59639-132

02/02/2006

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB - 2 2006

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

James Pensyl
Valent U.S.A. Corporation
1600 Riviera Avenue
P.O. Box 8025
Walnut Creek, CA 94596

Dear Mr. Pensyl:

Subject: Revised Labeling
V-10137 1 EC Herbicide
EPA Registration No. 59639-132
Your Submission Dated January 13, 2006

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable provided that you:

1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

a. In the Mustard Seed directions reinstate the 75 day Pre Harvest Interval (PHI). Lowering the PHI to 70 days is the type of amendment that relies on data and is subject to data compensation. If this PHI does not appear on another clethodim label for this crop, the amendment may require scientific review and appropriate PRIA fees.

b. In the table for Annual Grasses on page 21 and 22 the term Maximum Rate for 16 fl oz rate is misleading since for certain crops 32 fl oz is the maximum rate. In the tables for Annual & Perennial Grass Control on page 23 and for Perennial Grasses on page 26 the term Maximum Rate of 32 fl oz is misleading since for certain crops 16 fl oz is the maximum rate. Clarify the Tables.

c. The table on page 24 for Annual Bluegrass Control, the intended application site is not specified. Clarify the Table by listing the appropriate crops. Assure that the table specifies the appropriate maximum application rate for each crop.

d. On pages 35, 36 and 37 in the Soybean Tank Mix directions, we could not locate a herbicide named "Phoenix" in our computer data base. Assure that this product is registered for application to soybeans and does not bear any restrictions that would prohibit mixing with this product.

e. In the Fallow land and non-crop sections of the labeling delete the 30 rotational crop statement wherever it appears on the labeling. By definition, fallow land and non-crop areas cannot be planted with food crops for at least a year after application of this pesticide.

2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

A stamped copy of the labeling is enclosed for your records.

If you have any questions concerning this letter, please contact me at 703-305-6224.

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Herbicide Branch
Registration Division (7505C)

Enclosure

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VALENT

GROUP	1	HERBICIDE

V-10137 1 EC
(HERBICIDE)

Active Ingredient	By Wt.
*Clethodim	12.6%
Other Ingredients	87.4%
Total	100.0%

Contains Petroleum Distillates

*(E)-2-[1-[[(3-chloro-2-propenyl)oxy]imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one

Contains 0.97 lbs. clethodim per gal.

ACCEPTED
with COMMENTS
In EPA Letter Dated:
FEB - 2 2006
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No
59639-132

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE NEXT PAGE FOR ADDITIONAL PRECAUTIONARY STATEMENTS

NET CONTENTS_____

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Harmful if swallowed.

FIRST AID

If in eyes:
- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

If on skin or clothing:
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

If swallowed:
- Immediately call a poison control center or doctor.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give **any** liquid to the person.
- Do not give anything by mouth to an unconscious person.

If inhaled:
- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** for emergency medical treatment information.

NOTE TO PHYSICIAN

Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. If ingested, probable mucosal damage may contraindicate the use of gastric lavage.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves such as barrier laminate or viton = 14 mils, shoes plus socks and protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS:

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwater or rinsate.

The use of this product may pose a hazard to the federally designated endangered species of Solano Grass and Wild Rice. Use of this product is prohibited in the following areas where the species are known to exist:

Solano Grass: Solano County, California: the vernal lakes area bounded by the Union Pacific Railroad and Hastings Road to the north, Highway 113 to the east. Highway 12 to the south and Travis Air Force Base to the west.

Wild Rice: Hays County, Texas.

PHYSICAL OR CHEMICAL HAZARDS:

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

READ ENTIRE LABEL AND PAMPHLET. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: coveralls over short-sleeved shirt and short pants, chemical-resistant gloves such as barrier laminate or viton = 14 mils and shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep all unprotected persons out of operating areas, or vicinity where there may be drift.
Do not enter treated areas without protective clothing until sprays have dried.

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DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY

IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

RISKS OF USING THIS PRODUCT

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

Valent warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label **and subject to the Risks of Using This Product as described above. EXCEPT AS SET FORTH ABOVE, VALENT MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED.** No agent or representative of Valent or Seller is authorized to make or create any other express or implied warranty.

LIMITATION OF LIABILITY

In no event shall Valent or Seller be liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF VALENT OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF VALENT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

PROMPT NOTICE OF CLAIM

Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is latter, so that an immediate inspection of the affected property and growing crops can be made.

If Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty** and **Limitation of Liability,** which may not be modified by any oral or written agreement.

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor.

Read and follow the entire label of each product to be used in the tank mix with this product.

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THE FOLLOWING STATEMENT ON CHEMIGATION WILL BE USED ONLY IF A SUPPLEMENTAL LABEL IS CREATED.

CHEMIGATION

[Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed. Refer to supplemental labeling entitled, "Application of V-10137 1 EC Onions (dry bulb and green) and Garlic by Chemigation", for use directions for chemigation.]

May be applied to onions and garlic by sprinkler irrigation systems. Do not apply by chemigation to any other crop, or to this crop using any other type of irrigation system.

GENERAL INFORMATION

FOR USE ON: Soybean, Cotton, Ornamentals, Sugar Beets, Onions (dry bulb and green), Garlic, Shallots (dry bulb and green), Alfalfa, Peanuts, Dry Beans, Sunflower, Canola, Flax, Mustard Seed, Potato, Sweet Potato, Yam (and other Tuberous[1] and Corm[1] Vegetables), Tomato, Peppers (bell and non-bell), Eggplants (and other Fruiting Vegetables), Carrot, Radish, Garden Beet, Horseradish (and other Root Vegetables[2]), Leaf Lettuce, Broccoli, Cabbage, Cauliflower (and other Head and Stem Brassica Vegetables[3]), Mustard Greens (and other Leafy Brassica Greens[4]), Spinach, Celery, Rhubarb (and other Leaf Petioles[5]), Cranberry, Strawberry, Squash (including Pumpkins), Cucumber, Melons (including Cantaloupe and Watermelon), Mint, Clover (grown in Idaho, Oregon and Washington only), Conifer Trees, Non-Bearing Food Crops, Fallow Land (and other non-producing agricultural areas) and Non-Crop or Non-Planted Areas.

[1] Other tuber and corm vegetables approved for use with V-10137 1 EC include: arracacha, arrowroot, Chinese artichoke, Jerusalem artichoke, edible burdock, edible canna, bitter and sweet cassava, chayote (root), chufa, dasheen (taro), ginger, leren, tanier, turmeric and bean yam.

[2] Other root vegetables approved for use with V-10137 1 EC include: burdock, edible; celeriac; chervil, turnip-rooted; chicory; ginseng; parsley, turnip-rooted; parsnip; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret and turnip.

[3] Other head and stem brassica vegetables approved for use with V-10137 1 EC include: Chinese broccoli; Brussels sprouts; Chinese (napa) cabbage; Chinese mustard; cavalo broccolo and kohlrabi.

[4] Other leafy brassica greens approved for use with V-10137 1 EC include: broccoli raab, cabbage, Chinese (bok choy); collards; kale, mizuna, mustard greens, mustard spinach; rape greens and turnip greens.

[5] Other leaf petiole crops approved for use with V-10137 1 EC include: cardoon, Chinese celery, celtuce, Florence fennel, and Swiss chard.

V-10137 1 EC is a selective postemergence herbicide for control of annual and perennial grasses. V-10137 1 EC does not control sedges or broadleaf weeds.

Control Symptoms

Treated grass weeds show a reduction in vigor and growth. Early chlorosis/necrosis of younger plant tissue is followed by a progressive collapse of the remaining foliage. Symptoms will generally be observed in 7 to 14 days after application, depending on grass species treated and environmental conditions.

APPLICATION INFORMATION

Timing of Applications

Apply V-10137 1 EC postemergence to actively growing grasses according to rate table recommendations. Applications made to grass plants stressed by insufficient moisture, hot or cold temperatures, or to grass plants exceeding recommended growth stages may result in unsatisfactory control. Do not apply under these conditions.

In arid regions where irrigation is used to supplement limited rainfall, V-10137 1 EC should be applied as soon as possible, after a irrigation (within 7 days). In arid regions, a second application of V-10137 1 EC will generally provide more effective control of perennial grass weeds than a single application. Make second application to actively growing grass 2 to 3 weeks after emergence of new growth.

Cultivation of treated grasses 7 days prior to or within 7 days after application of V-10137 1 EC may reduce weed control.

Ground Application

Use of sufficient spray volumes and pressure is essential to ensure complete coverage. Use a minimum of 5 gals. and a maximum of 40 gals. of spray solution per acre. Under the following conditions a minimum of 10 gals. per acre is required: ultra narrow row cotton, 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 gals. 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 bulb and green), garlic or shallots (dry bulb and green) should be made in a minimum of 20 gals. of spray solution per acre.

Air Application

Use a minimum of 3 gals. of spray solution per acre unless otherwise directed in this label. Increase spray volumes up to 10 gals. as grass or crop foliage becomes dense. For onions (dry bulbs and green), garlic or shallots (dry bulb and green): When applying by air do not exceed 16 fl. oz./A in a single application. In California, air applications to onions, garlic or shallots should be made in a minimum of 20 gals. of spray solution per acre. In states other than California, air application to onions, garlic or shallots should be made in a minimum of 10 gals. of spray solution.

NOTE: Crop injury may occur when V-10137 1 EC is applied to onions, garlic or shallots with aerial equipment.

Spot Treatment

When using hand sprayers or high volume sprayers utilizing hand guns, mix 1/3 to 2/3% (0.44 oz. to 0.85 oz. per gal.) V-10137 1 EC and treat to wet vegetation, while not allowing runoff of spray solution. For uses requiring crop oil concentrate, include crop oil concentrate at 1% (1.3 oz. per gal.) by volume. For uses requiring non-ionic surfactant, include non-ionic surfactant at 1/4% (0.33 oz. per gal.) by volume.

NOTE: If V-10137 1 EC is applied as a spot treatment care should be taken to not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur.

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CHEMIGATION – ONIONS (Dry Bulb and Green) AND GARLIC SPRINKLER IRRIGATION APPLICATION

- **Do not apply V-10137 1 EC by chemigation in the states of Idaho, Montana, Oregon and Washington.**

Apply V-10137 1 EC at the high rate recommended for annual grasses (32 fl. oz./A) when the grass height is at the high end of the range (application to larger grasses may not provide adequate control). Add a crop oil concentrate containing at least 15% emulsifier at 1 quart per acre or non-ionic surfactant with at least 80% active ingredient at 0.25% v/v of total spray solution.

Apply V-10137 1 EC in 0.1 to 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 recommended quantities 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 the V-10137 1 EC into the 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.

It is not recommended that V-10137 1 EC be applied through an irrigation system connected to a public water system. Public water system means a system for the provision to the public of piped water for human consumption if 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 irrigation systems including 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 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.

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RESTRICTIONS AND LIMITATIONS

GENERAL

- Do not apply if rain is expected within 1 hour of application, as control may be unsatisfactory.
- Do not plant rotational crops until 30 days after application of V-10137 1 EC unless crop is listed on V-10137 1 EC label.
- Do not apply a postemergence broadleaf herbicide within one day following application of V-10137 1.0 EC or reduced grass control may result.
- V-10137 1 EC is not recommended for use on vegetable crops being grown for seed production unless specific use directions are provided.
- Do not apply under conditions of stress. Applying V-10137 1 EC 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 V-10137 1 EC effectively, and will be less susceptible to herbicide activity.

Optimal 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, results in a very staggered, non-uniform weed emergence. Due to this non-uniform weed emergence, no fewer than two V-10137 1 EC applications per season per year are recommended at the appropriate weed-growth stage rate under continuous no-till conditions.

Grass crops such as corn, rice, sorghum, small grains or turf, etc. are highly sensitive to V-10137 1 EC.

While all the vegetable crops on this label have been tested and are tolerant to V-10137 1 EC, not all specialty varieties of these crops have been tested. It is advised that, before applying V-10137 1 EC to specialty varieties of vegetable crops on this label, crop tolerance be investigated first using a small section of the field. It is possible that injury symptoms can occur. Symptoms may appear as leaf speckling or stunting.

Always read and follow the restrictions and limitations for all products whether used alone or in a tank mix. The most restrictive labeling of any product used applies in tank mixtures, including all crop rotational and other crop restrictions.

Tank mixes of V-10137 1 EC and broadleaf herbicides may result in reduced grass control. If grass regrowth occurs, an additional application of V-10137 1 EC may be necessary.

SPRAY DRIFT MANAGEMENT

- Do not allow spray from ground or aerial equipment to drift onto adjacent land or crops. When drift may be a problem, do everything possible to reduce spray drift, including:
- Do not apply when conditions are favorable for drift (high temperatures, drought and low relative humidity), especially when sensitive plants are located nearby.
- Do not spray if wind speed is 10 mph or greater. If sensitive crops or plants are downwind, extreme caution must be used under all conditions.
- Do not spray if winds are gusty.
- Do not apply when a temperature inversion exists. If inversion conditions are suspected, consult with local weather services before making an application.
- Do not allow V-10137 1 EC to come in contact with desirable grass crops such as corn, rice, sorghum, small grains, or turf, as these and other grass crops will be injured or killed.

Further reductions in drift can be obtained by:

1. Using large droplet size sprays. Do not use nozzles that produce small droplets. Orient nozzles downward and slightly backward as needed to reduce drift for ground applications.
2. Orienting nozzles straight back with the windstream, using straight stream orifices for aerial applications. Use the lowest number of nozzles practical with the largest possible orifice size to obtain the minimum 3 GPA volume. Application height and boom length should be set according to manufacturer's instructions to minimize drift.
3. Increasing the volume of spray mixture (for example a minimum of 10 GPA for ground applications) by using higher flow rate nozzles. Using lower pressure with the appropriate nozzle to obtain higher volumes will also reduce drift.
4. Applying as close to target plants as practical while maintaining a good spray pattern for adequate coverage.

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Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption.

RESISTANCE MANAGEMENT

V-10137 1 EC is a Group1 herbicide. Any weed population may contain or develop plants naturally resistant to V-10137 1 EC and other Group 1 herbicides. Weed species with acquired resistance to Group 1 may eventually dominate the weed population if Group 1 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 V-10137 1 EC or other Group 1 herbicides. Repeated use of V-10137 1 EC (or similar postemergence grass herbicide with the same mode of action) may lead to the selection of naturally occurring biotypes that are resistant to these products in some grass species.

If poor performance occurs and cannot be attributed to adverse weather or application conditions, a resistant biotype may be present. This is most likely to 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.

To delay herbicide resistance consider:

- Avoiding the consecutive use of V-10137 1 EC or other target site of action Group 1 herbicides that have 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 IPM program.
- Monitoring treated weed populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors, and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

Table 1. CROP SPECIFIC USE DIRECTIONS, RESTRICTIONS AND LIMITATIONS FOR V-10137 1 EC

Crops[1]	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
Alfalfa, Seedling	15 days before grazing, feeding or harvesting (cutting) for forage or hay	9 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v See tank mix label for specific adjuvant recommendations.	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Alfalfa, Established including: Sainfoin, Holy clover, Birdsfoot trefoil	15 days before grazing, feeding or harvesting (cutting) for forage or hay	12 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v See tank mix label for specific adjuvant recommendations.	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Beans, Dry	30 days	9 to 32 fl. oz.	NIS at 0.25% v/v	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval. Refer to appropriate Table for reduced rate recommendations for the control of small annual grasses.
Beet, Garden	30 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Canola	70 days	9-12 fl. oz.	NIS at 0.25% v/v	None	Do not apply after crop has begun bolting. Crop injury may occur when V-10137 1 EC is applied during the bloom period. Do not apply more than 12 fl. oz./A in a single application. Do not apply more than 12

Crops	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
					fl. oz./A per season.
Carrot	30 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Celery including: Cardoon Chinese Celery Celtuce Florence Fennel Swiss Chard	30 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.

Crops[1]	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
Clover	15 days before grazing, feeding or harvesting (cutting) for forage or hay	9 to 32 fl. oz.	NIS at 0.25% v/v	2.5 to 4 lbs./A	For use on clover grown in the states of Idaho, Oregon and Washington only. Do not more than 32 fl. oz. in a season. For repeat applications make on a minimum of a 14 day interval.
Cotton	60 days	9 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v See tank mix label for specific adjuvant recommendations	2.5 to 4 lbs./A	Do not graze treated fields or feed treated forage or hay to livestock. Do not apply more than 32 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Cranberry	30 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. Do not apply between the "hook" stage and full fruit set. For repeat applications make on a minimum of a 14 day interval.
Cucurbits including: Cantaloupes (all) Cucumber Gherkin Honeydew Melon Muskmelons (all) Pumpkin Squash (all) Watermelon	14 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Fallow Land **Conifer Trees** (and other non-producing agricultural areas) **Non-Crop or Non-Planted Areas**	N A	9 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v	2.5 to 4 lbs./A	Do not plant any crop for 30 days after application unless clethodim is registered for use in that crop. Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season.

Crops[1]	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
					For repeat applications make on a minimum of a 14 day interval.
Flax	60 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Apply prior to bloom. Crop injury may occur when V-10137 1 EC is applied during the bloom period. Do not apply more than 16 fl. oz./A per application. Do not apply more than 32 fl. oz. in a season. For repeat applications make on a minimum of a 14 day interval.
Fruiting Vegetable (except Tomato) including: Eggplant Groundcherry Pepino Peppers (all) Tomatillo	20 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Head and Stem Brassica Vegetables[5] including: Broccoli Cabbage Cauliflower Brussels sprouts	30 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval
Leafy Brassica Greens, including: Broccoli Raab Cabbage, Chinese (bok choy) Collards Kale Mizuna Mustard Greens Mustard Spinach Rape Greens Turnip Greens	14 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat application make on a minimum of a 14 day interval.

Crops[1]	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
Leaf Lettuce	14 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Mint	21 days	9 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1%v/v	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Mustard Seed	70 days	9 to 12 fl. oz.	NIS at 0.25% v/v	None	Do not apply after crop has begun bolting. Crop injury may occur when V-10137 1 EC is applied during the bloom period. Do notapply more than 12 fl. oz./A per season. For repeat applications make on a minimum of a 14 day interval.
Onions (Dry Bulbs Only)[6,7] **Garlic**[6,7] **Shallots (Dry Bulbs Only)**[6,7]	45 days	9 to 32 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval. Minimum of 20 gals./A spray volume by ground in entire U.S. Minimum of 20 gals./A spray volume by air in California[6,7] In states other than California, air applications to onions, garlic or shallots should be made in a minimum of 10 gals./A.[7]
Onions, Green including: Leeks Scallions or Sp	14 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application.

Crops[1]	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
Onions Japanese Bunching Onions Green Shallots Green Eschalots					Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval. Minimum of 20 gals./A spray volume by air in California[6] In states other than California, air applications to onions, garlic or shallots should be made in a minimum of 10 gals./A.[7]
Ornamentals	N/A	9 to 32 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval. Sugar maples cannot be tapped for syrup within one year of V-10137 1 EC application.
Non-Bearing Food Crops	N/A	9 to 16 fl. oz.			

Crops[1]	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
Peanut	40 days	9 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Potato	30 days	9 to 32 fl. oz	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Radish	15 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 32 fl. oz. (0.25 lb. ai) per acre in a season. For repeat applications make on a minimum of a 14 day interval.
Root Vegetables (except Radish)[8]	30 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Rhubarb	30 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.

Crops[1]	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
Soybean	60 days	9 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v See tank mix label for specific adjuvant recommendations.	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./S per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval. Do not graze treated fields or feed treated forage or hay to livestock. Refer to appropriate Table for reduced rate recommendations for the control of small annual grasses.
Spinach	14 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Strawberry	4 days	9 to 16 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 16 fl. oz./A in a single application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.

Crops[1]	Minimum Time From Application to Harvest (PHI)	Use Rate Per Acre[2]	Adjuvant Recommendation[3]	Ammonium Sulfate Recommendation[4]	Special Use Instructions And Restrictions
Sugar Beet	40 days	9 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v See tank mix label for specific adjuvant recommendations.	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval. Refer to appropriate Table for reduced rate recommendations for the control of small annual grasses.
Sunflower	70 days	9 to 32 fl. oz.	NIS at 0.25% v/v or COC/MSO at 1 qt./A or 1% v/v See tank mix label for specific adjuvant recommendations.	2.5 to 4 lbs./A	Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Sweet Potato, Yam and other tuberous and corm vegetables (except potato)[9]	30 days	9 to 32 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.
Tomato	20 days	9 to 32 fl. oz.	NIS at 0.25% v/v	None	Do not apply more than 32 fl. oz./A per application. Do not apply more than 64 fl. oz./A (0.5 lb. ai/A) per season. For repeat applications make on a minimum of a 14 day interval.

N/A = Not Applicable

[1] V-10137 1 EC is not recommended for use on vegetable crops being grown for seed production unless specific use directions are provided.
[2] See annual and perennial grass control tables for specific use rate recommendations.
[3] Non-ionic surfactant (NIS) in this case refers to an adjuvant containing at least 80% non-ionic surfactant. Crop oil concentrate in this case refers to both crop oil concentrate and crop oil concentrate blends. **Acceptable crop oil concentrates** would be those that contain a minimum of 80% oils and 15% emulsifier. **Acceptable crop oil concentrate blends** would be those that contain a minimum of 60% oils and 25-40% surfactants and emulsifiers. A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all the following criteria: be non-phytotoxic, contain only EPA-exempt ingredients, provide good mixing quality and be successful in local experience. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils.
[4] Use spray grade ammonium sulfate. The use of ammonium sulfate does not take the place of the required adjuvant.
[9] Other head and stem brassica vegetables approved include: Chinese broccoli; Brussels sprouts; Chinese (napa) cabbage; Chinese mustard; cavalo broccoli and kohlrabi.
[6] If V-10137 1 EC is applied as a spot treatment to onions, garlic, shallots, or non-bearing food crops care should be taken to not exceed the maximum rate listed on a "per acre" basis or crop injury may occur.

(7) In California, do not apply V-10137 1 EC to onions, garlic, or shallots until crop has at least two full leaves. In California, 14 days spray intervals are recommended between the application of V-10137 1 EC and liquid nitrogen or other herbicide applications. Injury to crop may occur when shorter intervals are observed.

(8) Other root vegetables approved for use with V-10137 1 EC include: burdock, edible; celeriac; chervil, turnip-rooted; chicory; ginseng; parsley, turnip-rooted; parsnip; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret and turnip.

(9) Other tuber and corm vegetables approved for use with V-10137 1.0 EC include: arracacha, arrowroot, Chinese artichoke, Jerusalem artichoke, edible burdock, edible canna, cassava, bitter and sweet chayote (root), chufa, dasheen (taro), ginger, leren, tanier, turmeric and bean yam.

RECOMMENDATIONS FOR ANNUAL GRASSES
(EXCEPT FOR IN ESTABLISHED ALFALFA AND MINT)

- Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (inches)	APPLICATION RATES	
			MINIMUM RATE fl. oz./A	MAXIMUM RATE[1] fl. oz./A
Barnyardgrass	*Echinochloa crus-galli*	2 to 8	9	16
Broadleaf Signalgrass	*Brachiaria platyphylla*	2 to 6	9	16
Brome				
California	*Bromus carinatus*	2 to 6	9	16
Cheat	*Bromus secalinus*	2 to 6	9	16
Downy	*Bromus tectorum*	2 to 6	9	16
Ripgut	*Bromus diandrus*	2 to 6	9	16
Canarygrass	*Phalaris canariensis*	1 to 4	9	16
Crabgrass				
Hairy	*Digitaria adscendens*	2 to 6**	9	16
Large	*Digitaria sanguinalis*	2 to 6**	9	16
Smooth	*Digitaria ischaemum*	2 to 6**	9	16
Southern	*Digitaria ciliaris*	2 to 6**	9	16
Crowfootgrass	*Dactyloctenium aegyptium*	2 to 6**	9	16
Fall Panicum	*Panicum dichotomiflor*	2 to 8	9	16
Field Sandbur	*Cenchrus incertus*	2 to 6	9	16
Foxtail				
Giant	*Setaria faberi*	2 to 12	9	16
Green	*Setaria viridis*	2 to 8	9	16
Yellow	*Setaria glauca*	2 to 8	9	16
Goosegrass	*Eleusine indica*	2 to 6**	9	16
Itchgrass	*Rottboellia cochinchinensis*	2 to 6	9	16
Junglerice	*Echinochloa colona*	2 to 6	9	16
Lovegrass (Stinkgrass)	*Eragrostis cilianensis*	2 to 6	9	16
Rabbitsfootgrass	*Polypogon monspeliensis*	1 to 4	9	16
Red Rice	*Oryza sativa*	1 to 3	9	16
Rygrass				
Hardy	*Lolium remotum*	2 to 6	9	16
Italian	*Lolium multiflorum*	2 to 6	9	16
Seedling Johnsongrass	*Sorghum halepense*	4 to 10	9	16
Shattercane	*Sorghum bicolor*	6 to 18	9	16
Southwestern Cupgrass	*Eriochloa gracilis*	2 to 6	9	16
Sprangletop				
Amazon	*Leptochloa panicoides*	2 to 6	9	16
Bearded	*Leptochloa fascicularis*	2 to 6	9	16
Mexican	*Leptochloa uninervia*	2 to 6	9	16
Red	*Leptochloa filiformis*	2 to 6	9	16

continued

RECOMMENDATIONS FOR ANNUAL GRASSES
(EXCEPT FOR IN ESTABLISHED ALFALFA AND MINT) (continued)

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (inches)	APPLICATION RATES	
			MINIMUM RATE fl. oz./A	MAXIMUM RATE[1] fl. oz./A
Texas Panicum	*Panicum texanum*	2 to 6	9	16
Volunteer Cereals[3]				
Barley	*Hordeum vulgare*	2 to 6	9	16
Oats	*Avena sativa*	2 to 6	9	16
Rye	*Secale cereale*	2 to 6	9	16
Wheat[2]	*Triticum aestivum*	2 to 6	9[2]	16
Volunteer Corn[2,3]	*Zea mays*	up to 12	6	12
Volunteer Corn[3]	*Zea mays*	up to 24	9	14
Volunteer Corn[2,3]	*Zea mays*	up to 36	12	16
Volunteer Grain Sorghum	*Sorghum bicolor*	8 to 12	9	16
Wild Oats	*Avena fatua*	2 to 6	9	16
Wild Proso Millet	*Panicum miliaceum*	2 to 10	9	16
Witchgrass	*Panicum capillare*	2 to 8	9	16
Woolly Cupgrass	*Eriochloa villosa*	2 to 8	9	16

*Generally occurs between 3-leaf stage and tillering.

**Length of lateral growth.

[1] Rates higher than 16 fl. oz./A may be applied in certain geographic areas, cropping situations or environmental conditions, where experience has shown that higher rates are needed for satisfactory control of annual grasses. In these situations, rates from 16 to 32 fl. oz./A may be applied. Do not apply more than 16 fl. oz./A of V-10137 1 EC per application to the following crops: garden beets, broccoli, cabbage, carrot, cauliflower (and other head and stem brassica vegetables), celery, cranberry, cucurbits, flax, fruiting vegetables (except tomato), green onion, leaf lettuce, radish (and other root vegetables), rhubarb (and other leaf petioles), strawberry and non-bearing food crops. Do not apply more than 12 fl. oz./A of V-10137 1 EC per application to canola or mustard seed.

[2] When a cereal grain crop (such as wheat) is interseeded for crop establishment or is planted as wind breaks to aid crop establishment, the minimum V-10137 1 EC use rate for control is 12 fl. oz./A.

[3] Includes Roundup Ready®, Liberty Link® and IMI-CORN® volunteer corn; however not Sethoxydim-Resistant volunteer corn.

RECOMMENDATIONS FOR ANNUAL & PERENNIAL GRASS CONTROL IN ESTABLISHED ALFALFA AND MINT WITH V-10137 1 EC

GRASS SPECIES	WEED SPECIES AND SIZE	APPLICATION RATES MINIMUM RATE fl. oz./A	APPLICATION RATES MAXIMUM RATE fl. oz./A
Annual & Perennial Grasses Listed in Grass Table	See Table	12	32

Mowing: The best control of annual grasses can be achieved by applying V-10137 1 EC 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 applications of V-10137 1 EC for partial or complete control.

Irrigated Alfalfa and Mint: Irrigation practices can be very critical to the successful use of V-10137 1 EC in established alfalfa and mint and may be necessary to initiate active growth of the weeds prior to application. Generally applications 2 to 4 days after an irrigation are most effective. Irrigation made shortly after application (2 days) can be effective, but more consistent grass control occurs when the irrigation is made before the application.

Aerial Application: Apply V-10137 1 EC in a minimum of 10 GPA in established alfalfa and mint when applying by air.

Annual Grass Control: Apply V-10137 1 EC at the grass sizes indicated in the Recommendation for Annual Grass Table and rates indicated. If a grass has been cut, apply V-10137 1 EC 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 V-10137 1 EC 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: V-10137 1 EC 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 under heavy grass pressure and/or when grasses are at or near maximum height.

RECOMMENDATIONS FOR ANNUAL BLUEGRASS CONTROL WITH V-10137 1 EC

GRASS SPECIES	WEED STAGE	APPLICATION RATES MINIMUM RATE fl. oz./A	APPLICATION RATES MAXIMUM RATE fl. oz./A
Annual Bluegrass (Poa annua)	to 4-leaf	12*	32

Apply under favorable soil moisture and exists within a few days after rainfall or within 7 days after irrigation. Grass needs to be actively growing at time of application(s).

Apply at weed stage indicated on the label, as reduced control can be expected with more mature annual bluegrass.

Use the high rate under heavy grass pressure and/or when annual bluegrass is more mature.

See Table 1 for crop specific adjuvant recommendations.

*Use a minimum of 17 fl. oz./A to control annual bluegrass in seedling and established alfalfa and mint.

DIRECTIONS FOR REDUCED RATE USE IN DRY BEAN, CANOLA, FLAX, MUSTARD SEED, SOYBEAN AND SUGAR BEET RECOMMENDATIONS FOR SMALL ANNUAL GRASSES (REDUCED RATE RECOMMENDATIONS NOT FOR USE IN CALIFORNIA)

- Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- Regrowth by tillering may occur if application is made when plants are stressed by lack of moisture, excessive moisture, low or high temperatures and/or under very low humidity.

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT (inches)	RATE FL.OZ./ ACRE[1]
Barnyardgrass	*Echinochloa crus-galli*	1 to 4	6
Broadleaf Signalgrass	*Brachiaria platyphylla*	1 to 4	8
Crabgrass			
Large	*Digitaria sanguinalis*	1 to 3*	6
Large	*Digitaria sanguinalis*	1 to 4*	8
Smooth	*Digitaria ischaemum*	1 to 3*	6
Smooth	*Digitaria ischaemum*	1 to 4*	8
Southern	*Digitaria ciliar*	1 to 4*	8
Fall Panicum	*Panicum dichotomiflorum*	1 to 4	6
Foxtail			
Giant	*Setaria faberi*	1 to 4	6
Green	*Setaria viridis*	1 to 4	6
Millet	*Setaria italica*	1 to 4	8
Yellow	*Setaria glauca*	1 to 4	6
Seedling Johnsongrass	*Sorghum halepense*	1 to 6	8
Shattercane	*Sorghum bicolor*	4 to 10	6
Texas Panicum	*Panicum texanum*	1 to 4	8
Volunteer Cereals			
Barley	*Hordeum vulgare*	1 to 4	8
Oats	*Avena sativa*	1 to 4	8
Wheat	*Triticum asetivum*	1 to 4	8
Volunteer Corn**	*Zea mays*	4 to 12	6
Wild Proso Millet	*Panicum miliaceum*	1 to 6	6
Wild Oats	*Avena fatua*	1 to 4	8

*Length of lateral growth

**Not S.R. Corn

[1]Always add a non-ionic surfactant at 0.25% v/v total spray volume unless crop specific restrictions and limitations advise otherwise.

RECOMMENDATIONS FOR PERENNIAL GRASSES

- Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

GRASS SPECIES	WEED HEIGHT (inches)	APPLICATION RATE	
		MINIMUM RATE fl. oz./A	MAXIMUM RATE fl. oz./A
Bermudagrass (*Cynodon dactylon*)			
First Application	3 (or up to 6" runners)	12	32
Repeat Application(s) (if regrowth occurs)	3 (or up to 6" runners)	12	32
Fescue, Tall (*Festuca arundinacea*)			
First Application	4 to 8	12	32
Repeat Application(s) (if regrowth occurs)	4 to 8	12	32
Foxtail Barley (*Hordeum jubatum*)			
First Application	2 to 6	12	32
Repeat Application (if regrowth occurs)	2 to 6	12	32
Orchardgrass (*Dactylis glomerata*)			
First Application	4 to 8	12	32
Repeat Application(s) (if regrowth occurs)	4 to 8	12	32
Quackgrass (*Elytrigia repens*)			
First Application	4 to 12	12	32
Repeat Application(s) (if regrowth occurs)	4 to 12	12	32
Rhizome Johnsongrass (*Sorghum halepense*)			
First Application	12 to 24	12	32
Repeat Application(s) (if regrowth occurs)	6 to 18	9	24
Wirestem Muhly (*Muhlenbergia frondosa*)			
First Application	4 to 8	12	32
Repeat Application(s) (if regrowth occurs)	4 to 8	12	32
Perennial Bluegrass			
[Roughstalk (*Poatrivialis*)]			
[Kentucky (*Poa prantensis*)]			
First Application	2 to 4	12	32
Repeat Application(s)	2 to 4	12	32
Bentgrass (*Agrostis* spp.)			
First Application	2 to 4	-	32
Repeat Application(s) (if regrowth occurs)	2 to 4	-	32

TANK MIXES
GENERAL INFORMATION

The labels for each of the herbicides recommended for tank mixing with V-10137 1 EC are unique to the characteristics of those products and contain restrictions and limitations that may be more restrictive than the V-10137 1 EC label in certain considerations. Those concerns may include, but are not limited to:

1. Geographic restrictions - all products are not registered for use in all areas and rates may vary from one region of labeled use to another;
2. Crop rotation restrictions;
3. Applicator certification requirements;
4. Worker safety rules (e.g. protective clothing, reentry time, posting);
5. Soil type or soil characteristics (e.g. pH, OM);
6. Maximum dosage or number of applications per season;
7. Rain free period required; or
8. Application timing (e.g. pre-harvest interval)
9. Do not exceed the total season rates.

THE MOST RESTRICTIVE LABELING OF ANY PRODUCT USED IN A TANK MIX MUST BE FOLLOWED.

TANK MIX APPLICATION OF V-10137 1 EC AND BROADLEAF HERBICIDES FOR CONTROL OF GRASSES AND BROADLEAF WEEDS

- Apply only to actively growing grass and broadleaf weeds at recommended height or growth stage listed on each label.
- Apply when the first grass or broadleaf weed species in a mixed population reaches the recommended height or growth stage for treatment.
- Apply under favorable soil moisture and humidity that exist a few days after rainfall or within seven days after irrigation.
- Always add the appropriate adjuvant to the spray mix at the rate recommended for each specific tank mix combination.
- Tank mix applications may sometimes result in reduced grass control and possible increases in crop injury as compared to either product used alone. If regrowth occurs, or an additional flush of new grass emerges, make a second application of V-10137 1 EC, as specified in the respective size and rate tables.
- Do not tank mix V-10137 1 EC when broadleaf weeds are tall and/or dense enough to prevent proper grass coverage.

MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. While agitating, add the correct amount of V-10137 1 EC. Agitation should create a rippling or rolling action on the water surface.
3. If tank mixing V-10137 1 EC with other labeled herbicides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
4. Add any required adjuvants (crop oil concentrate, non-inonic surfactant and/or nitrogen solution).
5. Fill spray tank to desired level with water. **Agitation should continue until all spray solution has been applied.**

Failure to agitate the spray solution may result in improper mixing of the herbicides and unsatisfactory weed control. Mixing and compatibility qualities should be verified by a jar test.

INFORMATION ON ANTAGONISM

Tank mixes of V-10137 1 EC with postemergence broadleaf herbicides have shown some reduction or failure to control certain grass species which would have otherwise been controlled when V-10137 1 EC is applied alone. Activity of the postemergence broadleaf herbicide in the tank mix is not affected.

ALFALFA

Table 2. V-10137 1 EC TANK MIXES WITH BROADLEAF HERBICIDES FOR ALFALFA
(Refer to the recommendation tables above for specific grasses and growth stages.)

PRODUCT[1]	APPLICATION RATES/ACRE[2]		SPRAY ADDITIVES			
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND APPLICATION		AIR APPLICATION	
			Adjuvant Recommendation	AMS	Adjuvant Recommendation	AMS
V-10137 1 EC + 2,4-DB[3]	12 to 32 fl. oz. + Refer to 2,4-DB label	16 to 32 fl. oz. + Refer to 2,4-DB label	NIS at 0.25% v/v	AMS at 2.5 lbs./A	NIS at 0.25% v/v	17 lbs./100 gals. of spray solution
V-10137 1 EC + PURSUIT® DG[4] or PURSUIT[4]	12 to 32 fl. oz. + 1.08 to 2.16 oz. or 3 to 6 fl. oz.	-	NIS at 0.25% v/v	AMS at 2.5 lbs./A	NIS at 0.25% v/v	17 lbs./100 gals. of spray solution
V-10137 1 EC + BUCTRIL® 2L[5] or BUCTRIL GEL[5,6]	12 to 32 fl. oz. + 1.0 to 1.5 pts. or 0.5 to 0.75 pt.	-	NIS at 0.25% v/v	AMS at 2.5 lbs./A	NIS at 0.25% v/v	17 lbs./100 gals. of spray solution
V-10137 1 EC + RAPTOR®	12 to 32 fl. oz. + 4 to 6 fl. oz.	-	NIS at 0.25% v/v	AMS at 2.5 lbs./A	NIS at 0.25% v/v	17 lbs./100 gals. of spray solution

(1) Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not recommended in these situations.

(2) If grass regrowth occurs or an additional flush of new grass emerges, make a second application of V-10137 1 EC alone (without a tank mix herbicide), according to the appropriate size and rate recommendations.

(3) V-10137 1 EC plus 2,4-DB may increase the severity of crop injury when tank mixed. Alfalfa plants will generally outgrow this temporary crop injury within a few weeks.

(4) Before using this tank mix, read and understand the PURSUIT or PURSUIT DG labels for geographical restrictions and restrictions regarding alfalfa growth stage and type. Failure to do so can result in crop injury to alfalfa. Do not feed, graze or harvest alfalfa for 30 days following an application of PURSUIT to alfalfa.

(5) In the states of Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada and the western halves of North Dakota, South Dakota, Nebraska and Kansas. The V-10137 1 EC plus BUCTRIL or BUCTRIL GEL tank mix must be applied in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 2 trifoliates. Unacceptable crop injury may occur to alfalfa seedlings less than the 2 trifoliate leaf stage. V-10137 1 EC plus BUCTRIL or BUCTRIL GEL applications made when temperatures are expected to exceed 80°F at and 3 days following application can result in unacceptable crop injury. In the states not listed above, apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 4 trifoliate leaves. When alfalfa stand is uneven and conditions favor leafburn, unacceptable crop injury may occur to alfalfa in the 2 trifoliate or smaller stage of growth. V-10137 1 EC plus BUCTRIL or BUCTRIL GEL applications made when temperatures are expected to exceed 80°F at and 3 days following application can result in unacceptable crop injury. Crop leaf burn can occur following V-10137 1 EC plus BUCTRIL or BUCTRIL GEL application. Warm, humid conditions may enhance leaf burn. New crop growth will not be affected.

(6) Do not apply when alfalfa is under moisture, temperature, insect or disease stress or has been stressed by other pesticide carryover or application.

CANOLA

Table 3. REDUCED RATE V-10137 1 EC TANK MIXES WITH BROADLEAF HERBICIDES FOR CANOLA (Refer to the recommendation tables above for specific grasses and growth stages.)

PRODUCT	APPLICATION RATES/ACRE	ADJUVANT RECOMMENDATIONS	AMMONIUM SULFATE	
	ANNUAL GRASSES[1]		GROUND	AIR
V-10137 1 EC[2] + LIBERTY®[3]	8 to 10 fl. oz. + 28 to 34 fl. oz.	NIS at 0.25% v/v	3 lbs./A	3 lbs./A
V-10137 1 EC[2] + STINGER®[4]	8 to 10 fl. oz. + 0.33 pts./A	NIS at 0.25% v/v	3 lbs./A	3 lbs./A

(1) Annual grasses and sizes controlled with these tank mixtures are those that are identified in the **DIRECTIONS FOR REDUCED RATE USE IN DRY BEAN, CANOLA, FLAX, MUSTARD SEED, SOYBEAN AND SUGAR BEET RECOMMENDATIONS FOR SMALL ANNUAL GRASSES** table.

(2) Do not apply V-10137 1 EC tank mix during or after bolting or flowering or crop injury will occur.

(3) For use only on LIBERTY LINK® Canola.

(4) See STINGER label for weeds controlled.

COTTON

Table 4. V-10137 1 EC TANK MIXED WITH COBRA® AND MSMA APPLIED POST DIRECTED TO COTTON

PRODUCT[1]	APPLICATION RATES/ACRE[2]		CROP OIL CONCENTRATE[3] V/V	COMMENTS
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	
V-10137 1 EC[4] + COBRA + MSMA (4 lbs./gal.) or MSMA (6.6 lbs./gal.)	12 to 16 fl. oz.	16 to 32 fl. oz.	1%	Reduce broadcast rate in proportion to the band area actually treated.
	See COBRA label for rates to control broadleaf weeds and height limitations for cotton. Refer to the V-10137 1 EC label for weed height and species controlled.			
	See MSMA label for rates to control broadleaf weeds and height limitations for cotton. Refer to the V-10137 1 EC label for weed height and species controlled.			

(1) Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not recommended in these situations.

(2) If grass regrowth occurs or an additional flush of new grass emerges, make a second application of V-10137 1 EC alone (without a tank mix herbicide), according to the appropriate size and rate recommendations.

(3) Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

(4) If at the time of application, grass height is so tall that post-directed applications cannot get good coverage over the top of the grassy weeds, then poor control may result and a second (non-post directed) application of V-10137 1 EC may be necessary.

Table 5. V-10137 1 EC **TANK MIXED WITH GLYPHOSATE TO CONTROL EMERGED GRASSES IN COTTON** AS A **BROADCAST APPLICATION**

PRODUCT	APPLICATION RATE/ACRE[1]		ADJUVANT		COMMENTS
	ANNUAL GRASSES	PERENNIAL GRASSES	Glyphosate formulation **with** built in adjuvant	Glyphosate formulation **without** built in adjuvant	
V-10137 1 EC + GLYPHOSATE	9 to 16 fl. oz.	12 to 32 fl. oz.	Ammonium sulfate at 8.5 to 17 lbs. per 100 gals. of carrier plus glyphosate label adjuvant recommendation.	Ammonium sulfate at 8.5 to 17 lbs. per 100 gals. of carrier plus NIS at 0.25% v/v.	See charts for grasses controlled. Use a minimum of 10 gals. of spray solution per acre.
	See glyphosate label for rates to control broadleaf weeds and height limitations for cotton				

[1] If grass regrowth occurs or an additional flush of new grass emerges, make a second application of V-10137 1 EC at the recommended rate with the appropriate amount of crop oil.

DRY BEAN

Table 6. V-10137 1 EC **TANK MIXES WITH BROADLEAF HERBICIDES FOR DRY BEAN (Refer to the recommendation tables above for specific grasses and growth stages.)**

PRODUCT[1]	APPLICATION RATES/ACRE[2]		ADJUVANT	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
V-10137 1 EC + BASAGRAN®	9 to 12 fl. oz. + 1 to 2 pts.	12 to 24 fl. oz. + 1 to 2 pts.	COC at 1% v/v + AMS at 2.5 lbs./A	COC at 1% v/v + AMS at 17 lbs./100 gal. v/v
V-10137 1 EC + RAPTOR	9 to 12 fl. oz. + 4 fl. oz.	-	NIS at 0.25% v/v + AMS at 2.5 lbs./A	NIS at 0.25% v/v + AMS at 17 lbs./100 gal.

[1] Broadleaf weed control may be reduced when grass populations are tall enough or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not recommended in these situations.

[2] If grass regrowth occurs or an additional flush of new grass emerges, make a second application of V-10137 1 EC alone (without a tank mix herbicide), according to the appropriate size and rate recommendations.

FLAX

Table 7. REDUCED RATE **V-10137 1 EC TANK MIXES WITH BROADLEAF HERBICIDES FOR FLAX (Refer to the recommendation tables above for specific grasses and growth stages.)**

PRODUCT	APPLICATION RATES/ACRE	ADJUVANT	
	ANNUAL GRASSES[1]	GROUND	AIR
V-10137 1 EC + BRONATE ADVANCED™[2, 3]	6 to 9 fl. oz. + 11.4 fl. oz.	AMS at 2.4 to 4.0 lbs./A + NIS at 0.125% v/v	AMS at 2.5 to 4.0 lbs./A
V-10137 1 EC + BRONATE®[2, 3]	6 to 9 fl. oz. + 0.9 pt.	AMS at 2.4 to 4.0 lbs./A + NIS at 0.125% v/v	AMS at 2.5 to 4.0 lbs./A
V-10137 1 EC + BUCTRIL[2, 3]	6 to 9 fl. oz. + 0.125 lb. ai/A	AMS at 2.4 to 4.0 lbs./A + NIS at 0.125% v/v	AMS at 2.5 to 4.0 lbs./A
V-10137 1 EC + MCPA[2, 3]	8 to 10 fl. oz. + 0.25 to 0.5 pt.	AMS at 2.4 to 4.0 lbs./A + NIS at 0.125% v/v	AMS at 2.5 to 4.0 lbs./A
V-10137 1 EC + CURTAIL™ M[2, 3]	6 to 9 fl. oz. + 1.33 to 1.75 pt./A	AMS at 2.4 to 4.0 lbs./A + NIS at 0.125% v/v	AMS at 2.5 to 4.0 lbs./A

[1] Annual grasses and sizes controlled with these tank mixtures are those that are identified in the **DIRECTIONS FOR REDUCED RATE USE IN CANOLA, DRY BEAN, FLAX, MUSTARD SEED, SOYBEAN, AND SUGAR BEET RECOMMENDATIONS FOR SMALL ANNUAL GRASSES** table.

[2] Do not apply V-10137 1 EC tank mix during or after the bud stage or to ornamental flax or crop injury may occur.

[3] Do not apply tank mixes if temperatures are expected to exceed 85°F at (or 3 days following) application or crop injury may occur.

PEANUT

Table 8. V-10137 1 EC TANK MIXES WITH BROADLEAF HERBICIDES FOR PEANUT
(Refer to the recommendation tables above for specific grasses and growth stages.)

PRODUCT[1]	APPLICATION RATES/ACRE[2]	ADJUVANTRECOMMENDATIONS	
	ANNUAL GRASSES	GROUND	AIR
V-10137 1 EC + BASAGRAN	9 to 16 fl. oz. + 1 to 2 pts.	COC at 1% v/v + AMS at 2.5 lbs./A	COC at 1% v/v + AMS at 17 lbs./100 gals.
V-10137 1 EC + BLAZER®	9 to 16 fl. oz. + 0.5 to 1.5 pts.	COC at 1% v/v + AMS at 2.5 lbs./A	COC at 1% v/v + AMS at 17 lbs./100 gals.
V-10137 1 EC + STORM®	9 to 16 fl. oz. + 1.5 pts.	COC at 1% v/v + AMS at 2.5 lbs./A	COC at 1% v/v + AMS at 17 lbs./100 gals.

(1) Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not recommended in these situations.

(2) If grass regrowth occurs or an additional flush of new grass emerges, make a second application of V-10137 1.0 EC alone (without a tank mix herbicide), according to the appropriate size and rate recommendations.

RECOMMENDATIONS FOR GRASS SUPPRESSION FOR HARVEST EFFICIENCY IN PEANUT WITH V-10137 1 EC			
GRASS SPECIES	WEED STAGE	APPLICATION RATES	
		MINIMUM RATE fl. oz./A	MAXIMUM RATE fl. oz./A
Annual and perennial grasses that exceed height claimed for control on height charts **"RECOMMENDATIONS FOR ANNUAL GRASSES"** and **"RECOMMENDATIONS FOR PERENNIAL GRASSES"**	Up to and including grasses in the seed head stage	32	64
• Do not apply as part of a tank mix when applying V-10137 1 EC for grass suppression. • Add a crop oil concentrate at 1 qt./A by ground to the finished spray volume.			

SOYBEAN

Table 9. V-10137 1 EC TANK MIX WITH BROADLEAF HERBICIDES FOR THE CONTROL OF VOLUNTEER CORN (INCLUDING ROUNDUP READY) IN SOYBEAN
(Refer to the recommendation tables above for specific volunteer corn sizes and use rates.)

PRODUCT	WEED SIZE AND APPLICATION RATES		SPRAY ADDITIVES			
	VOLUNTEER CORN HEIGHT (inches)	V-10137 1 EC RATES/ACRE	GROUND APPLICATION		AIR APPLICATION	
			NIS	AMS	NIS	AMS
V-10137 1 EC + glyphosate [1,2,3] 1to 3 lbs. ai/A (ROUNDUP READY® soybeans only)	Up to 12 Up to 24 Up to 36	6 fl. oz. 9 fl. oz. 12 fl. oz.	**Adjuvant Loaded Glyphosate:** None Required **Adjuvant Unloaded Glyphosate:** NIS at 0.25% v/v	8.5 to 17 lbs./100 gals of spray solution	**Adjuvant Loaded Glyphosate:** None Required **Adjuvant Unloaded Glyphosate:** NIS at 0.25% v/v	8.5 to 17 lbs./100 gals. of spray solution
V-10137 1 EC + FIRSTRATE® 0.3 oz./A	Up to 12 Up to 24 Up to 36	6 fl. oz. 9 fl. oz. 12 fl. oz.	NIS at 0.25% v/v	AMS at 2.5 lbs./A	NIS at 0.25% v/v	17 lbs./100 gals. of spray solution
V-10137 1 EC + PURSUIT 70 DG 1.44 oz./A	Up to 12 Up to 24 Up to 36	6 fl. oz. 9 fl. oz. 12 fl. oz.	NIS at 0.25% v/v	AMS at 2.5 lbs./A	NIS at 0.25% v/v	17 lbs./100 gals. of spray solution
V-10137 1 EC + RAPTOR 4 to 5 fl. oz./A	Up to 12 Up to 24 Up to 36	6 fl. oz. 9 fl. oz. 12 fl. oz.	NIS at 0.25% v/v	AMS at 2.5 lbs./A	NIS at 0.25% v/v	17 lbs./100 gals. of spray solutions

(1) This tank mix may be applied postemergence to ROUNDUP Ready soybeans up through the full flowering stage. Do not apply less than 60 days before harvest.

(2) Avoid contact with foliage, green stems or fruit crops or any desirable plants and trees, other than soybeans with the ROUNDUP Ready gene as severe plant injury or death will result.

(3) Do not allow the V-10137 1 EC plus glyphosate to mist, drip, drift or splash onto desirable vegetation as minute quantities of the tank mix can cause severe damage or destruction to the crops, plants or other areas on which treatment was not intended. The likelihood of injury occurring from drift of this product is greatest when winds are gusty or in excess of 5 miles per hour. Even under lesser wind velocities, avoid conditions that allow spray drift to occur such as combinations of spray pressure and nozzle type that will result in fine particles (mist) that are likely to drift.

Table 10. V-10137 1 EC **TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN**
(Refer to the recommendation tables above for specific grasses and growth stages.)

PRODUCT[1]	APPLICATION RATES/ACRE[2]	SPRAY ADDITIVE RECOMMENDATIONS			
	ANNUAL GRASSES[3]	GROUND APPLICATION		AIR APPLICATION	
		COC/NIS[4]	AMS	COC/NIS[4]	AMS
V-10137 1 EC + COBRA	9 to 20 fl. oz. + 6 to 12 fl. oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1 to 2 pts./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + FIRSTRATE[5]	9 to 20 fl. oz. + 0.3 oz.	NIS at 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + FLEXSTAR® HL[6]	9 to 20 fl. oz. + Refer to the FLEXSTAR HL label for specific application rates.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1to 2 pts./A	AMS at 2.5 lbs./A	NIS at 0.25% plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + FRONTROW™[6]	9 to 20 fl. oz. + Refer to FRONTROW label for use rates	NIS at 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + PHOENIX™	9 to 20 fl. oz. + 6 to 12.5 fl. oz.	NIS at 0.25% v/v plus COC at 0.125 to 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% lus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + PURSUIT 70 DG	12 to 20 fl. oz + 1.44 oz.	NIS at 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + RAPTOR (1 AS)	12 to 20 fl. oz + 4 to 5 fl. oz.	NIS at 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + RESOURCE®	9 to 20 fl. oz. + 4 to 12 fl. oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1 to 2 pts./A	AMS at 2.5 lbs./A	-	-
V-10137 1 EC + COBRA + FIRSTRATE	9 to 20 fl. oz. + 6 to 12.5 fl. oz. + 0.3 oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1to 2 pts./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC +	16 to 20 fl. oz. +	NIS at 0.25% v/v plus COC at	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at	17 lbs./100 gals. of spray solution

Table 10. V-10137 1 EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN
(Refer to the recommendation tables above for specific grasses and growth stages.)

PRODUCT[1]	APPLICATION RATES/ACRE[2]	SPRAY ADDITIVE RECOMMENDATIONS			
	ANNUAL GRASSES[3]	GROUND APPLICATION		AIR APPLICATION	
		COC/NIS[4]	AMS	COC/NIS[4]	AMS
COBRA + PURSUIT 70 DG[5]	6 to 12.5 fl. oz. + 1.44 oz.	0.25% v/v or COC at 1to 2 pts./A		0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	
V-10137 1 EC + COBRA + RAPTOR (1 AS)[5]	12 to 20 fl. oz. + 6 to 12.5 fl. oz. + 4 to 5 fl. oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1to 2 pts./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + COBRA + RESOURCE	9 to 20 fl. oz. + 6 to 12.5 fl. oz. + 4 to 6 fl. oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1to 2 pts./A	AMS at 2.5 lbs./A	-	-
V-10137 1 EC + FIRSTRATE + FLEXSTAR HL[5]	9 to 20 fl. oz. + 0.3 oz. + Refer to the FLEXSTAR HL label for specific application rates	NIS at 0.25% v/v plus COC at 0.25% v/v or Equivalent blended product or COC at 1to 2 pts./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + HARMONY[5] + HARMONY XP[5]	9 to 12 fl. oz. + 0.042 to 0.083 oz. + 0.042 to 0.083 oz.	NIS at 0.125 to 0.25% v/v	AMS at 2.5 lbs./A	-	-
V-10137 1 EC + PHOENIX + FIRSTRATE[5]	9 to 20 fl. oz. + 6 to 12.5 fl. oz. + 0.3 oz.	NIS at 0.25% v/v plus COC at 0.125 to 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + PHOENIX + PURSUIT 70 DG[5]	16 to 20 fl. oz. + 6 to 12.5 fl. oz. + 1.44 oz.	NIS at 0.25% v/v plus COC at 0.125 to 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + PHOENIX + RAPTOR (1 AS)[5]	12 to 20 fl. oz. + 6 to 12.5 fl. oz. + 4 to 5 fl. oz.	NIS at 0.25% v/v plus COC at 0.125 to 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + PHOENIX +	9 to 20 fl. oz. + 6 to 12.5 fl. oz. +	NIS at 0.25% v/v plus COC at 0.125 to 0.25% v/v	AMS at 2.5 lbs./A	-	-

Table 10. V-10137 1 EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN
(Refer to the recommendation tables above for specific grasses and growth stages.)

PRODUCT	APPLICATION RATES/ACRE[2]	SPRAY ADDITIVE RECOMMENDATIONS			
	ANNUAL GRASSES[3]	GROUND APPLICATION		AIR APPLICATION	
		COC/NIS[4]	AMS	COC/NIS[4]	AMS
RESOURCE	4 to 6 fl. oz.	or COC at 1 pt./A			
V-10137 1 EC + RESOURCE + PURSUIT 70 DG	16 to 20 fl. oz. + 4 fl. oz. + 1.44 oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1 to 2 pts./A	AMS at 2.5 lbs./A	-	-
V-10137 1 EC + SYNCHRONY STS™ or SYNCHRONY XP (mp)[5]	12 to 20 fl. oz. + 0.25 oz. or 0.375 oz.	NIS at 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + SYNCHRONY STS or SYNCHRONY XP (mp)[5] (STS Soybeans Only)	12 to 20 fl. oz. + 0.5 oz. or 0.75 oz.	NIS at 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + COBRA + HARMONY or HARMONY XP	9 to 12 fl. oz. + 6 to 8 fl. oz. + 0.042 oz. or 0.042 oz.	NIS at 0.125 to 0.25% v/v plus COC at 0.125% v/v	AMS at 2.5 lbs./A	-	-
V-10137 1 EC + COBRA + RESOURCE + FIRSTRATE	9 to 12 fl. oz. + 6 to 12.5 fl. oz. + 4 to 6 fl. oz. + 0.3 oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1 to 2 pts./A	AMS at 2.5 lbs./A	-	-
V-10137 1 EC + COBRA + SYNCHRONY STS or SYNCHRONY XP (mp)[5]	12 to 20 fl. oz. + 6 to 12 fl. oz. + 0.25 oz. or 0.375 oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1 to 2 pts./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + COBRA + SYNCHRONY STS or SYNCHRONY XP (mp)[5] (STS Soybeans Only)	12 to 20 fl. oz. + 6 to 12 fl. oz. + 0.5 oz. or 0.75 oz.	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1 to 2 pts./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + PHOENIX +	9 to 20 fl. oz. + 6 to 12.5 fl. oz. +	NIS at 0.25% v/v plus COC at 0.125 to 0.25% v/v	AMS at 2.5 lbs./A	-	-

Table 10. V-10137 1 EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN
(Refer to the recommendation tables above for specific grasses and growth stages.)

PRODUCT	APPLICATION RATES/ACRE[2]	SPRAY ADDITIVE RECOMMENDATIONS			
	ANNUAL GRASSES[3]	GROUND APPLICATION		AIR APPLICATION	
		COC/NIS[4]	AMS	COC/NIS[4]	AMS
RESOURCE + FIRSTRATE[5]	4 to 6 fl. oz. + 0.3 oz.	or COC at 1 pt./A			
V-10137 1 EC + PHOENIX + SYNCHRONY STS[5] or SYNCHRONY XP (mp)[5]	12 to 20 fl. oz. + 6 to 12 fl. oz. + 0.25 oz. or 0.375 oz.	NIS at 0.25% v/v plus COC at 0.125 to 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution
V-10137 1 EC + PHOENIX + SYNCHRONY STS[5] or SYNCHRONY XP (mp)[5] (STS Soybeans Only)	12 to 20 fl. oz. + 6 to 12 fl. oz. + 0.5 oz. or 0.75 oz.	NIS at 0.25% v/v plus COC at 0.125 to 0.25% v/v or COC at 1 pt./A	AMS at 2.5 lbs./A	NIS at 0.25% v/v plus COC at 0.25% v/v or COC at 1% v/v (but not less than 1 pt./A)	17 lbs./100 gals. of spray solution

(1) Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not recommended in these situations.

(2) If grass regrowth occurs or an additional flush of new grass emerges, make a second application of V-10137 1.0 EC alone (without a tank mix herbicide), according to the appropriate size and rate recommendations.

(3) Annual grasses and sizes controlled with these tank mixtures are those that are identified in the **RECOMMENDATIONS FOR ANNUAL GRASSES** table.

(4) Contact local Valent U.S.A. representative for proper COC/NIS adjuvant selection.

(5) Refer to FIRSTRATE, FLEXSTAR HL, FRONTROW, HARMONY, HARMONY GT, PURSUIT DG, RAPTOR, SYNCHRONY STS and SYNCHRONY XP (mp) for geographic and rotational restrictions.

SUGAR BEET

Table 11. V-10137 1 EC TANK MIXED WITH BROADLEAF SUGAR BEET HERBICIDES

PRODUCTS	APPLICATION RATES/A	ADJUVANT INFORMATION
V-10137 1 EC	9 to 12 fl. oz.	
+		
BETAMIX®	See label for rate information	None required
or		
BETANEX®	See label for rate information	None required
or		
PROGRESS®	See label for rate information	None required
and/or		
STINGER	See label for rate information	See below
and/or		
UPBEET®	See label for rate information	See below
NIS at 0.25% unless BETAMIX, BETANEX or PROGRESS is in the tank, then use no adjuvant.		

TABLE 12. V-10137 1 EC PLUS BETANEX OR BETAMIX TANK MIX FOR THREE SEQUENTIAL APPLICATIONS FOR ANNUAL GRASS CONTROL (MICRO RATE APPLICATION)

PRODUCT	APPLICATION RATES/ACRE[1]	GRASSES CONTROLLED (inches)	METHYLATED SEED OIL[2]	
	ANNUAL GRASSES		GROUND	AIR
V-10137 1 EC	3 to 6 fl. oz.	Green Foxtail (1 to 2)	1.5% v/v	1.5% v/v
+	+	Yellow Foxtail (1 to 2)		
BETANEX	Refer to label	Barnyardgrass (1 to 2)		
or		Wild Oat (1 to 2)		
BETAMIX	Refer to label	Volunteer Cereals (1 to 2)		
or				
PROGRESS	Refer to label			
or				
STINGER	Refer to label			
or				
UPBEET	Refer to label			

(1) Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not recommended in these situations.

(2) Always use a methylated seed oil at the listed rate (but not less than 1 pt./A) in the finished spray volume.

Directions for Use for Micro-Rate Applications to Sugar Beet

Multiple micro-rate applications of V-10137 1 EC in tank mixtures with reduced rates of BETANEX or BETAMIX and methylated seed oils may be applied by air or ground equipment to sugar beet to control early germinating annual grasses listed above. All use precautions and restrictions on the BETANEX and BETAMIX master labels must be followed.

Table 13. TANK MIX APPLICATION OF V-10137 1 EC AND FUNGICIDES FOR CONTROL OF GRASS WEEDS AND DISEASES IN SUGAR BEET

PRODUCT[1]	APPLICATION RATES/ACRE[2]		ADJUVANT
	ANNUAL GRASSES	PERENNIAL GRASSES	
V-10137 1 EC + EMINENT®	9 to 12 fl. oz. + Refer to label	12 to 24 fl. oz. + Refer to label	NIS at 0.25% v/v
V-10137 1 EC + HEADLINE®	9 to 12 fl. oz. + Refer to label	12 to 24 fl. oz. + Refer to label	NIS at 0.25% v/v
V-10137 1 EC + GEM™	9 to 12 fl. oz. + Refer to label	12 to 24 fl. oz. + Refer to label	NIS at 0.25% v/v

[1] Refer to V-10137 1 EC and fungicide label for rates and weeds and diseases controlled.
[2] If grass regrowth occurs, or an additional flush of new grass emerges, make a second application of V-10137 1 EC alone (without a tank mix fungicide) according to the appropriate size and rate recommendations.

Table 14. TANK MIX APPLICATION OF V-10137 1 EC AND INSECTICIDES FOR CONTROL OF GRASS WEEDS AND INSECTS IN ALFALFA, COTTON, PEANUT, SOYBEAN AND SUNFLOWER

PRODUCT[1]	APPLICATION RATES/ACRE[2]		ADJUVANT RECOMMENDATION	CROPS					
	ANNUAL GRASSES	PERENNIAL GRASSES		Alfalfa[3]	Cotton	Mint[3,4]	Peanut	Soybean	Sunflower
V-10137 1 EC + ORTHENE® 75 S or ORTHENE 97	9 to 12 fl. oz. + 0.33 to 1.33 lbs. or 0.25 to 1 lb.	12 to 24 fl. oz. + 0.33 to 1.33 lbs. or 0.25 to 1 lb.	NIS at 0.25% v/v + AMS at 2.5 lbs./A		X	X	X	X	
V-10137 1 EC + ORTHENE 90 S	9 to 12 fl. oz. + 0.25 to 1 lb.	12 to 24 fl. oz. + 0.25 to 1 lb.	NIS at 0.25% v/v + AMS at 2.5 lbs./A		X	X	X	X	
V-10137 1 EC + DANITOL® 2.4 EC	9 to 12 fl. oz. + 10 2/3 to 16 fl. oz	12 to 24 fl. oz. + 10 2/3 to 16 fl. oz	NIS at 0.25% v/v + AMS at 2.5 lbs./A		X		X		
V-10137 1 EC + ASANA XL®	9 to 12fl. oz. + Refer to ASANA XL label	12 to 24 fl. oz. + Refer to ASANA XL label	NIS at 0.25% v/v + AMS at 2.5 lbs./A						X
V-10137 1 EC + WARRIOR®	9 to 12 fl. oz. + Refer to WARRIOR label	12 to 24 fl. oz. + Refer to WARRIOR label	NIS at 0.25% v/v + AMS at 2.5 lbs./A						X
V-10137 1 EC + BAYTHROID®	9 to 12 fl. oz. + Refer to BAYTHROID label	12 to 24 fl. oz. + Refer to BAYTHROID label	NIS at 0.25% v/v + AMS at 2.5 lbs./A	X					

Table 14. TANK MIX APPLICATION OF V-10137 1 EC AND INSECTICIDES FOR CONTROL OF GRASS WEEDS AND INSECTS IN ALFALFA, COTTON, PEANUT, SOYBEAN, AND SUNFLOWER (continued)

PRODUCT[1]	APPLICATION RATES/ACRE[2]		ADJUVANT RECOMMENDATIONS	CROPS					
	ANNUAL GRASSES	PERENNIAL GRASSES		Alfalfa[3]	Cotton	Mint[3,4]	Peanut	Soybean	Sunflower
V-10137 1 EC + Dimethoate	9 to 12 fl. oz. + Refer to Dimethoate label	12 to 24 fl. oz. + Refer to Dimethoate label	NIS at 0.25% v/v + AMS at 2.5 lbs./A	X					
V-10137 1 EC + LORSBAN	9 to 12 fl. oz. + Refer to LORSBAN label	12 to 24 fl. oz. + Refer to LORSBAN label	NIS at 0.25% v/v + AMS at 2.5 lbs./A	X					
V-10137 1 EC + POUNCE	9 to 12 fl. oz. + Refer to POUNCE label	12 to 24 fl. oz. + Refer to POUNCE label	NIS at 0.25% v/v + AMS at 2.5 lbs./A	X					

(1) Refer to V-10137 1 EC and insecticide label for rates and weeds and insects controlled.

(2) If grass regrowth occurs, or an additional flush of new grass emerges, make a second application of V-10137 1 EC alone (without a tank mix insecticide) according to the appropriate size and rate recommendations.

(3) Certain insecticides may cause temporary phytotoxic symptoms on alfalfa and mint foliage. Refer to the insecticide label for further information. It is suggested that prior to using any of these insecticide/herbicide tank mixtures, that a small area of the field be treated first and observations for crop injury be made prior to treating the whole field.

(4) The V-10137 1 EC rate should be 9 to 12 fl. oz./A for annual grass control in baby mint, minimum of 12 fl. oz./A for annual grass control in established mint and 16 to 32 fl. oz./A for perennial grass control.

FALLOW LAND

DIRECTIONS FOR USE

V-10137 1 EC may be used to control annual and perennial grasses in land that has been left fallow the previous year and other non-producing agricultural areas. Apply V-10137 1 EC at 12 to 16 fl. oz./A for annual grasses and 16 to 32 fl. oz./A for perennial grasses. When both grass and broadleaf weeds are the target pest, V-10137 1 EC may be tank mixed with 2,4-D Ester or BANVEL® SGF for broad spectrum control. When both annual and perennial grasses occur in the same field, use a minimum of 16 fl. oz./A V-10137 1 EC rate.

GENERAL INFORMATION:

- Use a minimum spray volume of 5 gals./A for aerial applications and 15 gals./A for ground applications. Apply only to actively growing grasses when the first grass reaches the recommended weed height as specified by the Recommendations for Annual and Perennial Grasses section of this label.
- Annual grasses that emerge after the V-10137 1 EC application will not be controlled, and a second application may be necessary.
- The control of perennial grasses may require more than 1 application in non-tilled areas.
- Do not plant any crop for 30 days after application unless clethodim is registered for use in that crop.
- Do not apply to grasses that have tillered, formed seedheads or exceeded recommended growth stage.
- Do not use flood jet nozzles.
- Do not apply to drought stressed grasses.
- Do not mow area for 2 weeks prior to or after the V-10137 1 EC application.

TABLE 15. V-10137 1 EC IN TANK MIXES TO CONTROL ANNUAL AND PERENNIAL GRASSES IN FALLOW LAND

PRODUCT	APPLICATION RATES/ACRE[1]		ADJUVANT RECOMMENDATION	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
V-10137 1 EC + 2,4-D Ester or BANVEL SGF	12 to 16 fl. oz. + 0.5 lb./A or See BANVEL SGF label for rates.	16 to 32 fl. oz. + 0.5 lb./A or See BANVEL SGF label for rates	NIS at 0.25% v/v or COC at 1% + AMS at 2.5 lbs./A	NIS at 0.25% v/v or COC at 1% + AMS at 17 lbs./100 gals.

[1] Refer to V-10137 1 EC label for weed height and species control. Review BANVEL SGF and 2,4-D labels for crop restrictions, use rates and weeds controlled.

RECOMMENDATIONS FOR GRASS SUPPRESSION IN NON-CROP AREAS WITH V-10137 1EC			
GRASS SPECIES	WEED STAGE	APPLICATION RATES	
		MINIMUM RATEfl. oz./A	MAXIMUM RATE fl. oz./A
Annual and perennial grasses that exceed height claimed for control on height chart above.	Up to and including grasses in the seed head stage	24	32
• Do not apply as part of a tank mix when applying V-10137 1 EC for grass suppression. • Add a crop oil concentrate at 1 qt./A by ground to the finished spray volume.			

TABLE 16. V-10137 1EC FOR THE CONTROL AND/OR SUPPRESSION OF TALL FESCUE IN NATIVE PRAIRIE WARM-SEASON GRASS RESTORATION PROJECTS

PRODUCT	PRODUCT RATE	GRASS WEEDS CONTROLLED/SUPPRESSED		WEED STAGE
		Common Name	Scientific Name	
V-10137 1 EC	12 to 16 fl. oz./A	Tall Fescue	*Festuca arundinacea*	4 to 6 inches tall (40 to 60% green-up)
Adjuvant: V-10137 1 EC must be applied with non-ionic surfactant at 0.25% v/v, plus a spray grade ammonium sulfate at 2.5 to 4 lbs./A. **Recommended Mixing Order: Thoroughly mix spray grade ammonium sulfate in water, add V-10137 1 EC, then add non-ionic surfactant.**				

SPECIAL APPLICATION INSTRUCTIONS/PRECAUTIONS
Burn or mow fields a minimum of 3 weeks prior to application to remove excess crop residue. Apply in the spring, at 40 to 60% tall fescue green-up, prior to emergence of warm-season grasses. Do not mow area for 2 weeks after the V-10137 1 EC application. Apply in a minimum of 15 to 20 gals. of water per acre at a spray pressure of 40 to 60 PSI at the nozzle. Apply using flat fan or hollow cone nozzles. Do not use flood jet nozzles. Apply only to fields that have warm-season grasses established for 2 years. Applications of V-10137 1 EC to emerged warm-season grasses may cause injury. Do not apply to warm-season grasses grown for seed. Do not graze treated fields or feed treated forage and or hay to livestock. Do not plant any crop for 30 days after application, unless clethodim is registered for use in that crop. **NOTE:** V-10137 1 EC applications are most effective if applied when average nighttime temperatures are consistently greater than or equal to 47 degrees Fahrenheit.

TABLE 17. V-10137 1 EC FOR THE SUPPRESSION OF TALL FESCUE SEED-HEADS IN NON-PRODUCING AGRICULTURAL AREAS

PRODUCT	PRODUCT RATES	SUPPRESSION	APPLICATION TIMING
V-10137 1 EC	3 to 4 fl. oz./A	Tall Fescue Seed-Heads (*Festuca arundinacea*)	(50 to 90% Tall Fescue green-up in the spring) or 3 weeks prior to dormancy in the fall.
ADJUVANT: V-10137 1 EC must be applied with crop oil concentrate at 1 qt./A, plus a spray grade ammonium sulfate at 2.5 to 4 lb./A. **Recommended Mixing Order:** Thoroughly mix spray grade ammonium sulfate in water, add V-10137 1 EC, then add crop oil concentrate. **Note:** Use crop oil concentrate at 2 pts./A with fall applications.			

SPECIAL APPLICATION INSTRUCTIONS/PRECAUTIONS

- Apply at 50 to 90% tall fescue green-up.
- Use the higher V-10137 1 EC rate if less tall fescue green matter is present.
- Do not mow area for 2 weeks after the V-10137 1 EC application.
- Apply in a minimum of 15 to 20 gals. of water per acre at a spray pressure of 40 to 60 psi at the nozzle. Apply using flat fan or hollow cone nozzles. Do not use flood nozzles.
- 2,4-D ester, TORDON® 22K, GRAZON™ P+D or CROSSBOW™ maybe added to this tank mix for broadleaf control (see 2,4-D ester label for weeds controlled)
- Do not graze treated fields or feed treated forage and or hay to livestock. Do not plant any crop for 30 days after application, unless clethodim is registered for use in that crop.

DIRECTIONS FOR USE IN ORNAMENTALS

For ornamental plant uses, V-10137 1 EC can be used to control labeled grass weeds in greenhouses, lathhouses, shadehouses, and around outdoor ornamentals, including nurseries, parks, roadside plantings, and structure landscapes.

IMPORTANT

V-10137 1 EC successfully controls weeds in newly transplanted and established non-grassy ornamentals. Plant tolerance to V-10137 1 EC at labeled rates has been found to be acceptable for the indicated genera and species listed below. Due to variability within species, crop growth stage, environmental conditions, and application techniques, it is recommended that the user determine if herbicide can be used safely on a few plants prior to widespread application. Neither the seller nor the manufacturer of V-10137 1 EC have investigated the safety factor to ornamental plants not listed on the label.

The following plants have shown a tolerance for V-10137 1 EC applications:

ORNAMENTAL TREES

COMMON NAME	SCIENTIFIC NAME
Alder, Red	*Alnus rubra*
Ash	*Fraxinus* spp.
Basswood	*Tilia* spp.
Birch, European White	*Betula pendula*
Birch, River	*Betula nigra*
Birch, White	*Betula papyrifera*
Crabapple, Flowering	*Malus halliana*
Dogwood, Flowering	*Cornus florida*
Goldon Chain Tree	*Laburnum anagyroides*
Maples	*Acer* spp.
Mulberry, White	*Morus alba*
Oaks	*Quercus* spp.
Olive, Wild	*Elaeagnus angustifolia*
Redbud, Eastern	*Cercis canadensis*
Sweet Gum, American	*Liquidambar styraciflua*

GROUND COVERS

COMMON NAME	SCIENTIFIC NAME
Bugleweed, Carpet	*Ajuga reptans*
Ivy, English	*Hedera helix*
Japanese Spurge	*Pachysandra terminalis*
Lilyturf	*Liriope muscari*
Moneywort	*Lysimachia nummularia*
Mondo Grass, White	*Ophiopogon jaburan*
Mondo Grass Dwarf	*Ophiopogon japonicus*
Periwinkle, Lesser	*Vinca minor*

GARDEN FLOWERS AND PLANTS

COMMON NAME	SCIENTIFIC NAME
Ageratum	*Ageratum* spp.
Alyssum*, Sweet	*Lobularia maritima*
Asparagus Fern	*Asparagus setaceus*
Bleeding Heart	*Dicentra spectabilis*
Cast Iron Plant	*Aspidistra elatior*
Chrysanthemum	*Chrysanthemum* spp.
Cinquefoil	*Potentilla* spp.
Coleus	*Coleus* spp.
Coralbells	*Heuchera sanguinea*
Cranesbill	*Geranium* spp.
Dahlia	*Dahlia* spp.
Daisy, Trailing African	*Osteospermum fruticosum*
Daylily	*Hemerocallis* spp.
Dusty Miller	*Senecio cineraria*
Euonymus	*Euonymus* spp.
Gazania	*Gazania* spp.
Geranium, House	*Pelargonium hortorum*
Heather, False	*Cuphea hyssopifolia*
Hosta	*Hosta fortunei*
Iris	*Iris* spp.
Jasmine Tobacco	*Nicotiana alata*
Loosestrife	*Lythrum salicaria*
Marigold	*Tagetes* spp.
Partridgeberry	*Mitchella repens*
Petunia*	*Petunia hybrida*
Phlox	*Phlox* spp.
Pinks	*Dianthus* spp.
Portulaca	*Portulaca grandiflora*
Salvia	*Salvia* spp.
Saxifrage	*Saxifraga* spp.
Sedum	*Sedum* spp.
Selloum	*Philodendron selloum*
Snapdragon*	*Antirrhinum majus*
Sweet Flag	*Aacorus gramineus*
Tickseed	*Coreopsis grandiflora*
Touch-Me-Not	*Impatiens* spp.
Verbena	*Verbena* spp.
Violet	*Viola* spp.
Yarrow, Common	*Achillea millefolium*
Zinnia	*Zinnia elegans*

*Slight foliage or flower speckling has been observed on these species.

SHRUBS

COMMON NAME	SCIENTIFIC NAME
Abelia	*Abelia* spp.
Anise, Purple	*Illicium floridanum*
Aucuba	*Aucuba* spp.
Azalea*	*Rhododendron* spp.
Bamboo	*Bambusa* spp.
Barberry, Japanese	*Berberis thunbergii*
Barberry, Magellan	*Berberis buxifolia*
Bayberry	*Myrica pensylvanica*
Bottlebrush	*Callistemon citrinus*
Boxwood, Common	*Buxus sempervirens*
Camellia, Common	*Camellia japonica*
Candytuft	*Iberis sempervirens*
Cleyera	*Cleyera japonica*
Coralberry	*Ardisia crenata*
Crape Myrtle	*Lagerstroemia indica*
Coyote Brush	*Baccharis pilularis*
Fig, Creeping	Ficus pumila
Gardenia	*Gardenia* spp.
Holly	*Ilex spp.*
Honeysuckle	*Lonicera* spp.
Indian Hawthorn	*Raphiolepis indica*
Jasmine	*Jasminum* spp.
Jasmine, Asiatic	*Trachelospermum asiaticum*
Jasmine, Star	*Trachelospermum jasminoides*
Juniper	*Juniperus* spp.
Lantana	*Lantana* spp.
Nandina* Bamboo, Heavenly	*Nandinia domestica*
Oleander, Common	*Nerium oleander*
Oregon Grape	*Mahonia aquifolium*
Photinia	*Photinia* spp.
Pittosporum	*Pittosporum* spp.
Podocarpus	*Podocarpus* spp.
Privet	*Ligustrum* spp.
Pyracantha	*Pyracantha* spp.
Rhododendron	*Rhododendron* spp.
Rose	*Rosa* spp.
Spirea	*Spiraea bumalda*
Sweet Olive	*Osmanthus fragrans*
Viburnum	*Viburnum tinus*
Wisteria	*Wisteria* spp.
Yellow Sage/Shrub Verbena	*Lantana camara*

*Slight foliage or flower speckling has been observed on these species.

RECOMMENDATIONS FOR ANNUAL GRASSES IN ORNAMENTALS

- Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

GRASS SPECIES	SCIENTIFIC NAME	WEED* HEIGHT INCHES	APPLICATION RATES	
			MINIMUM RATE fl. oz./A[1]	MAXIMUM RATE[2]
Barnyardgrass	*Echinochloa crus-galli*	2 to 8	12	32
Broadleaf Signalgrass	*Brachiaria platyphylla*	2 to 6	12	32
Brome				
California	*Bromus carinatus*	2 to 6	12	32
Cheat	*Bromus secalinus*	2 to 6	12	32
Downy	*Bromus tectorum*	2 to 6	12	32
Ripgut	*Bromus diandrus*	2 to 6	12	32
Canarygrass	*Phalaris canariensis*	1 to 4	12	32
Crabgrass				
Hairy	*Digitaria adscendens*	2 to 6**	12	32
Large	*Digitaria sanguinalis*	2 to 6**	12	32
Smooth	*Digitaria ischaemum*	2 to 6**	12	32
Southern	*Digitaria ciliaris*	2 to 6**	12	32
Crowfootgrass	*Dactyloctenium aegyptium*	2 to 6**	12	32
Fall Panicum	*Panicum dichotomiflorum*	2 to 8	12	32
Field Sandbur	*Cenchrus incertus*	2 to 6	12	32
Foxtail				
Giant	*Setaria faberi*	2 to 12	12	32
Green	*Setaria viridis*	2 to 8	12	32
Yellow	*Setaria glauca*	2 to 8	12	32
Goosegrass	*Eleusine indica*	2 to 6**	12	32
Itchgrass	*Rottboellia cochin*	2 to 6	12	32
Junglerice	*Echinochloa colona*	2 to 6	12	32
Lovegrass (Stinkgrass)	*Eragrostis cilianensis*	2 to 6	12	32
Rabbitsfootgrass	*Polypogon monspeliensis*	1 to 4	12	32
Red Rice	*Oryza sativa*	1 to 3	12	32
Ryegrass				
Hardy	*Lolium remotum*	2 to 6	12	32
Italian	*Lolium multiflorum*	2 to 6	12	32
Seedling Johnsongrass	*Sorghum halepense*	4 to 10	12	32
Shattercane	*Sorghum bicolor*	6 to 18	12	32
Southwestern Cupgrass	*Eriochloa gracilis*	2 to 6	12	32
Sprangletop				
Amazon	*Lepthochloa panicoides*	2 to 6	12	32
Bearded	*Leptochloa fascicularis*	2 to 6	12	32
Mexican	*Leptochloa uninervia*	2 to 6	12	32
Red	*Leptochloa filiformis*	2 to 6	12	32
Texas Panicum	*Panicum texanum*	2 to 6	12	32
Volunteer Cereals				
Barley	*Hordeum vulgare*	2 to 6	12	32
Oats	*Avena sativa*	2 to 6	12	32
Rye	*Secale cereale*	2 to 6	12	32
Wheat	*Triticum aestivum*	2 to 6	12	32
Volunteer Corn	*Zea mays*	4 to 12	12	16
Volunteer Corn	*Zea mays*	12 to 24	12	32
Volunteer Grain Sorghum	*Sorghum bicolor*	8 to 12	12	32
Wild Oats	*Avena fatua*	2 to 6	12	32
Wild Proso Millet	*Panicum miliaceum*	2 to 10	12	32
Witchgrass	*Panicum capillare*	2 to 8	12	32
Woolly Cupgrass	*Eriochloa villosa*	2 to 8	12	32

*Generally occurs between 3-leaf stage and tillering.

**Length of lateral growth.

[1]16 fl. oz./A = approximately 0.4 fl. oz./1000 sq. ft.

[2]32 fl. oz./A = approximately 0.8 fl. oz./1000 sq. ft.
Add non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals. (0.25% v/v).

RECOMMENDATIONS FOR ANNUAL BLUEGRASS CONTROL WITH V-10137 1 EC IN ORNAMENTALS			
GRASS SPECIES	WEED STAGE	APPLICATION RATES	
		MINIMUM RATE fl. oz./A	MAXIMUM RATE fl. oz./A
Annual Bluegrass (Poa annua)	to 4-leaf	12	32
Apply under favorable soil moisture and humidity that exists within a few days after rainfall or within 7 days after irrigation. Grass needs to be actively growing at time of application(s). Apply at weed stage indicated on the label, as reduced control can be expected with more mature annual bluegrass. Use the high rate under heavy grass pressure and/or when annual bluegrass is more mature. Add non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals. (0.25% v/v).			

RECOMMENDATIONS FOR PERENNIAL GRASSES IN ORNAMENTALS

- Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

GRASS SPECIES	WEED HEIGHT (inches)	APPLICATION RATES	
		MINIMUM RATE fl. oz./A[1]	MAXIMUM RATE[2] fl. oz./A
Bermudagrass (*Cynodon dactylon*)			
First Application	3 (or up to 6" runners)	12	32
Repeat Application(s) (if regrowth occurs)	3 (or up to 6" runners)	12	32
Foxtail Barley (*Hordeum jubatum*)			
First Application	2 to 6	12	32
Repeat Application(s) (if regrowth occurs)	2 to 6	12	32
Quackgrass (*Elytrigia repens*)			
First Application	4 to 8	12	32
Repeat Application(s) (if regrowth occurs)	4 to 8	12	32
Rhizome Johnsongrass (*Sorghum halepense*)			
First Application	12 to 24	12	32
Repeat Application(s) (if regrowth occurs)	6 to 18	9	16
Wirestem Muhly (*Muhlenbergia frondosa*)			
First Application	4 to 8	12	32
Repeat Application(s) (if regrowth occurs)	4 to 8	12	32

[1]16 fl. oz./A = approximately 0.3 fl. oz./1000 sq. ft.
[2]32 fl. oz./A = approximately 0.8 fl. oz./1000 sq. ft.
Add non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals. (0.25% v/v).

IMPORTANT

Plant tolerance to V-10137 1 EC at labeled rates has been found to be acceptable for the indicated genera and species listed below. Due to variability within species, crop growth stage, environmental conditions, and application techniques, it is recommended that the user determine if the herbicide can be used safely on a few plants prior to widespread application. Neither the seller nor the manufacturer of V-10137 1 EC have investigated the safety factor to plants not listed on the label.

NON-BEARING FOOD CROPS

V-10137 1 EC SHOULD NOT BE APPLIED TO NON-BEARING FRUIT OR NUT CROPS WHICH ARE GROWN FOR ROOT STOCK.

Crop injury to non-bearing fruit and nut crops can occur if V-10137 1 EC is improperly applied. V-10137 1 EC should not be applied directly over the top of these plant types. Instead spray should be directed at the base of the plant where grassy weeds are growing near the ground.

Non-bearing fruit and nut crops are plants which will not bear fruit or nuts for at least one year following V-10137 1 EC application.

COMMON NAME	SCIENTIFIC NAME
Apples	*Malus* spp
Berries	*Vaccinium* spp.
	Rubus spp.
Cherry, Sweet	*Prunus avium*
Citrus Fruits	*Citrus* spp
Grapes	*Vitis* spp
Olives	*Olea* spp
Peach	*Prunus persica*
Pears	*Pyrus communis*
Prunes	*Prunus* spp
Stone Fruits	*Prunus* spp
Strawberries	*Fragaria* spp
Tree Nuts	
Almond	*Prunus triloba*
Filbert	*Corylus maxima*
Pecan	*Carya illinoinensis*
Pistachio	*Pistacia vera*
Walnut	*Juglans* spp

CONIFER TREES

V-10137 1 EC can be used to control labeled grasses in Christmas tree farms, conifer nurseries and conifer plantations (but not in forests).

COMMON NAME	SCIENTIFIC NAME
Arborvitae, American	*Thuja occidentalis*
Cedars	*Cedrus* spp
Cypress	*Taxodium* spp
Fir, Douglas	*Pseudotsuga menziesii*
Firs	*Abies* spp
Hemlock, Canadian/Eastern	*Tsuga canadensis*
Hemlock, Western	*Tsuga heterophylla*
Pines	*Pinus* spp
Spruces	*Picea* spp
Yew	*Taxus* spp

NON-CROP OR NON-PLANTED AREAS

The following areas are considered non-crop or non-planted areas: Rights-of-way including railroads, highways, roads, dividers, medians, pipelines, public utility lines, pumping stations, transformer stations and substations. Around airports, electric utilities, commercial buildings, manufacturing plants, storage yards, rail yards, fence lines, parkways, and post-harvest croplands. Also beneath greenhouse benches and around golf courses.

STORAGE AND DISPOSAL

PROHIBITIONS

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment.
Open dumping is prohibited.

PESTICIDE STORAGE

Keep pesticide in original container.
Do not put concentrate or dilute into food or drink containers.
Store in cool, dry place.
Do not store diluted spray.

Emergency Response: For help with any spill, leak, fire or exposure involving this material, call day or night **1-800-892-0099**.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

Triple rinse (or equivalent). Do not reuse container. Offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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BANVEL® - Reg. TM of BASF Corporation
BASAGRAN® - Reg. TM of BASF AG.
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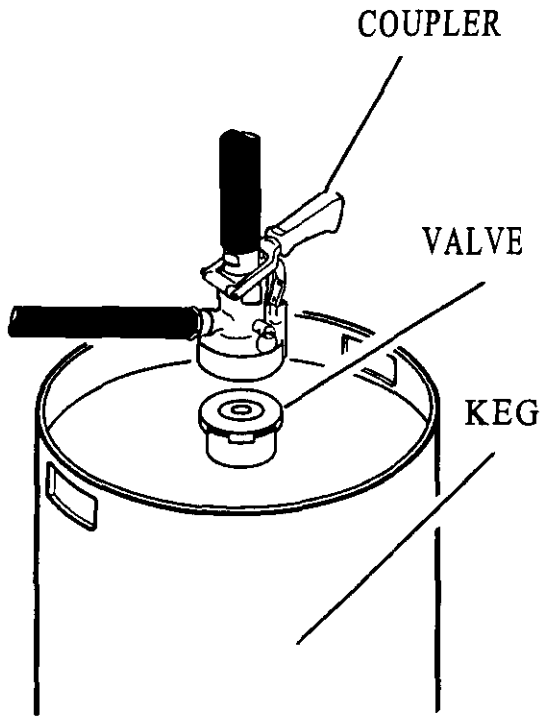
Made in U.S.A.

EPA Reg. No. 59639-132
EPA Est. No.

059639.000132.20060113.V10137.doc

THE VALENT RETURNABLE KEG

Description: This keg is a closed-system, refillable container designed for easy handling and convenient dispensing of product with no container disposal.
Construction: The keg is made of all stainless steel. Both the gaskets and seals are Viton and are compatible with the Valent product.
Pump System: With the versatility of the keg, either a mechanical pump or an air pressure system may be used to dispense the product.
Coupler: A specific dry-disconnect coupler is required for dispensing product from the keg. This coupler is available through local agricultural equipment suppliers.
Container Capacity: 15 gallons or 56.7 liters (by weight)



ATTENTION!

This is a closed-system container. Do not try to remove the valve from the keg. The coupler required for removal of product is available from local agricultural equipment suppliers. The keg contains tamper evident seals that, if broken, will incur a fee for the user of the keg. Both the coupler and the valve are designed for one-way operation only. Never try to pump any type of material back into the keg.

DIRECTIONS FOR USE

The proper coupler must be attached and engaged before removing any product from the keg. Either a mechanical pump or an air pressure system may be used and connected to the 1-inch NPT thread on the top of the coupler.

IMPORTANT! Attach a hose or pump to the coupler before engaging coupler. This will prevent the user from being splashed in the event that pressure build-up in the keg forces liquid up through the coupler.

To attach and engage the coupler:

1. Pull top of black dust cover back to expose head of valve. The bottom ring of the black dust cover will still be attached to the neck of the valve. Save the dust cover for reuse when returning keg.
2. Before engaging the coupler, securely attach a hose or pump to the threaded connection.
3. Twist coupler onto valve on keg.

and engage coupler by pulling handle straight out to unlock and then pushing handle down into lower position to open internal valve. Handle will automatically lock in place.

4. Secure and engage coupler by pulling handle straight out to unlock and then pushing handle down into lower position to open internal valve. Handle will automatically lock in place.
5. You are now ready to begin the pumping operation.

To remove coupler from container:

1. Release coupler by pulling handle straight out to unlock and then lifting handle into upper position. Handle will automatically lock in place.
2. Lift coupler from keg. As coupler clears top of valve, pull coupler sideways and lift it off the valve.
3. Wipe valve off and replace dust cover.
4. Flush coupler with water.
5. Wipe coupler and store in a clean place.
6. Properly dispose of cleaning towels and rinsate.

RETURNING KEGS

Clean the outside of the keg with water or soap before returning the keg to the distributor. Leave all Valent product labels and stickers securely attached. All Valent product labels, stickers and other information must remain on the keg in order to comply with both State and Federal regulations.

All Valent kegs are tracked using the individual keg serial number stamped in the top of the keg. Distributors are responsible for these kegs that have been assigned to them. Return this keg to the distributor from which it was purchased. Notify the distributor if the keg cannot be returned by the specific time.

Valent U.S.A. Corporation
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