

## **CORN - CONTROL AT 0.67 OZ/ACRE - WEEDS 3 INCHES HEIGHT**

### General Information

#### INTEGRATED PEST MANAGEMENT

Adapt Herbicide may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state Cooperative Extension Service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

#### RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank mix partners, and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

## GENERAL INFORMATION

**Formulation:** Adapt Herbicide is a water-dispersible granule containing 75% active ingredient by weight. It is used at a rate of 1/3 to 1 1/3 ounces per acre for selective postemergence grass weed control in field corn grown for seed or grain, popcorn, and sweet corn. It may be applied by ground (broadcast or band) or by air. The use rate will depend on spectrum and size of weeds at time of application. The degree and duration of control are affected by many factors including, but not limited to, spray coverage, weed spectrum, weed size, growing conditions before and after treatment, soil moisture, and adjuvant selection.

**Mode of Action:** Adapt Herbicide contains nicosulfuron which belongs to the sulfonyleurea class of herbicides. Herbicides in this class inhibit branched-chain amino acid synthesis in plants. Adapt Herbicide provides weed control through foliar absorption and rapidly inhibits growth of susceptible weeds reducing weed competition within as little as 6 hours after application. Susceptible plants are controlled in 7 to 21 days. Adapt Herbicide is rainfast in 4 hours after application. Best performance is attained when Adapt Herbicide is applied to young, actively growing weeds. Performance is further maximized if applications are made during warm moist conditions (70°F or more) and there is adequate soil moisture both before and after application. Poor weed control may result if Adapt Herbicide is applied to weeds that exceed the maximum label height or that are under stress. Adapt Herbicide dissipates rapidly in warm, acidic, microbiologically active soils.

Beware that poor weed control or crop injury may result from applications made to plants under stress due to: (a) abnormally hot or cold weather; (b) environmental conditions such as drought, water-saturated soils, hail damage, or frost; (c) disease, insect, or nematode injury; or (d) prior herbicide use, or carryover from a previous year's herbicide application. Severe stress from conditions preceding or immediately following application may also result in crop injury or poor weed control. Although stress can affect control of all weeds, control of stressed woolly

cupgrass, green and yellow foxtail, and wild proso millet may be reduced more than other species because control of these weeds is especially affected by stress. Application of Adapt Herbicide should be delayed if the corn or grass weeds are under stress at the time of application.

**Crop Uses:** Adapt Herbicide is registered for use on field corn grown for seed or grain, popcorn, and sweet corn.

Under normal planned use, broadcast Adapt Herbicide to field corn, high lysine, waxy, white, or other food grade corn hybrids up to 20 inches tall (free standing) or that is exhibiting up to and including 6-leaf collars (V6), whichever is more restrictive. While the application window for Adapt Herbicide may be wide in field corn for grain, research has shown that the best performance is attained when it is applied early postemergence when both corn and weeds are small. Targeting application to corn that is less than 12 inches tall will result in best performance.

In popcorn or field corn grown for seed, Adapt Herbicide may be broadcast or applied with drop nozzles when the corn plants are less than 20 inches tall (free standing) or that exhibit up to and including 5-leaf collars (V5), whichever is most restrictive. Do not apply Adapt Herbicide to corn that is taller than 20 inches or that exhibits more than 5-leaf collars (V5), whichever is more restrictive. Many seed companies have tested seed corn inbreds or yellow popcorn hybrids for sensitivity to Adapt Herbicide and have reported excellent safety. However, do not apply Adapt Herbicide to any white popcorn inbred or white popcorn hybrid unless specifically approved by the seed company. This includes "White Dynamite" popcorn.

In sweet corn, Adapt Herbicide may be applied to certain hybrids grown for fresh markets or for processing. Apply Adapt Herbicide broadcast or with drop nozzles (post-directed) to sweet corn up to 12 inches tall or up to and including 5-leaf collars (V5). For sweet corn 12-18 inches tall, apply only with drop nozzles. Do not apply to sweet corn taller than 18 inches or when plants exhibit 6 or more leaf collars (V6). Make only one application of Adapt Herbicide per year to sweet corn. Sensitivity of sweet corn hybrids to Adapt Herbicide is highly variable and not all hybrids have been tested for crop tolerance. Contact your Makhteshim Agan of North America (MANA) Sales Representative for information about local sweet corn hybrids that have been evaluated for sensitivity to Adapt Herbicide.

Not all seed corn inbreds, popcorn, or sweet corn hybrids have been tested with

Adapt Herbicide, nor does MANA have access to all seed company data. Consequently, MANA is not responsible for any crop injury arising from the use of Adapt Herbicide on field corn grown for seed, popcorn, or sweet corn. When using Adapt Herbicide in tank mixtures, check the tank mix partner label for tolerances and instructions for use. In addition, see the Soil Insecticide Interaction Information section of the label regarding the use of Adapt Herbicide on popcorn, sweet corn, or field corn grown for seed that has been previously treated with a soil insecticide.

Grazing: Do not graze or feed forage, hay, or straw from treated areas to livestock within 30 days of application of Adapt Herbicide.

## APPLICATION INSTRUCTIONS

Adapt Herbicide may be applied by ground and aerial equipment. For all application systems, use 50 mesh or larger strainer screens. Many crops are highly sensitive to Adapt Herbicide. All direct or indirect contact (such as spray drift) with crops other than field corn should be avoided (see the SPRAY DRIFT MANAGEMENT section of the label for more information).

Ground Application (broadcast): Under most conditions, use a minimum of 15 gallons of water per acre for best performance. A lower minimum volume of 10 gallons of water per acre may be used for light, scattered stands of weeds. For best performance, select nozzles and pressure combinations that deliver MEDIUM spray droplets as described in the nozzle manufacturer's catalogues and in accordance with ASAE Standard S572. Nozzles that deliver COARSE spray droplets may be used to reduce drift provided spray volume is increased to maintain coverage on small weeds. For optimal product performance and minimal spray drift, adjust the spray boom to the lowest possible spray height recommended in the manufacturer's specifications. Equipment is to be set up so that application of excessive rates directly over the rows and into the corn plant whorl is avoided. This is most likely to occur when a nozzle is positioned directly above the row. Spray overlaps that occur at starting, stopping, slowing, and turning while spraying may result in crop injury.

Ground Application (band): For band applications, use proportionately less spray mixture than broadcast and carefully calibrate the band applicator so that the labeled rate is not exceeded. Carefully follow the manufacturer's instructions for nozzle type (flat fans), orientation, distance of nozzles from the crop and weeds, spray volumes, calibration, and spray pressure.

Aerial Application: Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage at 3 gallons of water per acre. Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement. See the SPRAY DRIFT MANAGEMENT section of the label for additional information on aerial application.

Aerial application of Adapt Herbicide is prohibited in the states of California and New York.

Timing to Weeds: Apply Adapt Herbicide when weeds are young and actively growing, but before they exceed the sizes listed in Table 1. Treat heavy infestations of weeds before they become too competitive with the crop, especially where soil moisture and/or fertility are limited. Adapt Herbicide provides weed control via foliar absorption; therefore, it only controls those weeds that have emerged. For control of later-emerging weeds, a second application or timely cultivation is required. Applications made to weeds larger than the size indicated on the label or to weeds under stress may result in unsatisfactory control. Refer to the Late or Rescue Applications section of the label for more information.

Late or Rescue Applications: Adapt Herbicide may be applied to field corn as a rescue treatment for control of escaped grasses or as a directed postemergence application on corn that is taller than 20 inches or which has more than 6 collars (whichever occurs first). For corn between 20 inches to 36 inches tall, apply Adapt Herbicide with drop nozzles only and avoid spraying into the whorl of the cornstalks. Do not apply Adapt Herbicide to corn that is taller than 36 inches or that exhibits 10 or more collars (V10), whichever is most restrictive. Weed control will likely vary from complete control to only suppression if Adapt Herbicide is applied to weeds larger than those listed on the label. The level of control will depend on the weed species, stage of growth, and environmental conditions.

Due to the unplanned nature of rescue applications, choices must be made between the risks that arise from applications made beyond the proper time for Adapt

Herbicide application and the effects of season-long grass competition and/or harvest complications from weeds. These choices must balance risks between improperly timed application of Adapt Herbicide and the following:

- Yield loss due to competition: Research indicates competition from foxtail exceeding 4 inches in height may reduce corn yields. Applications to foxtail and other annual grasses that exceed the sizes stated on the label increase the risk of yield losses due to prolonged competition with the crop even though control may be acceptable.
- Incomplete control of grasses beyond labeled size: Applications to grasses that exceed the labeled sizes can result in reduced control. This incomplete control may reduce corn yield.
- Incomplete grass control due to herbicide stress: Grasses under stress from previous herbicide applications may not be actively growing and susceptible to Adapt Herbicide. This stress may reduce grass control in “rescue” situations.
- Ear malformation: Applications of Adapt Herbicide on corn that has 7 to 10 collars (V7 to V10) increases the potential for ear malformation (pinching). This risk may be greatly reduced, but not eliminated, by using properly adjusted drop nozzles so that Adapt Herbicide is not applied directly to the whorl of the corn plant.

Refer in the label regarding tank mix information.

#### Limitations, Restrictions, and Exceptions

Adapt Herbicide may be applied in a range of 0.33 to 1.33 ounces per acre; however, it provides optimum control of selected grass and broadleaf weeds at 0.67 ounces per acre. At lower rates of 0.33 to 0.67 ounces per acre, partial control of certain small grass weeds may be achieved. As weeds mature, their sensitivity to Adapt Herbicide decreases and this results in only partial control even when higher rates are applied. Weeds that exceed the listed weed sizes by up to 50% may be partially controlled with rates of Adapt Herbicide between 0.67 and 1.33 ounces per acre. As grassy weeds become mature (more than 3 tillers), they may not reach the size listed below due to drought or other environmental factors. Grassy weeds that are maturing rapidly should be treated before they reach the stages listed in Table 1 of the label. Always use a COC plus ammonium nitrogen fertilizer when applying reduced rates of Adapt Herbicide. When applied as directed, Adapt Herbicide will

control the weeds listed in Table 1 of the label.

Cereals Volunteer: 10 inches in the states of WA, OR, ID, and MT where the use of MSO adjuvants are preferred. See the SPRAY ADJUVANTS section of the label for more information.

Sandbur (field, longspine): Requires the use of COC plus ammonium nitrogen fertilizer. Cultivation or re-treatment may be required. See the Improved Control of Later Emerging Grasses section of the label for more information.

#### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Band application](#)

#### Rates

[field\\_rates 0](#)

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#### Restricted Entry Interval

4 hours

#### Timings

[Postemergence \(Weed\)](#)