Preemergence (Crop)

Postemergence (Weed)