

THUMPER

Emulsifiable Selective Weedkiller

Contains Bromoxynil and 2,4-D

for use in
SPRING WHEAT, DURUM WHEAT AND BARLEY

AGRICULTURAL

READ THE LABEL & ATTACHED BOOKLET BEFORE USING

WARNING



POISON

CAUTION: EYE IRRITANT
KEEP OUT OF REACH OF CHILDREN

REGISTRATION NO. 22659
PEST CONTROL PRODUCTS ACT

GUARANTEE:

Bromoxynil (present as mixed octanoate
and heptanoate esters).....280 g/L
2,4-D (present as 2-ethylhexyl ester).....280 g a.e./L

Bayer CropScience

Suite 100, 3131 – 114th Avenue SE
Calgary, Alberta T2Z 3X2
Telephone: 1-888-283-6847

**In case of spills, poisoning or fire, telephone emergency
response number 1-800-334-7577 (24 hours a day).**

PRECAUTIONS:

HARMFUL OR FATAL IF SWALLOWED.

MAY IRRITATE EYES. KEEP OUT OF REACH OF CHILDREN.

Avoid contact with skin, eyes and clothing.

Store the container tightly closed away from seeds, feeds, fertilizer, plants and foodstuffs.

Wash concentrate from skin or eyes immediately.

Avoid working in spray mist. After use wash hands and other exposed skin.

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., visit CropLife Canada's website at www.croplife.ca

PROTECTIVE CLOTHING AND EQUIPMENT:

For Aerial Application and Application using Groundboom Equipment: Applicators must wear coveralls over a long-sleeved shirt and long pants, socks and shoes. In addition, wear protective eye wear (face shield or safety glasses) and a chemical resistant apron during mixing/loading activities. Wear chemical resistant nitrile gloves (e.g. Edmont Sol-Vex #37-155/#37-145 or Pioneer A-15) which are in good condition when mixing/loading, spraying, and during clean-up and repair. Rinse gloves before removal. Aerial applicators and applicators using a closed cab are not required to wear chemical resistant gloves.

For aerial application, no human flaggers are permitted.

When handling more than 265 kg 2,4-D a.e. per day (approximately 946 ha), workers must also use a closed system.

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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them.
- Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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 clothing and 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.
- DO NOT enter or allow worker entry into treated areas during restricted-entry interval (REI) of 24 hours.
- DO NOT apply this product in a way that will allow product to contact workers or other persons, either directly or through drift. Only handlers wearing personal protective equipment may be in area undergoing treatment during application.

TRANSFER SYSTEM: For containers larger than 20L: Use a transfer system that avoids open pouring when transferring the liquid concentrate from such containers into the spray tank.

FIRST AID:

Remove person from contaminated area, remove contaminated clothing. Keep patient warm, comfortable, at rest. Contact a poison control centre IMMEDIATELY. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

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 centre 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 centre or doctor for treatment advice.

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

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

TOXICOLOGICAL INFORMATION: This product may cause mild irritation to the eyes. Overexposure may cause coughing, burning, dizziness or temporary loss of muscle coordination. Other possible effects of overexposure include fatigue, muscle weakness and nausea. Treat symptomatically. Medical personnel should contact Bayer's medical information services toll-free 1-800-334-7577. This product contains an aromatic hydrocarbon solvent.

ENVIRONMENTAL HAZARDS: TOXIC to small mammals, birds, aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under **DIRECTIONS FOR USE**. This product will also harm other broadleaved plants in the vicinity of the treatment area. 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. Avoid contamination of ponds, streams, rivers and other water sources. Avoid spray drift onto crops other than those recommended.

LEACHING: The use of this chemical may result in contamination of groundwater, particularly in areas where soils are permeable (e.g. sandy soil) and/or depth of water table is shallow.

RUNOFF: To reduce runoff from treated areas into aquatic habitats, avoid application to areas with moderate to steep slope, compacted soil, or clay. Avoid application of this product when heavy rain is forecast. Contamination of aquatic areas may be reduced by including a strip of untreated vegetation between the treated area and the edge of the water body.

STORAGE CONDITIONS: This THUMPER formulation will solidify at temperatures below -20°C but will become usable at temperatures above 0°C.

Insecticides and fungicides should be separated from herbicides so as to prevent the possibility of cross contamination. *Shake well before using.*

DISPOSAL (FOR RECYCLABLE CONTAINERS)

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

DISPOSAL (FOR RETURNABLE CONTAINERS):

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

DISPOSAL (FOR 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 product. Do not reuse this container for any other purpose.

DISPOSAL OF UNUSED, UNWANTED PRODUCT:

For information on 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 cleanup of spills.

NOTICE TO USER: This pest 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 in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

DIRECTIONS FOR USE:**USE PRECAUTIONS:**

Avoid spray drift to any desirable vegetation NOT listed on this label as damage may occur. Avoid contamination of ponds, streams, rivers, lakes 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. DO NOT apply this product directly to freshwater habitats such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands, estuaries or marine habitats. DO NOT contaminate irrigation/drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

TIMING:

For best results spray when weeds are in the seedling stage. Apply in good growing conditions. Application *must* be made before the crop shields the weeds. One application per year.

SPRAYER:

Wash the tank and clean all filters, screens and tips. Select nozzle tips to apply the recommended volume per hectare. Flood jet type tips are not recommended. Adjust boom height to ensure uniform coverage of the weeds. Ensure that all tips are in good condition and spraying the same volume.

MIXING:

Half fill the tank with clean water. Add the required amount of THUMPER and agitate thoroughly. Fill the tank and agitate again before use.

FIELD SPRAYER APPLICATION:

DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) coarse classification. Boom height must be 60 cm or less above the crop or ground. For ground applications, spray at 5 to 10 kph.

AERIAL APPLICATION:

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rate and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Use Precautions:

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual*, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides..

DO NOT apply during periods of dead calm. Avoid application when winds are gusty. DO NOT apply when wind speed is greater than 16 km/h at flying height at the site of application. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) coarse classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing-or rotorspan.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

Operator Precautions:

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions:

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-888-283-6847 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

Volume: THUMPER must be applied in volume rates of not less than 30 L/ha. For best results when there is a heavy crop canopy, or when the majority of the weeds are cow cockle, smartweed or pigweed, a volume rate of 40 L/ha is recommended.

BUFFER ZONES TO PROTECT SENSITIVE AQUATIC AND TERRESTRIAL HABITAT:

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and scrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marches, streams, reservoirs and wetlands) and estuarine/marine habitats. Seasonal water bodies require buffer zones if there is water in them during application. Water bodies which do not fill on an annual basis need not be buffered.

Method of Application	Crop		Buffer Zones** (metres) Required for the Protection of:				
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		Terrestrial Habitat
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field Sprayer*	All Crops		1	1	1	1	1
Aerial	Barley and Wheat	Fixed wing	20	5	1	1	55
		Rotary wing	20	3	1	1	45

* For field sprayer application, buffer zones can be reduced with the use of drift-reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labeled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles

are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labeled zone can be reduced by 30%.

** When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved.

HERBICIDE RESISTANCE MANAGEMENT:

For resistance management, please note that THUMPER is a Group 4 and 6 herbicide. Any weed population may contain or develop plants naturally resistant to THUMPER and other Group 4 and 6 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 THUMPER or other Group 4 and 6 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 (or other mechanical), 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 your local Bayer representative, or call Bayer CropScience toll-free at 1-888-283-6847.

SPRING WHEAT, DURUM WHEAT AND BARLEY
(not underseeded to legumes)

Spray Volume and Pressure: For ground application, apply in 50 to 100 L of water per hectare at a pressure of 275 kPa. For aerial application, apply in a minimum of 30 L of water per hectare. For best results when there is a heavy crop canopy, or when the majority of the weeds are cow cockle, smartweed or pigweed, a volume rate of 40 L/ha is recommended.

Timing: Spring wheat, durum wheat and barley may be treated from the 4 leaf stage until the early flag leaf stage. Application before the 4 leaf stage may injure the crop.

Application Rate: 1 L/ha

Pre-Harvest Interval:

- Do not permit livestock to graze fields within 30 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.

WEEDS CONTROLLED:

Common Name	Leaf Stage*
American nightshade	4 leaf
Ball mustard	4 leaf
Bluebur	4 leaf
Cocklebur	4 leaf
Common buckwheat	8 leaf
Common groundsel	8 leaf
Common ragweed	4 leaf
Cow cockle	4 leaf
Flixweed	4 leaf
Green smartweed	4 leaf
Kochia	5 cm high (1-12 leaf)
Lady's-thumb	4 leaf
Lamb's-quarters	8 leaf
Night-flowering catchfly	4 leaf
Pale smartweed	4 leaf
Redroot pigweed	4 leaf
Russian thistle	5 cm high (2-12 leaf)
Shepherd's purse	4 leaf
Stinkweed	8 leaf
Tartary buckwheat	8 leaf
Triazine resistant pigweed	4 leaf
Velvetleaf	8 cm high
Volunteer canola	4 leaf
Volunteer sunflower	4 leaf
Wild buckwheat	8 leaf
Wild mustard	8 leaf

* Weeds can be controlled up to the recommended stage.

**THUMPER + ACHIEVE 40 SC or ACHIEVE LIQUID
(Spring Wheat, Durum Wheat and Spring Barley)**

Follow all mixing and spraying precautions, limitations and timing recommendations on the Achieve 40 SC or Achieve Liquid label.

Spray Volume and Pressure: When using ground equipment, apply in 50 to 100 litres of water per hectare at a pressure of 275 kPa. For aerial application, apply in 30 to 45 litres of water per hectare.

Timing: Application of Thumper and Achieve 40 SC or Achieve Liquid tank-mixtures should be made to spring wheat, durum wheat or spring barley from the 4 leaf stage until the early flag leaf stage. Application before the 4 leaf stage may injure the crop.

Application Rate: Thumper at 1 L/ha tank-mixed with Achieve 40 SC or Achieve Liquid at 0.5 L/ha. When using this tank-mixture, add Turbocharge to the spray tank at a concentration of 0.5% v/v (i.e. 0.5 L Turbocharge per 100 L of spray solution).

WEEDS CONTROLLED: As listed for Thumper alone plus those listed on the Achieve 40 SC or Achieve Liquid label.

NOTE: Thumper plus Achieve 40 SC or Achieve Liquid tank-mixtures can be used in all varieties of spring and durum wheat and all 2 or 6 row varieties of barley (malting and feed varieties). Only apply this mixture to spring wheat, durum wheat and spring barley that is NOT UNDERSEEDED TO LEGUMES.

**THUMPER + AVENGE 200-C
(Spring Wheat)**

Follow all precautions, limitations and timing recommendations on the AVENGE 200-C label.

Note: THUMPER should be applied to the spray tank first, agitated, then add AVENGE 200-C. AVENGE 200-C can only be applied to certain varieties of spring wheat. Refer to the AVENGE 200-C label. DO NOT APPLY BY AIR.

Spray Volume and Pressure: Apply in 100 litres of water per hectare at a pressure of 275 kPa.

Timing: Spring wheat and barley may be treated from the 4 to 6 leaf stage. Wild oats must be in the 3 to 5 leaf stage and broadleaf weeds in the seedling stage as indicated.

Application Rate: THUMPER at 1 L/ha tank-mixed with AVENGE 200-C at 3.5-4.25 L/ha.

WEEDS CONTROLLED: As listed on the THUMPER label alone plus wild oats.

THUMPER + HORIZON HERBICIDE TANK MIX
(Spring Wheat and Durum Wheat)

For use in Manitoba, Saskatchewan, Alberta plus the Peace River Region of British Columbia

Follow all mixing and spraying precautions, limitations and timing recommendations in the Horizon Herbicide Tank Mix booklet. Horizon Herbicide Tank Mix consists of Horizon 240 EC Herbicide and Score** Adjuvant.

Note: THUMPER should be added to the spray tank first, agitate, then add Horizon 240 EC, with Score Adjuvant last . DO NOT APPLY BY AIR.

Spray Volume and Pressure: Apply in 100 litres of water per hectare at a pressure of 275 kPa.

Timing: Applications of THUMPER and Horizon Herbicide Tank Mix should be made to spring and durum wheat from the 4 leaf to the flag leaf stage of growth.

Application Rate: THUMPER at 1 L/ha tank-mixed with Horizon 240 EC at 230 mL/ha plus Score adjuvant at a concentration of 0.8% v/v (i.e. 800 mL/ha Score with 100 L/ha of water) for control of wild oat, volunteer (tame) oat, green foxtail (wild millet), yellow foxtail, barnyard grass and volunteer canary seed.

For the control of the preceding weeds plus persian darnel, add 290 mL/ha Horizon 240 EC plus Score adjuvant at a concentration of 1.0% v/v (i.e. 1 L/ha of Score with 100 L/ha of water).

WEEDS CONTROLLED: As listed on the THUMPER label alone plus wild oats, volunteer (tame) oat, green foxtail (wild millet), yellow foxtail, barnyard grass, volunteer canary seed and persian darnel.

THUMPER + PUMA¹²⁰ SUPER
(Spring Wheat, Durum Wheat and Spring Barley)

For use in Manitoba, Saskatchewan, Alberta plus the Peace River Region of British Columbia

Follow all mixing and spraying precautions, limitations and timing recommendations on the Puma¹²⁰ Super label. Do not apply Puma¹²⁰ Super to any field more often than once per year.

Spray Volume and Pressure: Apply in 55 to 100 litres of water per hectare at a pressure of 275 kPa. when using ground equipment. For aerial application, apply in no less than 35 litres of water per hectare.

Timing: Application of THUMPER and Puma¹²⁰ Super tank mixtures should be made to spring wheat and durum wheat from the 4-6 leaf stage of growth on the main stem plus 3 tillers. Application of THUMPER and Puma¹²⁰ Super tank mixtures should be made to spring barley

from the 4-5 leaf stage of growth on the main stem plus 2 tillers. Application beyond the 6 leaf stage of spring and durum wheat and the 5 leaf stage of spring barley may result in crop injury. Apply when annual grassy weeds are in the 1-6 leaf stage of growth.

Application Rate: THUMPER at 1 L/ha tank-mixed with Puma¹²⁰ Super at 770 mL/ha.

WEEDS CONTROLLED: As listed on the THUMPER label alone plus wild oat, green foxtail (wild millet), yellow foxtail and barnyard grass.

Application Rate: THUMPER at 1 L/ha tank-mixed with Puma¹²⁰ Super at 385 mL/ha.

WEEDS CONTROLLED: As listed on the THUMPER label alone plus green foxtail (wild millet).

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