

DATAPAK

GROUP	4	HERBICIDE
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**2,4-D ESTER 700**

HERBICIDE

COMMERCIAL

WARNING

POISON

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

GUARANTEE:

2,4-D isomer specific 658 g/L [present as 2-Ethylhexyl Esters]

REGISTRATION NO. 23563

PEST CONTROL PRODUCTS ACT

IN CASE OF SPILLS, POISONING OR FIRE TELEPHONE EMERGENCY  
RESPONSE NUMBER

1-800-561-8273 (24 HOURS A DAY)

UNITED AGRI PRODUCTS CANADA INC.

789 Donnybrook Drive

Dorchester, Ontario

N0L 1G5

16292

03/04

NET CONTENTS: 10L

**PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN.** Causes skin and eye irritation. Avoid contact with skin, eyes and clothing. Do not inhale fumes. Avoid breathing spray mist.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., contact 1-866-375-4648 or [www.cropro.org](http://www.cropro.org).

This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning equipment.

**PROTECTIVE CLOTHING AND EQUIPMENT:**

**HANDLING THE CONCENTRATE (MIXING AND LOADING):** Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks, and shoes, and protective eye wear (face shield or safety glasses). Rinse gloves before removal. Coveralls or a chemical-resistant apron should also be worn when open pouring from containers greater than 5 L.

**HANDLING THE DILUTE SPRAY SOLUTION (DURING APPLICATION OR REPAIRING OR CLEANING EQUIPMENT):** Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Rinse gloves before removal. Gloves are not required during application when applicator is in an enclosed tractor or in an enclosed airplane cockpit.

**OPERATOR USE PRECAUTIONS:**

- Wear freshly laundered clothing and clean protective equipment daily.
- Rinse gloves before removal.
- Wash hands before eating, drinking, using tobacco or using the toilet.
- If herbicide penetrates clothing, remove immediately, then wash thoroughly and put on clean clothing. Throw away clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate.
- After using this product, remove clothing and launder separately and promptly, and thoroughly wash hands and exposed skin with soap and water. Follow manufacturer's instructions for cleaning personal protective equipment. If no such instructions for washables are provided, use detergent and hot water. Keep and wash personal protective equipment separate from household laundry.
- After work, remove all clothing and shower using soap and water.

**DIRECTIONS FOR USE**

**CROP USE:**

**RESISTANCE MANAGEMENT RECOMMENDATIONS:**

For resistance management, 2,4-D ESTER 700 is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to 2,4-D ESTER 700 and other Group 4 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of 2,4-D ESTER 700 or other Group 4 herbicides with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted.
- Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage, cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Technical Service at 1-800-265-4624 or at [www.uap.ca](http://www.uap.ca).

**GROUND APPLICATION:** Apply 50-200 L of spray solution per hectare depending on the type of application equipment used. Use sufficient water for even distribution. Spray at low pressures (200-275 kPa) when the weeds are actively growing.

**MIXING:** Shake this product well before using. Half fill the spray tank with clean water. Add the required amount of product and agitate thoroughly.

Fill tank with clean water and agitate well before use. **NOTE:** If spray solution has been left standing, agitate thoroughly before use.

**TRANSFER SYSTEMS FOR CONTAINERS LARGER THAN 20 L:** Use a transfer system that avoids open pouring when transferring the liquid concentrate from such containers into the spray tank.

**USE PRECAUTIONS FOR AERIAL APPLICATION (to cereal crops, grass crops, pasture, rangeland, stubble and non-cropland)**

Use where aerial use is appropriate, suitable and safe. Exercise special care:

- Use sufficient water for even distribution.
- Avoid direct applications to any body of water. Do not contaminate water through spray drift or by cleaning of equipment or disposal of wastes.
- Apply a minimum of 30L of spray solution per hectare.
- Use boom pressure of 235 kPa or less. Avoid placing nozzles where spray will enter wing tip vortices.
- Do not apply this product directly to, or otherwise permit it to come into direct contact with desirable crops or other desirable broadleaf plants or non-target species and do not permit spray mists to drift onto them.
- Coarse sprays are less likely to drift, use only nozzles or nozzle configuration which minimize the production of fine spray drops. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. When spraying, avoid combination of pressure and nozzle type that will result in fine particles (mist) which are more likely to drift. A spray thickening agent or drift retardant may be used with this product to aid in reducing spray drift.
- Do not use human flaggers.
- Avoid spray drift: Apply only when there is little or no hazard from spray drift. Small quantities of the spray, which may not be visible, may seriously injure susceptible crops and damage sensitive non-target habitat. A method must be used to detect air movement, lapse conditions, or temperature inversions (stable air) such as the use of balloons or a continuous smoke column at or near the spray site or a smoke generator on the spray equipment. If the smoke develops into layers or indicates a potential for hazardous spray drift, do not spray.
- **BUFFER ZONES:** Appropriate buffer zones should be established between treatment areas and aquatic systems, and treatment areas and significant wildlife habitat.
- Do not spray in winds exceeding 8 km per hour.
- Do not spray in dead calm near sensitive plants. A "cloud" of suspended droplets may drift onto sensitive plants when the wind comes up. Spray only when the wind is blowing away from a sensitive crop, shelter-belt or garden.

**USE PRECAUTIONS:** Avoid spray drift to any desirable vegetation NOT listed on this label as damage may occur. Avoid contamination of ponds, streams, rivers and other water sources. Do not spray during periods of high winds when spray is likely to drift. Coarse sprays are less likely to drift. Do not spray during periods of high temperatures when crops may be under stress as damage to the crop may occur.

**SPRAYER:** Clean all spray equipment thoroughly before use. Select nozzle tips to apply the recommended volume per hectare. Higher water volumes will reduce the risk of crop injury. Calibrate the sprayer and adjust the boom height to ensure uniform coverage. Nozzles must be in good condition and spraying the same volume. Flat fan nozzle tips are recommended.

**CLEANING OF SPRAYER:** Thoroughly clean the herbicide sprayer before applying any other chemical on crops which may be damaged (see USE PRECAUTIONS). Wash the outside of the sprayer and drain the tank completely. Remove and clean filters, screens and nozzle tips separately. Fill the sprayer tank with water. With the agitator running flush out the lines and boom, then drain. Fill the sprayer with clean water and use TANK and EQUIPMENT CLEANER or for each 100 L add 1 L household ammonia. Operate the pump and agitator for 15 minutes. If possible, let the solution remain in the tank and hoses overnight; recirculating and drain each time. DO NOT contaminate irrigation or drinking water when cleaning the sprayer.

**TIMING:** For best results spray when WEEDS ARE YOUNG AND ACTIVELY GROWING. Apply in good growing conditions. Application must be made before the crop canopy shields the weeds.

**Spot Treatment:** For spot treatment of weeds such as thistles with knapsack, mix 200 mL of product in 10 L of water. Wet all foliage thoroughly.

**Selective Weed Control in Small Grains:** Weeds differ in their susceptibility to 2,4-D ESTER 700, and not all types can be controlled satisfactorily in crops. The amount of 2,4-D ESTER 700 to use will depend upon the susceptibility and whether the crops will tolerate this amount.

**WHEAT, BARLEY, RYE (not underseeded with legumes):** Crop may be sprayed from the 4-leaf to the early flag leaf (shot blade) stage. Do not apply after the flag leaf stage. Treatment at the 4-leaf stage usually combines maximum crop tolerance with maximum weed susceptibility. The recommended rate is 0.5 to 0.8 L/ha. Higher rates may be needed to control certain weed species. Possible crop injury from these higher rates is usually offset by increased yield of the cleaner crop. If applying by ground use 50 or more L/ha of water. Spraying with higher volumes of water (100-150 L/ha of water) may reduce the risk of crop injury.

**PREHARVEST INTERVALS:**

- Do not permit lactating dairy animals to graze treated fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

**FALL RYE, WINTER WHEAT:** Treat in the spring between full tillering and just before the flag leaf stage. DO NOT APPLY DURING AND AFTER THE FLAG LEAF STAGE. DO NOT apply in the fall. The recommended rate is 0.5 to 0.8 L/ha. Higher rates may be needed to control certain weed species. Possible crop injury from these higher rates is usually offset by the increased yield of the cleaner crop. If applying by ground use 50 or more L/ha of water. Spraying with higher volumes of water (100-150 L/ha) may reduce the risk of crop injury.

**PREHARVEST INTERVALS:**

- Do not permit lactating dairy animals to graze treated fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

**FIELD CORN:** Apply as an overall spray before the corn is 15 cm tall (leaf extended) and/or before the 6-leaf stage. DAMAGE TO THE CORN MAY OCCUR IF AN OVERALL SPRAY IS APPLIED BEYOND THIS STAGE. The recommended rate for an overall spray is 0.4 to 0.8 L/ha. Do not exceed this rate for an overall spray. For later applications (corn 15-75 cm leaf extended) a shielded spray or directed spray with drop pipes is necessary. Keep spray off the corn foliage. DO NOT apply within 2 weeks of silking and tasselling. Use 100 or more L/ha of water. In case of very dry conditions, delay spray until one week following rain. Avoid cultivation for 2 weeks following spraying. DO NOT add oil or surfactant.

**PREHARVEST INTERVALS:**

- Do not permit lactating dairy animals to graze treated fields within 7 days after application.
- Do not harvest as forage within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

**GRASS CROPS - FOR FORAGE AND SEED PRODUCTION**

**Established Grasses:** May be used in the spring up to the shot-blade stage of the grass or in the fall after harvest to control annual and biennial broad-leaved weeds. On seed crops do not exceed 0.8 L/ha of product. On established stands of forage grasses grown for hay or pasture, spray thoroughly using 0.5 to 1.6 L/ha of product in 100 to 300 L water.

Late germinating weeds such as red bartsias may be controlled at 0.8 L/ha of product after the first hay crop has been removed.

Do not use during flower development or pollination or seed yields will be reduced.

**PRE-HARVEST INTERVALS:**

- Do not permit lactating dairy animals to graze fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

**ESTABLISHED PASTURES AND RANGELAND (without legumes):** Apply at the time of rapid growth (usually May, June and/or September). Spray thoroughly using 1.3 to 3.4 L/ha of 2,4-D ESTER 700 in 100 to 300 L of water. (Use the higher rate for perennial weeds; a second treatment may be required for spot spraying). Apply only after pasture has been grazed or cut and weed growth has resumed.

There is a possibility that plants poisonous to livestock will appear more palatable and could be grazed more readily after a 2,4-D treatment (eg: tansy ragwort, water hemlock, poison hemlock, death camas). Suitable precautions should be taken when such plants are present. Livestock should not be allowed to graze the treated area until poisonous plants have been removed, are dead or have resumed a normal growth habit. Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.

**PREHARVEST INTERVALS:**

- Do not permit lactating dairy animals to graze treated fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

**NON CROP USES:**

**GROUND APPLICATION:** Apply 50-300 L of spray solution per hectare depending on the type of application system being used. Use sufficient water to ensure uniform coverage.

**AERIAL APPLICATION: (STUBBLE LAND AND UNCROPPED LAND ONLY):** (including fixed and rotary wing aircraft). Apply a minimum of 30 L of spray solution per hectare. Use boom pressures of 235 kPa or less. Avoid placing nozzles where spray will enter wing tip vortices. (See use precautions for Aerial Applications)

**STUBBLE LAND, ROADSIDES, UNCROPPED LAND: DO NOT APPLY BY AIR TO ROADSIDES:** Apply at the time of rapid growth (usually May, June and/or September). Spray thoroughly using 1.3 to 2.35 L/ha of product in 100 L or more of water if applying by ground. (Use the higher rate for perennial weeds and susceptible woody growth, a second treatment may be required). Cultivating grain stubble and spraying after regrowth may aid in control. DO NOT apply on freshly seeded grasses and pastures until established. There is a possibility that plants poisonous to livestock will appear more palatable and could be grazed more readily after 2,4-D treatment (eg: tansy ragwort, water hemlock, poison hemlock, death camas). Suitable precautions should be taken when such plants are present. Livestock should not be allowed to graze the treated area until poisonous plants have been removed, are dead or have resumed a normal growth habit. Under conditions of good growth and adequate soil moisture, sprays can be applied up to 2 weeks before normal frost time.

**PREHARVEST INTERVALS:**

- Do not permit lactating dairy animals to graze treated fields within 7 days after application.
- Do not harvest forage or cut hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

**WOODY GROWTH (non-grazing):** Apply at time of rapid growth (usually May, June and/or September). Prepare a spray solution by mixing 2.6 to 6.8 L of product in 1000 L of water if applying by ground or in 55L of water if applying by air. Use the lower rate for species that are more susceptible such as chokecherry, western snowberry and willow. Depending on the density of the brush, 1000 to 3000 L of spray solution may be required per hectare if applying by ground or 55 to 165 L/ha of spray solution may be required if applying by air. Spray brush species up to 3 metres tall after foliage is well developed. Applications soon after leaves are fully open usually give the best results. Apply sufficient spray volume to thoroughly wet all plant parts to the ground line. Brush or trees above 3 m tall should be cut close to the ground and sprayed when the regrowth is over 0.6 m tall. With good growing conditions and adequate soil moisture, sprays may be applied up to 2 to 3 weeks before normal frost time.

**AIRCRAFT APPLICATIONS ON WOODY GROWTH:** On susceptible species prepare a spray solution by mixing 2.6 to 6.8 L of product in 55 L of water. Apply as a foliar spray in 55 to 165 L of spray solution per hectare. Use the lower rate for species that are very susceptible such as chokecherry, western snowberry and willow. Spray after the foliage is well developed. With good growing conditions and adequate soil moisture, sprays may be applied up to 2 to 3 weeks before normal frost time. If an oil water carrier is preferred, use the recommended rate in 15 L of oil and mix this in 40 L of water with continuous agitation. Use special care during aircraft application as risk of drift is greater. DO NOT spray in winds exceeding 8 km/h. Use caution when spraying near sensitive, desirable vegetation as contact with spray drift will cause damage. DO NOT contaminate any body of water.

**LAWNS, PARKS, GOLF COURSES:** Apply by ground only. Apply at time of rapid growth (usually May, June and/or September) before grasses are in the flag leaf (shot blade) stage. Apply 2.3 L/ha of 2,4-D ESTER 700 in 100 to 200 L of water/ha. DO NOT USE ON BENTGRASS OR NEWLY SEED-ED LAWNS. Avoid mowing for several days before and after treatment. Do not spray within 24 hours of rainfall or during hot, dry periods. Use caution when spraying near sensitive, desirable vegetation as contact with spray drift will cause damage.

**MAXIMUM APPLICATION FREQUENCY TO TURF:** For good turf/lawn management, normally two applications per year per treated site are adequate. This does not include spot treatments.

**RE-ENTRY INTERVAL:** Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treated areas until spray has thoroughly dried.

#### **WEEDS CONTROLLED**

**SUSCEPTIBLE** easy-to-control weeds in the seedling stage (2 to 4 leaf) and growing rapidly. Use 0.5 to 0.8 L/ha. Use the higher rate for larger weeds, dry or cold weather, or heavy infestations.

Bluebur, burdock (before the 4-leaf stage), cocklebur, common plantain, daisy fleabane, false flax, false ragweed, flixweed, goat's beard, Kochia, lamb's-quarters (including triazine resistant types), mustards (except dog and tansy), prickly lettuce, ragweeds (common and giant - including triazine resistant types), redroot pigweed (including triazine resistant types), Russian pigweed, Russian thistle, shepherd's purse, stinging nettle, stinkweed, sweet clover, thyme-leaved spurge, wild radish, wild (prairie) sunflower.

**LESS SUSCEPTIBLE** harder-to-control weeds in the seedling stage (2 to 4 leaf) and growing rapidly. Use 0.86 to 1.3 L/ha. Use the higher rate for larger weeds, dry or cold weather, or heavy infestations.

Weeds listed under susceptible plus annual sow thistle, blue lettuce, biennial wormwood, common chickweed, common purslane, curled dock (before the 4-leaf stage), dandelion in lawns, dog and tansy mustard, oak-leaved goosefoot, groundsel, gumweed, hairy galinsoga, hawkweed, heal-all, hedge bindweed, knotweed (before the 4-leaf stage), leafy spurge, lady's thumb, peppergrass, pineappleweed, prostrate pigweed, purslane, Russian knapweed, sheep sorrel, smartweed, tumble pigweed, velvet leaf, volunteer canola, wild buckwheat, yellow rocket (before the 4-leaf stage).

**TOP GROWTH CONTROL ONLY:** Use 0.86 to 1.3 L/ha. Biennial wormwood, blue lettuce, bull thistle, burdock, buttercup, Canada thistle, field bindweed, field dandelion, gum weed, hedge bindweed, hoary cress, leafy spurge, mouse-eared chickweed, perennial sowthistle, Russian knapweed, tartary buckwheat, teasel, volunteer sunflower, wild buckwheat, yellow rocket. Only rates greater than 1.3 L/ha will suppress top growth of hemp nettle and horsetail.

#### **RESTRICTED USE: FOREST AND WOODLAND MANAGEMENT**

**NATURE OF RESTRICTION:** This product is to be used only in the manner authorized. Consult local pesticide regulatory authorities about use permits which may be required.

**CONIFER RELEASE - AERIAL APPLICATION:** To control undesirable hardwood species in stands of fir, hemlock, spruce, and pine regeneration apply at 3.6 to 4.7 L/ha in 30 to 80 L/ha of total spray mixture. Use water or an "oil-water" mixture. Never allow any water or mixture containing water to get into the 2,4-D ESTER 700 or the oil spray premix. Note: 2,4-D ESTER 700 in water or oil-water sprays forms an emulsion, not a solution, and separation may take place unless sprays are agitated continuously until used up. Mechanical agitation is recommended.

To prevent conifer damage, delay spraying until all new conifer growth has hardened off, when the terminal buds feel sharp to touch. Caution should be taken to ensure that the conifer is not in a second phase of active or "lammas" growth in late summer. Hardwoods should not have commenced fall colouration. Control of heavy suckering species such as maple, trembling aspen and balsam poplar may only be partial.

Raspberries will not be controlled and may if present proliferate following removal of the hardwood overstory.

**FOREST SITE PREPARATION - AERIAL APPLICATION:** To control mixed hardwood species on sites to be planted to conifers, use 4.7 to 6.8 L of 2,4-D ESTER 700 in 30 to 100 L of total spray mixture per hectare. Apply as a uniform spray when the foliage is well developed and the brush is actively growing. Under conditions of good growth and high soil moisture, sprays can be used 2 to 3 weeks before normal frost time. For best results use a 10% oil-water\* mixture. NOTE: When preparing sites for planting do not plant conifers before spraying as the conifers present at the time of spraying may be injured or killed.

\*To prepare the "oil-water" mixture add the 2,4-D ESTER 700 to the oil in a separate container. With vigorous agitation 0.85 L of 2,4-D ESTER 700 will emulsify up to 10 L of oil in 100 L of spray mixture. Start running the water into the empty spray tank then slowly add the premix with continuous agitation. All the premix should be in the tank by the time 1/3 of the water is in. If the premix is put in the tank without any water, the first water may form a thick "invert" (water in oil) emulsion which will be hard to break.

**USE PRECAUTIONS:** With aircraft, uniform coverage can be obtained and drift minimized by using 235 kPa spray pressure or less at the nozzle, by using nozzles directed straight back, by using a spray boom no larger than 3/4 the wing span of the aircraft and by spraying when wind velocity is less than 8 km/h.

**FIRST AID:** This product contains petroleum distillates. If swallowed do not induce vomiting. Rush patient to nearest hospital taking this label with you or contact a poison control centre. Never give anything by mouth to an unconscious person. In case of skin contact, remove contaminated clothing and wash skin thoroughly with soap and water. In case of eye contact, flush with plenty of water for 15 minutes and get medical attention or contact a poison control centre. If inhaled, remove to fresh air and get medical attention or contact a poison control centre. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**TOXICOLOGICAL INFORMATION:** Treat symptomatically.

**STORAGE:** Store container tightly closed and away from seeds, feeds, fertilizer, plants and foodstuffs. This product may be stored at any temperature. Product exposed to subfreezing temperatures should be warmed to 5°C and mixed thoroughly before using. Insecticides and fungicides should be segregated from herbicides so as to prevent the possibility of cross-contamination. SHAKE WELL BEFORE USING.

#### **RETURNABLE-REFILLABLE CONTAINERS**

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same prod-

uct. Do not reuse this container for any other purpose.

DISPOSAL:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For information on the disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills

NOTICE TO USER: This control product is to be used only in accordance with the directions on this label. It is an offence under the Pest Control Products Act to use a control product under unsafe conditions.

NOTICE TO BUYER: Seller's guarantee shall be limited to the terms set out on the label and, subject thereto, the buyer assumes the risk to persons or property arising from the use or handling of this product and accepts the product on that condition.