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Systems Integration Group, Inc.

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

MAY 25 1999

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Steven E. Rogosheske  
Terra International, Inc.  
600 Fourth Street  
Sioux City, IA 51102

Dear Mr. Rogosheske:

Subject: Label Amendment Extending 2,4-D Use in Reduced or No-Tillage Soybeans  
(Pre-plant Only)  
Riverside 2,4-D LV4  
EPA Reg. No. 9779-257  
Your Application Dated March 31, 1999

The Agency is conditionally approving an amendment to the registration of the above-referenced product under the authority of section 3(c)(7)(B) of the Federal Insecticide, Fungicide Act (FIFRA). This amendment allows use of the subject product on reduced or no-tillage soybeans (pre-plant only) with a maximum permissible level for residues of the herbicide in or on soybeans of 0.1 ppm. This amendment will expire automatically on December 31, 2001. In addition, during the period that this amendment is effective, it will be subject to the conditions listed below:

- 1) This acceptance is based on your certification that the submitted labeling on preplant soybean use is an exact copy of the labeling accepted by the Agency on September 22, 1997. Please note that the acceptance of this labeling pertains to the previously approved preplant soybean use only and does not signify the acceptance of any other labeling revisions. No other label revisions are being reviewed or considered with this action. You should also note that if you fail to satisfy the conditions imposed in this certification, EPA may issue a notice to cancel this amendment under FIFRA section 6(e).
- 2) This conditional registration will expire automatically on December 31, 2001. Sale or distribution of the subject product bearing labeling for this use on reduced or no-tillage soybeans (pre-plant only) after December 31, 2001 will be illegal. The tolerance authorizing residues of the subject product will also expire on December 31, 2001. After that date, sale or distribution of food in interstate commerce containing any residue of the subject product will be a violation of the Federal Food, Drug, and Cosmetic Act.

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- 3) Finally, if and when a permanent tolerance is established, EPA will entertain an application to amend the registration of the subject product without any special limitations on the duration of the amendment.

A stamped copy of the labeling is enclosed for your records. Please submit one (1) copy of your final printed labeling before you release the product for shipment.

Sincerely yours,

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

Enclosure

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## 2,4-D LV4

Selective herbicide for control of many broadleaf weeds

### ACTIVE INGREDIENT

2-ethylhexyl ester of 2,4-dichloro- phenoxyacetic acid*	63.7%
INERT INGREDIENTS	36.3%
TOTAL	100.0%

Contains petroleum distillates

\*2,4-dichlorophenoxyacetic acid equivalent: 42.5% or 3.8 lbs./gal. Isomer specific by  
AOAC Method No. 6.288-6.292 (14th Ed.)

## KEEP OUT OF REACH OF CHILDREN

## CAUTION

### STATEMENT OF PRACTICAL TREATMENT

**IF SWALLOWED:** Call a doctor or get medical attention. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Avoid alcohol.

**IF ON SKIN:** Wash with plenty of soap and water. Get medical attention if irritation persists.

**IF IN EYES:** Flush with plenty of water for 15 minutes. Get medical attention.

**NOTE TO PHYSICIAN:** May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagosopic control.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed, absorbed through skin or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist.  
Personal Protective Equipment:

Applicators and other handlers must wear long-sleeved shirt and long pants, chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or viton, shoes plus socks, and protective eyewear.

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Read Additional PRECAUTIONARY STATEMENTS.

EPA Reg. No. 9779-257

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

MAY 25 1999

EPA Est. No. 42750-100-1

Manufactured for  
TERRA INTERNATIONAL, INC.  
P.O. Box 6000, Sioux City, Iowa 51102-6000  
*Riverside Serves Agriculture. Agriculture Serves Everyone.*

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

9779-257

NET CONTENTS

GALS.

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Engineering Controls Statement:

CONTAINERS GREATER THAN 1 GALLON BUT LESS THAN 5 GALLONS: Mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.

CONTAINERS 5 GALLONS OR MORE: A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4)), the handler PPE requirements may be reduced or modified as specified in the WPS.

After each day of use, clothing or PPE must not be reused until it has been cleaned.

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

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. 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 contaminate water when disposing of equipment washwaters.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

Do not apply when weather conditions favor drift from target area, as this product may injure cotton, beans, other vegetables, certain legumes and ornamentals.

PHYSICAL OR CHEMICAL HAZARDS

Do not use, pour, spill, 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.

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

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 12 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, chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or viton, shoes plus socks, and protective eyewear.

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.

Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment areas until spray has dried.

## STORAGE AND DISPOSAL

### DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL.

#### STORAGE

Store in a dry location away from children, animals, foods, feeds, seeds, or other agricultural chemicals. Keep container closed when not using. Do not allow water into container as this will cause deterioration of product. Handle in accordance with information given under PRECAUTIONARY STATEMENTS. Keep storage area locked when not in use. In the event of spillage or leakage, soak up the material with absorbent clay, sand, sawdust, or other absorbent material. Scrape up and dispose of in accordance with information given under PESTICIDE DISPOSAL. Repackage and relabel useable product in a sound container. In case of fire or other emergency, report at once by toll-free telephone to 800-424-9300.

#### DISPOSAL

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Plastic Containers-Triple rinse (or equivalent). Then 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. Metal Containers-Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

#### GENERAL INFORMATION

2,4-D LV4 is a selective herbicide recommended for the control of many broadleaved weeds in crops, along fence rows, around farm buildings and similar areas. The following is a partial list of weeds controlled:

Beggartick	Dogfennel	Nettle, stinging	Sumac
Bindweed	Elderberry	Pennycress	Sunflower
Bitterweed	Galinsoga	Pennywort	Tansy mustard
Blueweed, Texas	Goldenrod	Peppergrass	Tansy ragwort
Broomweed	Henbit	Pigweed	Tumbleweed
Buckbrush	Jimsonweed	Plantain	Velvetleaf
Burdock	Knotweed	Poorjoe	Vervain
Canada thistle	Kochia	Puncturevine	Vetch
Carpetweed	Lambsquarters	Pusley, Florida	Wild carrot
Chicory	Mallow	Ragweed	Wild garlic
Cocklebur	Marshelder	Russian thistle	Wild hemp
Coffeeweed	Milkvetch	Shepherdspurse	Wild onion
Coyotebrush	Morningglory	Sicklepod	Wild radish
Dandelion	Musk thistle	Smartweed	Willow
Dock	Mustards	Sowthistle, annual	Witchweed
			Yellow rocket

Note: Local conditions, crop varieties and application regulations vary and may affect use of this herbicide. Consult your local Agricultural Experiment Station or Extension Service weed specialists and state regulatory agencies for recommendations in your area.

Apply during warm weather when weeds or brush are actively growing. Application under drought conditions often will give poor results. Use low spray pressure to minimize drift. On cropland and along roadsides, do not exceed 20 psi pressure. Apply enough spray volume to provide uniform coverage of weeds and brush, usually 5 to 25 gallons per acre by ground equipment and 2 to 5 gallons by aircraft. Higher gallonages may be used if desired to improve spray coverage. Generally, the lower dosages recommended on this label will be satisfactory for young succulent growth of sensitive weed species. For less sensitive species and under conditions where control is more difficult, the higher dosages will be needed. For crop uses, do not mix with oil or other adjuvants unless specifically recommended on this label. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants require repeated applications for maximum control. Do not apply where spray drift may contact nearby susceptible crops or other desirable plants or may contaminate water for irrigation or domestic use. Read and follow all Use Precautions given on this label.

Note: If there are uncertainties concerning special local use situations or specific crop variety tolerances to 2,4-D, consult your State Agricultural Experiment Station or local Extension Service weed specialists for advice.

#### USE PRECAUTIONS

Avoid contact with 2,4-D susceptible crops and other desirable broadleaf plants. 2,4-D LV4 herbicide is injurious to most broadleaf plants. Therefore, do not apply directly to or otherwise permit even minute amounts to contact cotton, grapes, tobacco, fruit trees, vegetables, flowers, ornamentals or other desirable plants susceptible to 2,4-D. Do not use in or near a greenhouse.

Do not apply in the vicinity of cotton, grapes, tobacco, tomatoes or other desirable 2,4-D susceptible crops or ornamental plants. Do not spray when wind is blowing towards susceptible crops or ornamental plants.

Avoid spray drift. Applications should be made only when there is no hazard from spray drift since very small quantities of the spray, which may not be visible, may severely injure susceptible crops during both growing and dormant periods. Use coarse sprays to minimize drift since, under adverse weather conditions, fine spray droplets may drift a mile or more.

**Ground Equipment:** With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by using no more than 20 pounds spraying pressure with large droplet producing nozzle tips; by spraying when wind velocity is low; and by stopping all spraying when wind exceeds 6 to 7 mph. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine-droplet spray.

**Aerial Application:** With aircraft, drift can be lessened by applying a coarse spray; by using no more than 20 pounds spray pressure at the nozzles; by using straight stream nozzles directed straight back; by using a spray boom no longer than 3/4 the wing span of the aircraft; and by spraying only when wind velocity is less than 6 mph.

Do not apply by aircraft when an air temperature inversion exists. Such a condition is characterized by little or no wind and with air temperature lower near the ground than at higher levels. The use of a continuous smoke column at or near site of application is suggested to indicate direction and velocity of air movement, and to indicate a temperature inversion by layering of the smoke.

Violent windstorms may move soil particles. If 2,4-D is on soil particles and they are blown onto susceptible plants, visible symptoms may appear. Serious injury is unlikely. The hazard of movement of 2,4-D on dust is reduced if treated fields are irrigated or if rain occurs shortly after application.

At high temperatures vapors from this product may injure susceptible plants growing nearby. Do not use in a greenhouse. Excessive amounts of this herbicide in the soil may temporarily inhibit seed germination or plant growth.

**TO PREPARE A SPRAY WITH WATER:** Add one half the required amount of water to the spray tank; then add this product with agitation, and finally the balance of the water with continued agitation.

**Note:** This material forms an emulsion in water, not a solution. This tends to separate on standing. Provide agitation to prevent such separation and insure uniform spray mixtures.

**TO PREPARE A SPRAY WITH LIQUID NITROGEN SOLUTIONS:** Fill spray tank half full with liquid nitrogen. Start agitator. Add 2,4-D LV4 in the quantity for the numbers of acres full tank will cover. Continue agitation of spray solution and complete filling of tank with fertilizer. Continue agitation until tank is empty. Mix only one tank at a time and apply immediately. Do not spray during or immediately following cold weather. Use spray equipment designed to handle corrosive liquid nitrogen solutions. After spraying, remove any remaining solution and rinse spray rig thoroughly with water.

**WEED CONTROL IN NON-CROP AREAS SUCH AS LAWNS, GOLF COURSES, CEMETERIES, PARKS, AIRFIELDS, ROADSIDES, VACANT LOTS:** Apply 2 quarts per acre in the amount of water needed for uniform application. Treat when weeds are young and growing well. Do not use on golf greens, nor on dichondra or other broadleaf herbaceous ground covers. Do not use on creeping grasses such as bent and St. Augustine except for spot treating, nor on newly seeded turf until grass is well-established. Reseeding of treated areas should be delayed following treatment. With spring application, reseed in the fall; with fall application, reseed in the spring. Legumes are usually damaged or killed so do not treat areas where legumes are desired. Deep-rooted perennial weeds may require repeated treatments in the same season or in subsequent years.

With nitrogen solutions: Follow local recommended per acre rates of 2,4-D and nitrogen solutions.

#### NOTES FOR ALL TURF SITES (EXCLUDING SOD FARMS)

The maximum number of broadcast applications per treatment site is 2 per year.

#### WEED CONTROL IN SMALL GRAINS NOT UNDERSEEDED WITH A LEGUME

**SPRING WHEAT AND BARLEY:** Apply 1/2 to 1 pint per acre. Spray when grain is in full tiller stage (usually 4 to 8 inches tall) but before the boot stage and when weeds are small. Do not apply before the tiller stage nor from early boot to the dough stage. Higher rates, up to 2 pints per acre, may be needed to handle difficult weed problems in certain areas such as under dry conditions especially in western areas. However, do not use unless possible crop injury will be acceptable.

**WINTER WHEAT AND RYE:** Apply 1/2 to 3/4 pint per acre in the spring at the full tiller stage but before the early boot stage. For improved control of difficult weeds including wild garlic and wild onion, apply 1 to 2 pints per acre. Since these rates may injure the crop, do not use unless possible crop injury will be acceptable. For the high rates on spring wheat and barley as well as winter wheat and rye, consult your State Agricultural Experiment Station or Extension Service Weed Specialists for recommendations or suggestions to fit local conditions.

**SPRING SEEDED OATS:** Apply 1/2 pint per acre at the full tiller stage but before the early boot stage. Oats are less tolerant to 2,4-D than wheat or barley and are more liable to suffer some injury.

**FALL SEEDED OATS (SOUTHERN) GROWN FOR GRAIN:** Apply 3/4 to 1 1/4 pints per acre after full tillering but before the early boot stage. Maximum control of hard-to-kill weeds may not be achieved at these rates. Do not spray during or immediately following cold weather.

**Preharvest Treatment:** Apply 1 to 2 pints per acre when grains are in the hard dough stage to control large weeds that may interfere with harvest. Best results will be obtained when soil moisture is sufficient to cause succulent weed growth.

**Note:** Do not feed treated straw to livestock.

With Nitrogen Solutions: Follow local recommended per acre rates for 2,4-D and nitrogen solutions.

Note: Do not permit dairy animals or meat animals being finished for slaughter to forage or graze treated grain fields within 2 weeks after treatment.

**CORN:** Use one of the following four programs. Preplant: To control emerged broadleaf weed seedlings or existing cover crops prior to planting, apply 1 to 2 pints per acre. Apply 7 to 14 days before planting. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth. Use the high rate for less susceptible weeds or cover crops such as alfalfa. Preemergence: Apply 1 to 2 quarts per acre to soil anytime after planting, but before corn emerges. Do not use on light sandy soil. Emergence: Apply 1 pint per acre just as corn plants are breaking ground. Postemergence: After emergence of corn, use 1/2 pint per acre. Application of 3/4 to 1 pint per acre may be needed for maximum control of some weeds but such rates are more liable to injure the corn. If corn is over 8 inches high, use drop nozzles to keep the spray off the corn foliage as much as possible. Do not apply from the tasseling to dough stage. Do not use with oil, atrazine or other adjuvants. Crop injury is more liable to occur if corn is growing rapidly under high temperature and high soil moisture conditions. To reduce breakage of stalks from temporary brittleness caused by 2,4-D, delay cultivation for 8 to 10 days after treatment. Do not forage or feed corn fodder for 7 days following application.

Note: Hybrids vary in response to 2,4-D and some are easily injured. Spray only varieties known to be tolerant to 2,4-D. Contact your Agricultural Experiment Station or Extension Service weed specialists for this information.

With nitrogen solutions: For late season control of young smartweeds, cocklebur, annual morningglory, and other annual broadleaf weeds less than 1 inch high. Fields should be as clean as possible and corn 20 to 30 inches high. Direct the spray to lower 3" to 4" of corn stalk. For each acre, mix 5/8 to 1 pint (consult local recommendations) with 80 to 120 pounds of nitrogen. Apply immediately with continuous agitation.

Preharvest corn treatment: After the hard dough or denting stage, apply 1 to 2 pints per acre by air or ground equipment to suppress perennial weeds, decrease weed seed production, and control high weeds such as bindweed, cocklebur, dogbane, jimsonweed, ragweed, sunflower, velvetleaf and vines that interfere with harvesting. Do not forage or feed corn fodder for 7 days following application.

Control of wild garlic in stubble grain fields: Following the harvest of small grain or corn, wild garlic often produces new fall growth. This should be sprayed with 2 to 3 quarts per acre of 2,4-D LV4. This is a useful practice as one part of a wild garlic control problem. Do not forage for 7 days following application. Do not plant any crop until 3 months after treatment or until 2,4-D has disappeared from the soil.

**SORGHUM:** Apply 1/2 pint per acre when sorghum is 5 to 15 inches high. A higher rate of 3/4 to 1 pint may be needed to control some weeds, but the chance for crop injury is likewise increased. Do not use with oil. Do not treat before sorghum is 5 inches high, nor during boot, flowering or early dough stages. If sorghum is higher than 8 inches, use drop nozzles to keep the spray off the foliage as much as possible. Temporary crop injury may occur under conditions of high soil moisture and high air temperatures. Varieties vary in tolerance to 2,4-D and some hybrids are quite sensitive. Spray only varieties known to be tolerant to 2,4-D. Contact your Agricultural Experiment Station or Extension Service weed specialists for this information.

Preplant (burndown): To control emerged broadleaf weed seedlings or existing cover crops prior to planting, apply 1 to 2 pints per acre. Apply 7 to 14 days before planting. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth. Use the high rate for less susceptible weeds or cover crops such as alfalfa.

**SOYBEANS (PREPLANT ONLY)  
FOR USE IN CROP RESIDUE MANAGEMENT SYSTEMS**

Weeds	Amount of Product to Use Per Acre	Directions
Postemergence	3/4 to 1 pint	Apply not less than 7 days prior to planting soybeans when weeds are small and actively growing. Use the higher rate on larger weeds and when perennials are present.
	1 to 2 pints	Apply not less than 30 days prior to planting soybeans when weeds are actively growing.

In addition to those weeds found on the WEED LIST, this product will suppress or control the following broadleaf weeds frequently encountered in reduced tillage soybean production systems: bullnettle, smallflowered bittercress, Carolina geranium, smallflowered buttercup, common and rough cinquefoil, red clover\*, horseweed or marestalk, mousetail, wild mustard, field pennycress, cutleaf evening primrose, common purslane, speedwell, and Virginia copperleaf.

\*These weeds are only partially controlled.

Apply no more than 2 pints of this product in one season prior to planting soybeans. After applying, plant soybean seed as deep as practical or at least 1 1/2 to 2 inches deep. Adjust the planter press wheel, if necessary, to ensure that planted seed is completely covered.

Aerial Application: When applying aerially, use 2 or more gallons of total spray volume per acre.

Ground Application: With ground equipment, use 10 or more gallons of total spray volume per acre.



If desired, this product may be applied preplant to soybeans in tank mixtures with other herbicides such as Poast®, Poast Plus, Roundup®, Roundup D-Pak, Honcho®, Gramoxone® Extra, Prowl®, Pursuit® Plus, Scepter® 70 DG, Squadron® and others that are registered for preplant soybean use.

NOTE: Unacceptable injury to soybeans planted in fields previously treated with this product may occur. Whether or not soybean injury occurs and the extent of the injury will depend on weather and agronomic factors such as the amount of weed vegetation and previous crop residue present that may be in effect between the time of application and the emergence of the soybean plant.

Not registered for use in California.

#### RESTRICTIONS AND LIMITATIONS FOR USE IN SOYBEANS (PREPLANT)

Do not apply this product prior to planting soybeans if you are not prepared to accept the results of soybean injury including possible loss of stand and yield.

Do not apply this product when weather conditions such as temperature, air inversions, or wind favor drift from treated areas to susceptible plants.

Apply no more than 2 pints of this product per acre in one season prior to planting soybeans.

Do not replant fields treated with this product in the same growing season with crops other than those labeled for 2,4-D preplant use.

Do not mow or cultivate weeds prior to treating with this product as poor control may result.

Do not feed treated hay, forage, or fodder or graze treated soybeans to livestock.

Only one application of this product may be made, regardless of application rate, per growing season.

Do not feed or graze treated cover crops to livestock.

**RANGELAND AND GRASS PASTURES:** To control bitterweed, broomweed, croton, docks, kochia, marshelder, musk thistle and other broadleaf weeds, use 2 quarts per acre in the amount of water needed for uniform application. If the weeds are young and growing actively, 1 quart per acre will provide control of some species. Deep-rooted perennial weeds may require repeated treatments in the same year or in subsequent years.

To control wild garlic and wild onion, apply 2 quarts per acre, making three applications (fall-spring-fall or spring-fall-spring) starting in late fall or early spring.

For weed control in newly sprigged coastal bermudagrass, apply 1 to 2 quarts per acre preemergence and/or postemergence.

For control of sand shinnery oak, use 1 quart in 5 gallons of oil or in 4 gallons of water plus 1 gallon of oil per acre. Apply by aircraft between May 15 and June 15. For control of sagebrush, use 1 quart in 3 gallons of oil per acre and apply by aircraft when foliage is fully expanded and the brush is actively growing.

To control big sagebrush and rabbitbrush, use 2 quarts per acre in 2 to 3 gallons of oil or in 3 to 5 gallons of oil-water emulsion spray. Brush should be leafed out and growing actively when sprayed. Retreatment may be needed.

With nitrogen solutions: Follow local recommended per acre rates for 2,4-D and nitrogen solutions.

Note: Do not use on bent grass, alfalfa, clover, or other legumes. Do not use on newly seeded areas until grass is well established. Do not use from early boot to milk stage where grass seed production is desired.

Do not apply later than 30 days prior to cutting grass for hay. Do not graze meat animals on treated areas later than 3 days prior to slaughter. Do not graze dairy animals within 7 days after application.

**GRASS SEED CROPS:** Use 1 to 1½ pints per acre in the amount of water required for uniform application by air or ground equipment. Apply to established stands in spring from the tiller to early boot stage. Do not spray in boot stage. New spring seedlings may be treated with the lower rate after the grasses have at least five leaves. Perennial weed regrowth may be treated in the fall.

**WOODY PLANT AND BRUSH CONTROL IN NON-CROP AREAS:** To control species susceptible to 2,4-D in rights-of-way, fencerows, and roadsides, spray brush up to 5 to 8 feet high after spring foliage is well developed, using 3 to 4 quarts in 100 gallons of water and wetting all parts of the brush including foliage, stems and bark. This may require up to 400 gallons of spray per acre for adequate coverage of solid stands of brush. Make applications in such a way as to prevent drift of the spray from the area being treated. Spraying can be effective at any time up to 3 weeks before frost as long as soil moisture is sufficient for active growth of the brush. Control will be less effective in midsummer during hot dry weather when soil moisture is deficient and plants are not actively growing. Oil or a wetting agent may be added to the spray, if needed, for increased effectiveness.

**FOREST CONIFER RELEASE:** To control alder, apply 1 1/2 to 2 quarts 2,4-D LV4 in 9 1/2 to 15 gallons water per acre as a foliage spray. Treat when 3/4 of the brush foliage has attained full size leaves and before new conifer growth reaches 2 inches in length. This is usually between early May and mid-June. Adjust treatment date depending on stage of growth of conifers and brush species. This may cause leader deformation on exposed firs, but they should overcome this during the second year after spraying.

To control tanoak, madrone, ceanothus, canyon live oak, and manzanita, and to release Douglas fir, hemlock, Sitka spruce or grand fir, apply 3 quarts 2,4-D LV4 plus 3 quarts fuel oil in 8 1/2 to 15 gallons water per acre before new growth on Douglas fir is 2 inches long. To control manzanita and ceanothus in ponderosa pine, apply 3 quarts before pine growth begins in spring.

After northern conifers, jack pine, red pine, black spruce, and white spruce cease growth and harden off (usually mid to late July), a spray of 1 1/2 to 3 quarts in 8 to 25 gallons of water per acre may be applied by air to control certain competing hardwood species such as alder, aspen, birch, hazel and willow. Since this treatment may cause occasional conifer injury, do not use if such injury cannot be tolerated. Consult your regional or extension forester or state herbicide specialist for recommendations to fit local conditions.

**SPOT TREATMENT:** To control broadleaf weeds in small noncropland areas with a hand sprayer, use 1/4 pint in 3 gallons of water and spray to thoroughly wet all weed foliage. Keep spray mixture agitated to prevent separation.

Poast is a registered trademark of BASF Ag.

Roundup and Honcho are trademarks of Monsanto Company.

Gramoxone is a registered trademark of Zeneca Ag Products, Inc.

Prowl, Pursuit Plus, Scepter, Squadron are registered trademarks of American Cyanamid Company.

**NOTICE:** Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to Seller, and Buyer assumes the risk of any such use.