

# **FOR ANNUAL AND PERENNIAL GRASS CONTROL IN ESTABLISHED ALFALFA AND MINT**

General Information

## **PRODUCT INFORMATION AND INSTRUCTIONS**

VAQUERO is a selective post-emergence herbicide for control of annual and perennial grasses.

VAQUERO does not control sedges or broadleaf weeds.

Control Symptoms: A reduction in vigor and growth is evident in treated grass weeds. Early chlorosis/necrosis of younger plant tissue is followed by a progressive collapse of the remaining foliage. Symptoms will generally be observed in 7-14 days depending on grass species treated and environmental conditions.

In some grass species, repeated use of VAQUERO (or similar post-emergence grass herbicides with the same mode of action) may lead to the selection of naturally occurring biotypes that are resistant to these products. A resistant biotype may be present if poor performance occurs and cannot be attributed to adverse weather or application conditions. This potential resistance will most likely occur in fields where other control strategies such as crop rotation, mechanical removal, and other classes of herbicides are not used from year-to-year.

Do not allow VAQUERO to contact desirable grass crops such as corn, rice, sorghum, small grains, or turf, as these and other grass crops will be injured or killed. Minor leaf spotting may occur on treated plants under certain environmental conditions. New foliage is not affected.

VAQUERO is not for use on vegetable crops being grown for seed production unless specific use directions are provided in this label or through Supplemental Labeling.

Not all specialty varieties of vegetable crops on this label have been tested for tolerance to VAQUERO. It is advised that, before applying VAQUERO to specialty varieties of crops listed on this label, crop tolerance should be investigated first using a small section of the field. It is possible that injury symptoms may occur. Symptoms may appear as leaf speckling or stunting.

Best perennial grass control can be obtained if rhizomes or stolons are cut up by preplant tillage practices, (discing, plowing, etc.) to stimulate maximum emergence of grass shoots. Cultural practices, such as continuous no-tillage in which the perennial grass rhizomes or stolons are not cut up, result in a very staggered, non-uniform weed emergence. Under these conditions and due to such non-uniform weed emergence, make no fewer than two VAQUERO applications per year at the appropriate weed-growth stage rate under continuous no-till conditions.

## APPLICATION INFORMATION

### Application Timing

Apply VAQUERO post-emergence to actively growing grasses according to rate table directions in this label. Do not apply to grass plants under stress from insufficient moisture or cold temperatures, or to grass plants exceeding recommended growth stages as unsatisfactory control may result.

In arid regions where irrigation is used to supplement limited rainfall, VAQUERO should be applied as soon as possible after an irrigation (within 7 days). In arid regions, a second application of VAQUERO will generally provide more effective control of perennial grass weeds than a single application. Make second application to actively growing grass 2 - 3 weeks after emergence of new growth.

Cultivation of treated grasses 7 days prior to or within 7 days after application of VAQUERO may reduce weed control. DO NOT APPLY VAQUERO if rainfall is expected within 1 hour of application since control may be reduced.

### Ground Application

To ensure complete coverage, it is essential to use sufficient spray volumes and pressure. Use a minimum of 5 gallons and a maximum of 40 gallons of spray solution per acre. Under the following conditions, a minimum of 10 gallons per acre is required: narrow row soybeans, broadleaf herbicide tank mixes, perennial grasses, volunteer corn, drought or stress conditions, heavy grass pressure or when

grasses are at, or near, maximum height. Failure to use a minimum of 10 gallons per acre under these conditions can result in poor coverage and reduced grass control requiring repeat applications. Spray pressures should reflect a minimum of 30 psi and a maximum of 60 psi at the nozzle. Do not use flood nozzles.

Applications to onions (dry bulbs and green), garlic, and shallots (dry bulbs and green) should be made in a minimum of 20 gallons of spray solution per acre.

#### Aerial Application

Use a minimum of 3 gallons of spray solution per acre unless otherwise directed on this label. As grass or crop foliage becomes dense, increase spray volume up to 10 gallons. For onions (dry bulbs and green), garlic, or shallots (dry bulbs and green): Do not exceed 8 fl. oz./A in a single application when applying by air. In California, air applications to onions, garlic or shallots should be made in a minimum of 20 gallons of spray solution per acre.

NOTE: Crop injury may occur when VAQUERO is applied to onions, garlic, or shallots with aerial equipment.

#### Spot Treatment

When using hand sprayers or high volume sprayers utilizing hand guns, mix 1/4% - 1/2% (0.33 oz. - 0.65 oz. per gallon) VAQUERO and spray to wet vegetation, while not allowing runoff of spray solution. For uses where a crop oil concentrate (COC) or methylated seed oil (MSO) are recommended, include the COC or MSO at 1% (1.3 oz. per gallon) by volume. For uses where a non-ionic surfactant is recommended, include the non-ionic surfactant at 1/4% (0.33 oz. per gallon) by volume.

NOTE: If VAQUERO is applied as a spot treatment, do not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur.

#### USE RESTRICTIONS

- Do not apply if rain is expected within 1 hour of application as unsatisfactory control may occur.
- Do not plant rotational crops until 30 days after application of VAQUERO unless crop is listed on VAQUERO label.

- Do not apply a post-emergence broadleaf herbicide within one day following application of VAQUERO or reduced grass control may result.
- Do not apply under conditions of stress. Applying VAQUERO under conditions that do not promote active grass growth will reduce herbicide effectiveness. These conditions include drought, excessive water, extremes in temperature, low humidity and grasses either partially controlled or stunted from prior pesticide applications. Grasses under these kinds of stressful conditions will not absorb and translocate VAQUERO effectively, and will be less susceptible to herbicide activity.
- Do not allow VAQUERO to contact desirable grass crops such as corn, rice, sorghum, small grains, or turf, as these and other grass crops will be injured or killed. Minor leaf spotting may occur on treated plants under certain environmental conditions. New foliage is not affected.
- Application in Nassau and Suffolk counties of New York State is restricted to no more than 16 fl. oz. of VAQUERO (0.25 lb. a.i.) per acre per year.

#### CHEMIGATION INFORMATION

This product may be applied to onions and garlic by sprinkler irrigation systems. DO NOT apply by chemigation to any other crop.

#### CHEMIGATION – ONIONS (Dry Bulbs and Green) AND GARLIC ONLY

#### SPRINKLER IRRIGATION APPLICATION

- Do not apply VAQUERO by chemigation in the states of Idaho, Montana, Oregon and Washington.
- Do not apply VAQUERO by chemigation to any other crop besides onions and garlic.

Apply VAQUERO at the high rate specified for annual grasses (16 fl. oz./A) when the grass height is at the shorter end of the height range (application to taller grasses may not provide adequate control). Add a non-ionic surfactant at 0.25% v/v.

Apply VAQUERO in 0.1 - 0.2 acre-inch of water either at the end of a regular irrigation set or as a separate application not associated with a regular irrigation using the least amount of water that provides proper distribution and coverage. Application of more than label specified volume of irrigation water per acre may

result in decreased product performance by removing the chemical from the zone of effectiveness. Use a metering device to inject VAQUERO into irrigation water at a constant flow.

Constant agitation must be maintained in the chemical supply tank during the entire period of herbicide application. Inject the product with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide, a dye indicator may be injected into the lines to mark the end of the application period.

Do not apply VAQUERO through an irrigation system connected to a public water system. A public water system is a system for the provision of piped water to the public for human consumption when such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

#### USE PRECAUTIONS

1. Apply this product only through the following sprinkler irrigation systems: center pivot, lateral move, end tow, side (wheel) roll, travelers, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.
3. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.
5. A person knowledgeable of the chemigation system and responsible for its operation or under supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
6. 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.

7. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

8. 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 system is either automatically or manually shut down.

9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

10. 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.

11. 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.

12. Do not apply when wind speed favors drift beyond the area intended for treatment.

## ADJUVANT RECOMMENDATIONS

The addition of a crop oil concentrate or methylated seed oil or a non-ionic surfactant such as RAINIER-EA or R-11 will improve the performance of VAQUERO. Crop oil concentrates and methylated seed oils can cause crop injury with certain tank mix partners or on sensitive crops. Under these circumstances, non-ionic surfactants (NIS) can be used in place of crop oil concentrates. Reduced weed control may result from use of non-ionic surfactant, instead of crop oil concentrates. Oil/nitrogen blend adjuvants may be substituted for crop oil concentrates or methylated seed oil at appropriate equivalent use rates. Under drought conditions, methylated seed oil adjuvants can be used in place of COCs to improve performance. Methylated seed oils can increase crop injury potential and care should be taken when considering their use. Ammonium sulfate (AMS) or urea-

ammonium nitrate (UAN), and similar liquid foliar nitrogen fertilizers can improve control of hard to control grasses and help overcome potential antagonism from tank mix partners. The use of AMS or UAN is only allowed on specified crops and may increase the possibility of crop injury under some conditions.

Follow TABLE 1 for ADJUVANT USE INSTRUCTIONS.

Follow TABLE 2 for VAQUERO HERBICIDE USE RATES/RESTRICTIONS/LIMITATIONS for specific use guidelines.

Limitations, Restrictions, and Exceptions

#### DIRECTIONS FOR ANNUAL AND PERENNIAL GRASS CONTROL IN ESTABLISHED ALFALFA AND MINT

**Mowing:** The best control of annual grasses can be achieved by applying VAQUERO before grass weeds are mowed. Once a grass is mowed it becomes tougher to control, as much of the available leaf surface has been removed. In areas without a killing frost, some annuals can over-winter after having been mowed multiple times. These grasses form large crowns and may contain many viable buds. These grasses, even though they may be an annual grass, may require repeated application of VAQUERO for partial or complete control.

**Irrigated Alfalfa and Mint:** In established alfalfa and mint, irrigation practices can be very critical to the successful use of VAQUERO and may be necessary to initiate active growth of the weeds prior to application. Generally applications 2-4 days following irrigation are most effective. More consistent grass control occurs when the irrigation occurs before the application is made but irrigation shortly after application (2 days) can be effective.

**Aerial Application:** Apply VAQUERO in a minimum of 10 GPA in established alfalfa and mint when applying by air.

**Annual Grass Control:** Apply VAQUERO at the grass sizes indicated in the Use Directions for Annual Grass Table and rates indicated above (10-16 fl. oz./A). If a grass has been cut, apply VAQUERO after active growth has resumed and regrowth has reached the minimum height and before it reaches the maximum height indicated. Apply before the alfalfa/mint canopy covers the grasses and interferes with the spray coverage. Some annual grasses are spring and summer germinating

plants, while others are fall germinating plants, and the time they are actively growing and most susceptible to VAQUERO may vary from region to region. Also some annuals germinate over an extended period of time, and because control of small grasses is

desired, applications after each weed flush may be required. As a general rule, spray spring and summer germinating grasses as early in the season as possible, after initial green-up. Spray fall germinating weeds in the fall soon after they begin growing but before any damage is done due to frost. Late fall applications may be less effective due to environmental conditions, such as frost, slower plant growth, or the onset of flowering.

**Perennial Grass Control:** VAQUERO effectively controls perennial grasses such as bermudagrass, Johnsongrass, quackgrass, wirestem muhly, tall fescue, foxtail barley and orchardgrass. Due in part to lack of tillage, perennial grasses are more difficult to control in a perennial crop such as established alfalfa or mint. A program of repeated applications is usually necessary for best results. The best way to control perennial grasses is to do so in the year of stand establishment before rhizomes and stolons become large and difficult to kill.

Use the high rate when grasses are at or near maximum height and/or under heavy grass pressure. Always add a crop oil concentrate at 1 qt./A by ground or 1% v/v (but not less than 1 pt./A) to the finished spray volume by air.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Rates

[field\\_rates 0](#)

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Restricted Entry Interval

24 hours

Timings

[Postemergence \(Weed\)](#)