HOPS (ID, OR, AND WA ONLY)

General Information

PRODUCT INSTRUCTIONS AND INFORMATION

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

When Para-SHOT 3.0 is applied at less than 10 gallons per acre finished spray volume, a drift control or spray deposition additive SHOULD be used. Refer to the additive label for rates of applications, directions for use, limitations, and restrictions.

WEED RESISTANCE MANAGEMENT

Para-SHOT 3.0 contains paraquat dichloride and is classified as a Group 22 herbicide, chemical class bipyridylium, with photosystem I electron diverter mode of action.

Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to Para-SHOT 3.0 and other Group 22 herbicides. Weed species with acquired resistance to Group 22 herbicides may eventually dominate the weed population if Group 22 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Para-SHOT 3.0 or other Group 22 herbicides.

Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant
weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed. 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.

To delay herbicide resistance, consider:

- Avoiding the consecutive use of Para-SHOT 3.0 or other target site of action Group 22 herbicides that have a similar target site of action, on the same weed species.
- Using tank mixtures or premixes with herbicides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action, and are both effective at the tank mix or prepack rate on the weed(s) of concern.
- Basing herbicide use on a comprehensive Integrated Pest Management (IPM) program.
- Monitoring treated weed populations for loss of field efficacy.

Users should scout before and after application. Users should report lack of performance to Sharda USA LLC representative.

Contact your local sales representative, extension agent, or certified crop advisors 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.

INTEGRATED PEST MANAGEMENT

Para-SHOT 3.0 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.
PRODUCT INFORMATION

Para-SHOT 3.0 is a liquid formulation containing 3 lbs. of active ingredient per gallon. It contains a nontoxic odor to help prevent accidental ingestions. It also contains an emetic (an agent which will induce vomiting if the product is swallowed).

APPLICATION

Para-SHOT 3.0 is a contact herbicide for control or suppression of a broad spectrum of emerged weeds including most small annual broadleaf and grass weeds. It can also be used to suppress perennial weeds by destroying green foliage and as a desiccant/defoliant at harvest.

Complete coverage of target weeds is necessary to get good control because Para-SHOT 3.0 is a contact-type herbicide. It is also necessary to obtain complete coverage for good crop desiccation and defoliations. Undesirable weed control and undesirable crop desiccation/defoliation will result if improper application technique and/or application to large, stressed, or mown weeds are made. Refer to the following details for specific application instructions.

Thorough coverage of all green foliage is required for efficacious weed control and crop defoliation and desiccation because Para-SHOT 3.0 requires actively growing green plant tissue to function. Drought-stressed weeds, weeds with little green foliage (i.e., mowed or cut weeds), or mature woody bark of trees and vines are unaffected by application with Para-SHOT 3.0.

There is no residual soil activity to affect later-planted crops or later germinating weeds because clay and organic matter rapidly tie up Para-SHOT 3.0.

ROTATIONAL CROPS

After the last application Para-SHOT 3.0, all rotational crops may be planted immediately.

RAINFASTNESS

Rain occurring 30 minutes or more after application will have no effect on the activity of PARA-SHOT 3.0 because it is rapidly absorbed by the weed foliage.
USE OF A NONIONIC SURFACTANT OR CROP OIL CONCENTRATE

The following should always be added and be used at the listed rates or there will be a reduction in efficacy of Para-SHOT 3.0.

Nonionic Surfactant: Either add a nonionic surfactant cleared for the current use containing 50-74% surface-action agent at 0.25% v/v (2 pts./100 gals.), or add nonionic surfactant containing 75% or more surface-active agent at 0.125% v/v (1 pt./100 gals.), of the finished spray volume for ground applications. Add a nonionic surfactant at 0.25% v/v (2 pts./100 gals.) of the finished spray volume for aerial applications.

Crop Oil Concentrate: For ground applications, add a nonphytotoxic crop oil concentrate cleared for the current use that contains 15-20% approved emulsifier, with 1.0% v/v, (1 gal./100 gals.) of the finished spray volume. Add 1 pt. of crop oil concentrate per acre for aerial applications. For cotton harvest aid, do not use crop oil concentrate when using Para-SHOT 3.0.

NOZZLE SELECTION

The use of flat-fan nozzles is the most effective application of Para-SHOT 3.0. The use of flood nozzles may result in a reduction of weed control due to inadequate coverage because they produce large uneven droplets.

Use only flat fan nozzles when spraying less than 20 gallons of spray carrier per acre using the following table in the label.

SPRAY CARRIER

Para-SHOT 3.0 may be inactivated by muddy water, or suspension-type fertilizers containing clay. Therefore, always use clean water (free of mud or clay), clear liquid nitrogen, or complete clear liquid fertilizers as the carrier when spraying this product. Never use suspension-type fertilizers containing clay as the spray carrier. Always use the higher rate of Para-SHOT 3.0 and surfactant if using a complete clear liquid fertilizer containing high phosphate levels as the spray carrier. Note: It is important that when using liquid fertilizers such as 28% N as a spray carrier, that nonionic surfactant still be used with Para-SHOT 3.0. The use of liquid fertilizer carriers are not substitutes for surfactants.
RATES OF PARA-SHOT 3.0

With each use, follow rates listed in the following tables. When weeds are larger or are dense, use the higher label rates.

For use as a harvest aid, use higher rate when crop vegetation is dense. Do not exceed 0.50 lb. a.i./A in a minimum of 30 gallons of spray for broadcast applications with backpack sprayers.

SPRAY VOLUME

With each use, follow rates listed in the following tables. Spray volumes should be increased as necessary to obtain complete coverage of the target weed or plant without runoff from the foliage, because the volumes listed are minimum volumes only.

TARGET WEEDS SHOULD NOT EXCEED SIX INCHES IN HEIGHT WHEN SPRAYING LESS THAN 20 GALLONS OF SPRAY CARRIER PER ACRE.

APPLICATION TIMING

Applications should be made to small emerged weeds. Larger weeds more than 6 inches in height may be more difficult to control than weeds 1-6 inches in height. If possible, when green foliage is removed either from grazing or mowing, allow the weeds to grow 2-4 inches in height. Also, during harvesting forage or grain crops before spraying, weeds present in the field are also cut. Therefore, raise cutter bars as high as possible from the ground to cut stubble and weeds at a greater height, allowing sufficient green foliage to remain for applications.

BURNDOWN OF GRASS COVER CROPS OR VOLUNTEER CEREALS

The best results occur for control of grass cover crops or volunteer cereals when Para-SHOT 3.0 is applied prior to tillering or after boot stage, especially with a wheat cover crop or volunteer wheat. Complete control may not be achieved with treatments made between tillering and boot stage. Complete control of perennial cover crops should not be expected.

ENVIRONMENTAL CONDITIONS

This product is active over a wide range of environmental conditions such as cool
(below 55°F), cloudy or overcast weather. However these conditions will slow the activity of Para-SHOT 3.0.

SPOT SPRAYING

Refer to the following table in the label if only small areas are to be sprayed with labeled applications.

PRODUCT PRECAUTIONS AND RESTRICTIONS

EQUIPMENT

Para-SHOT 3.0 is corrosive to aluminum. Thoroughly flush all aluminum spray equipment and aluminum aircraft structures that are exposed to spray solution or spray drift with water immediately after use.

The activity of Para-SHOT 3.0 may be reduced in dry areas where dust stirred up by high winds or equipment tires can coat weed or plant leaves. Therefore, avoid applications in extremely dusty conditions.

RESTRICTIONS

- Do not graze livestock in treated fields or feed treated foliage in cotton when this product is used as a cotton harvest aid.
- Do not use this product in residential or public recreational settings (e.g. homes, home gardens, schools, recreational parks, golf courses, and/or playgrounds).
- Do not make application to soils lacking clay minerals such as peat, muck, pure sand, artificial planting media for pre-plant and pre-emergence (to the crop) uses.

PRECAUTIONS

- Unless otherwise indicated, Para-SHOT 3.0 will severely injure or kill crops that are emerged at time of application if they come in contact with sprays.
- To enable optimum weed and grass emergence prior to treatment, seedbeds and plantbeds should be formed as far ahead of planting and treatment as possible.
- Avoid disturbing the soil when seeding or transplanting.
- Transplanted plants may become damaged when they come in contact with plastic mulch used for pre-plant weed control that has been treated with this product. To prevent damage to the crop, sufficient wash-off from rainfall or sprinkler irrigation, or other means before planting may be needed.
- Para-SHOT 3.0 will be ineffective in controlling or suppressing weeds and grasses that emerged after application.

Refer in the label for Tank Mix Information and for the Conversion Table.

Limitations, Restrictions, and Exceptions

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Directed Spray and/or Suckering and Stripping.

Directions
- Silage and hop vine refuse may be fed to livestock.
- Spray only the basal 2 ft. of the vines for sucking and stripping. Repeat as necessary, up to 3 applications maximum per season.
- Chemical Pruning: Spray when hop vines are no taller 3 ft. tall to burn back existing vines and obtain even emergence of subsequent vines.

Precautions
- Retreatment of spot treatment areas may be necessary.
- APPLICATION TO HOP VINES THAT ARE LESS THAN 6 FT. TALL MAY CAUSE UNACCEPTABLE INJURY TO THE CROP.
- Experience with varieties other than Cascade, Yakima Cluster, and Bullion is limited. If using Para-SHOT 3.0 on varieties other than these, test the planned spray program on a small number of vines for each variety to determine sensitivity to adverse crop response. Do not use on unlisted varieties if unacceptable crop injury results.

Restrictions
- Do not apply more than 3 applications per year.
- Do not allow spray to drift or contact green stems, foliage, flowers, or cones as injury may result.
- Do not allow animals to graze in treated hopyards.

Minimum Total Spray Per Acre:

Ground: 10 gals.

Method

Broadcast/Foliar Ground
Directed
Suckering
Stripping
Pre-Harvest Interval

14 days

Rates
field rates 0

Restricted Entry Interval

For early post-emergence broadcast in peanuts and dormant season applications, chemical fallow, and “between cutting” applications in alfalfa: Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

For harvest aid and desiccation application and pre-plant or pre-emergence (broadcast or banded), and post-emergence directed spray applications: Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

Timings
N. A.