

# **WINTER OR SPRING WHEAT AND WINTER OR SPRING BARLEY - WEEDS CONTROL (HENBIT)**

## General Information

### GENERAL INFORMATION

Amber is a selective herbicide for the control of many weeds in wheat (including durum wheat), barley, fallow cropland, pastures, rangeland, and Conservation Reserve Program acres. Refer to Table 1 for a listing of weeds controlled. Amber is a 75% water-dispersible granule which must be thoroughly mixed in water and applied as a spray.

This herbicide controls weeds by inhibiting a biochemical process that produces certain essential amino acids necessary for plant growth. The inhibited enzyme system is acetolactate synthase (ALS). Growth of susceptible weeds is inhibited soon after Amber application. Leaves of susceptible plants turn yellow and/or red followed by death of the growing point. These visible effects of control may not be observed until 1-3 weeks after application, depending upon weed species, growing conditions, and Amber rate.

Thorough coverage is necessary to provide good weed control.

Use Amber in the following states only: CO, ID, KS, MN, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, and WY.

Do not use Amber in the San Luis Valley of CO or in sections of WA and OR, west of the Cascade Mountains. In WA, abide by all sulfonyleurea aerial application rulings in effect by the Washington Department of Agriculture.

### SPRAY EQUIPMENT

Use either ground or aerial spray equipment. Calibrate spray equipment before use.

Use equipment that is capable of continuous and vigorous tank agitation. Use spray nozzles that provide medium-coarse droplets (250-400 microns VMD). When the tank is full, the agitation system should be capable of creating a rippling or rolling action on the liquid surface.

Use a 16-mesh strainer at the tank outlet. For the nozzles, use the screen recommended by the nozzle supplier. For ground application of 3-20 gals./A, use only conventional or low pressure flat fan nozzles to assure adequate coverage. For ground application of more than 20 gals./A, rain-drop or floodjet nozzles may be used. In dense stands of wheat or barley, use an adequate spray volume to provide uniform coverage of the weeds.

For aerial application to wheat, barley, and fallow cropland, use a spray volume of 2-5 gals./A. For aerial application to pastures, rangeland, and Conservation Reserve Program acres, apply in a minimum of 2 gals. of spray volume per acre. Apply at a maximum height of 10 ft. above the crop with low-drift nozzles at a maximum pressure of 40 psi and wind speed not exceeding 10 mph to assure accurate application within the target area. Avoid application to wheat, barley, and fallow cropland, under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

Do not apply Amber through irrigation systems.

#### WEED RESISTANCE TO ALS-INHIBITOR HERBICIDES

In some fields, there are naturally-occurring biotypes of kochia, Russian thistle, chickweed, prickly lettuce, and annual ryegrass that will not be controlled by sulfonylurea herbicides such as Amber.

Control of these weeds may be excellent with the use of Amber in many fields; but, where there are known occurrences of ALS-resistant biotypes, Amber must be tank mixed or applied sequentially with an appropriate registered herbicide having a different mode of action\* (such as Aim; 2,4-D; MCPA; Starane; Curtail; Banvel; or Buctril) to insure control of these ALS-resistant biotypes.

\* Mode of action is the biochemical mechanism for interfering with plant growth.

The occurrence of ALS-resistant weed biotypes can be prevented or delayed by using Amber in tank mixtures and/or in sequential applications with a registered herbicide having a different mode of action, and by not allowing weed escapes to flower.

Post-harvest tillage or application of a herbicide with a different mode of action must be made to control any weed escapes before they flower or set seed. If weeds will flower before harvest, make a sequential application of an appropriate herbicide with a different mode of action from Amber. A list of herbicides with the same mode of action as Amber can be obtained from your local Syngenta representative. Amber applied to fallow cropland must be applied as a tank mixture, or be followed by a herbicide with a different mode of action within 12 months.

Do not use Amber alone in any field where ALS-resistant biotypes of any weed species have been identified.

An application of a herbicide with a different mode of action from Amber, or a tillage operation, must be made to control any weeds before they flower that may be present in fallow cropland treated with Amber.

Do not apply Amber or other herbicides with the same mode of action within a 12-month period after an Amber application, except for split applications as described below. If additional weed control is needed, use a herbicide with a different mode of action from Amber.

#### GRAZING AND RE-SEEDING FOLLOWING AMBER APPLICATION TO WHEAT, BARLEY, OR FALLOW CROPLAND

There are no grazing restrictions following Amber application.

Wheat (except durum wheat) may be re-seeded immediately after application of either a standard rate or the enhanced rate.

#### FIELD BIOASSAY INSTRUCTIONS

Using typical tillage, seeding practices, and timings for the particular crop, plant several strips of the desired crop variety across the field which has been previously

treated with Amber. Plant the strips perpendicular to the direction Amber was applied. The strips should be located so that all the different field conditions are encountered, including differences in soil texture, pH, and drainage. If the crop does not show visible symptoms of injury, stand reduction, and/or yield reduction, this field can be seeded with this crop the next growing season after the bioassay. If visible injury, stand reduction, or yield reduction occurs, this crop must not be seeded, and the bioassay must be repeated the next growing season.

#### ADDITIONAL PRECAUTIONS

1. Do not use Amber in fields where the combination of all three of these criteria occur:

- Historic average annual rainfall (or the combination of historic annual rainfall plus planned irrigation of the crop) exceeds 35 inches per year, and
- The ground water table is 30 ft. or less below the soil surface, and
- The soil is classified as a coarse soil (sand or loamy sand soil texture in the surface layer).

2. When applying to wheat, barley, or fallow cropland, do not apply more than one application of 0.56 oz./A or two applications of 0.28 oz./A (separated by at least 60 days) per crop. Split applications must be made within the same cropping season.

3. When applying to pastures, rangeland, or CRP acres, do not apply more than a total of 0.84 oz./A per year as follows: one application of 0.28 oz./A may be applied postemergence, followed by a second application not more than 60 days later at up to 0.56 oz./A.

4. Do not apply Amber or other herbicides with the same mode of action within a 12-month period after an Amber application, except as directed on the label for split applications and tank mixes. If additional weed control is needed, use a herbicide with a different mode of action than Amber.

5. Do not apply Amber within 4 hours of an expected rainfall/irrigation event. Rainfall or irrigation soon after application may reduce foliar uptake by weeds, thereby reducing weed control.
6. Do not apply Amber to wheat or barley undersown with legumes or forage grasses, as injury to the undersown crops may occur.
7. Do not apply Amber to irrigated land if the tail water will be used on nontarget land.
8. Do not allow spray to drift to nontarget crops, other desirable plants, recreational areas, ornamental plants, or onto land scheduled to be planted with crops other than wheat or barley.
9. Do not apply Amber to snow-covered soil or to frozen soil surfaces, since runoff may occur.
10. Do not apply Amber where its movement through the soil or on soil particles may place it in contact with nontarget plants or their roots.
11. Do not apply Amber under conditions when uniform coverage cannot be obtained.
12. Do not apply Amber to stressed or dormant weeds, or when environmental conditions that stress weeds or cause weed dormancy are expected within one week after application.
13. Do not mix with or apply sequentially with malathion.

Tank mixture or sequential application with other registered organophosphate insecticides may cause temporary crop discoloration or crop injury. Delay Amber application for at least 60 days after an in-furrow application of an organophosphate insecticide.

14. Do not apply Amber through irrigation systems.

#### CATASTROPHIC CROP LOSS

Where a catastrophic crop loss has occurred after an Amber application due to a natural disaster (such as late killing frost, hail, flooding, insect or disease damage),

wheat (except durum) may be replanted immediately and IR corn hybrids after 4 months.

Additionally, after 4 months barley, durum wheat, oats, rye, or STS soybeans may be planted with the expectation that some level of discoloration, stunting, or other crop injury will occur. Any damage and yield loss that occurs must be accepted by the grower.

Growers not willing to accept this potential injury and yield loss are required to follow standard rotational guidelines.

Refer in the label for the tank mixtures information.

#### Limitations, Restrictions, and Exceptions

#### POSTEMERGENCE AMBER APPLICATION TO WINTER OR SPRING WHEAT, WINTER OR SPRING BARLEY, OR POSTEMERGENCE TO WEEDS IN FALLOW CROPLAND (INCLUDING POST-HARVEST CEREAL STUBBLE)

Apply Amber at a standard or enhanced rate when the target weeds shown in Table 1 are ACTIVELY GROWING AND ARE WITHIN THE HEIGHT AND DIAMETER RANGE SPECIFIED, and the wheat is at ANY STAGE UP TO PRE-BOOT or barley is in the 2-LEAF TO PRE-BOOT STAGE. Optimal control can be obtained for most weed species when the weeds are 2 inches or less in height and/or diameter. Very large weeds may only be suppressed. Do not apply the enhanced rate in areas with a soil pH greater than 7.5, except in the Blacklands of TX and OK. Use the low range (0.28 oz./A) of the standard rate unless additional length of control is needed. If additional length of control is needed, or if weeds are at or above the maximum height, use the 0.35 or 0.47 oz./A rate of Amber. These rates of Amber can also be used for the more difficult to control weeds (such as wild buckwheat) at the bottom of the standard rate section of Table 1. Include a nonionic surfactant in the spray mixture as described in the Mixing Procedures section.

Amber will also provide preemergence control of the weeds listed in Table 1 that may germinate after application, provided rainfall (enough to wet the soil 2-3 inches deep) moves Amber into the soil before seedlings emerge. Application of Amber at the enhanced rate will increase the duration of weed control. For optimum control, fall applications of Amber to weeds in winter wheat, winter barley, or fallow cropland must be made before the emerged weeds are exposed to extended

freezing temperatures.

Precautions: To avoid possible crop injury, do not apply Amber to wheat or barley that is stressed due to (1) extremes in temperature or rainfall; (2) disease or insect pressure; or (3) when extremes in temperature or rainfall are expected within one week of application.

Amber must be tank mixed with other appropriate herbicide(s) to obtain broad spectrum weed control in fallow cropland. Refer to the Amber Tank Mixtures with Other Herbicides section.

Do not plant durum wheat less than 8 months after an Amber application.

- For weeds with less than 2 inches height;
- Preplant, preplant shallow incorporated, or preemergence

#### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

#### Rates

[field rates 0](#)

[field rates 1](#)

[field rates 2](#)

[field rates 3](#)

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#### Restricted Entry Interval

4 hours

#### Timings

[Postemergence \(Crop\)](#)

[Post-harvest](#)

[Postemergence \(Weed\)](#)