

Container label

GROUP	3	FUNGICIDE
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BUMPER 432 EC

FUNGICIDE

COMMERCIAL

Emulsifiable Concentrate for
Broad-spectrum disease control in: Wheat, Barley, Oats, Canola,
Corn and Soybeans (grown for seed), Dry Edible Beans , Canary Seed, Peaches, Nectarines,
Plums, Apricots, Sweet Cherries, Sour Cherries, Highbush and Lowbush Blueberries,
Saskatoon Berries, Cranberries, Caneberries, Strawberries, Rutabagas, Asparagus, Western Red
Cedar, and Kentucky Bluegrass Grown for Seed.

GUARANTEE:

Propiconazole 432 g/L

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

REGISTRATION NO.: 28017
PEST CONTROL PRODUCTS ACT

CAUTION



POISON

EYE IRRITANT

Net Contents: 1-1050 litres

ADAMA Agricultural Solutions Canada, Ltd.
302 - 179 McDermot Ave
Winnipeg MB R3B 0S1
1 204 396-1640

24 Hour Emergency Response Number 1 800 535-5053

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

FIRST AID:

IF SWALLOWED: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person

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.

Take the container label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION:

There is no specific antidote for this product. Apply symptomatic therapy.

PRECAUTIONS:

KEEP OUT OF THE REACH OF CHILDREN. Harmful if swallowed. May irritate eyes. Avoid contact with eyes.

Wear long pants, a long sleeve shirt, chemical resistant footwear and socks, overalls and chemical-resistant gloves during mixing/loading, application, clean-up and repair activities. Wear protective goggles or faceshield when handling the concentrated product. The wearing of neoprene gloves by pilots when entering the aircraft is essential. Mechanical flagging devices must be used.

Do not eat, drink or smoke during work; wash hands and face thoroughly before doing so. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes.

After work, change clothing and wash entire body thoroughly. Wash contaminated working clothes separately from other laundry before reuse. Do not contaminate food or feed.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas, is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

DO NOT enter or allow worker entry into treated areas during the restricted entry intervals (REIs) of:

- o 5 days for hand pruning highbush blueberries,
- o 1 day for hand harvesting and hand detasseling corn, and
- o 12 hours for the other re-entry activities and crops.

NOTE: Do not graze animals on treated green crops within three days of application of BUMPER 432 EC fungicide.

For fruit and specialty crops as listed, do not graze livestock on treated green crops.

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes

STORAGE: To prevent contamination, store this product away from food or feed.

DISPOSAL:

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 clean-up of spills.

CONTAINER 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.

For returnable containers:

DO NOT reuse this container for any other purpose. This empty container may be returned to the point of purchase (distributor/dealer) for disposal.

For information on disposal of unused, unwanted product, or in the case of a spill or spill clean-up, contact the manufacturer or provincial regulatory agency

IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING CALL 1-800-535-5053.

ENVIRONMENTAL HAZARDS:

Toxic to aquatic organisms and non-target terrestrial plants. The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body. Toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application sites such as hedgerows and woodland.

Pamphlet label

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TOXICOLOGICAL INFORMATION:

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PRECAUTIONS:

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Wear long pants, a long sleeve shirt, chemical resistant footwear, and socks overalls and chemical-resistant gloves during mixing/loading, application, clean-up and repair activities. Wear protective goggles or faceshield when handling the concentrated product. The wearing of neoprene gloves by pilots when entering the aircraft is essential. Mechanical flagging devices must be used.

Do not eat, drink or smoke during work; wash hands and face thoroughly before doing so. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes.

After work, change clothing and wash entire body thoroughly. Wash contaminated working clothes separately from other laundry before reuse. Do not contaminate food or feed.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas, is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

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- o 5 days for hand pruning highbush blueberries,
- o 1 day for hand harvesting and hand detasseling corn, and
- o 12 hours for the other re-entry activities and crops.

NOTE: Do not graze animals on treated green crops within three days of application of BUMPER 432 EC fungicide.

For fruit and specialty crops as listed, do not graze livestock on treated green crops.

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes

STORAGE: To prevent contamination, store this product away from food or feed.

DISPOSAL:

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For returnable containers:

DO NOT reuse this container for any other purpose. This empty container may be returned to the point of purchase (distributor/dealer) for disposal.

For information on disposal of unused, unwanted product, or in the case of a spill or spill clean-up, contact the manufacturer or provincial regulatory agency

IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING CALL 1-800-535-5053.

ENVIRONMENTAL HAZARDS:

Toxic to aquatic organisms and non-target terrestrial plants. The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body. Toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application sites such as hedgerows and woodland. DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands), estuaries or marine habitats.

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) medium classification. Boom height must be 60 cm or less above the crop or ground.

Airblast application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 m/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium 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 rotor span.

Buffer zones:

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 shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method Of Application	Crop		Buffer Zones (metres) Required for the Protection of:				Terrestrial habitat
			Freshwater Habitats of Depths:		Estuarine/Marine Habitats of Depths:		
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer*	Beans , soybeans, corn, wheat, oats, canary seed, canola, barley,		1	0	1	1	1
Aerial	beans, corn, oats, wheat, barley	Fixed Wing	1	0	3	1	20
		Rotary Wing	1	0	1	1	20
Field sprayer*	rutabagas, cranberries, asparagus, Kentucky bluegrass, Western red cedar		1	0	1	1	1
Airblast	Cherries	Early Growth Stage	5	0	10	3	10
		Late Growth Stage	2	0	4	2	4
	Blueberries, apricots, nectarines, peaches, plums, Saskatoon berries, ,	Early Growth Stage	4	0	5	2	5
		Late Growth Stage	2	0	3	1	3
Aerial	Blueberries, Kentucky bluegrass (seed prod.)	Fixed Wing	1	0	3	1	20
		Rotary Wing	1	0	3	1	20

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 labelled 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 labelled buffer zone can be reduced by 30%.

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

GENERAL INFORMATION:

Introduction: BUMPER 432 EC is a broad-spectrum systemic fungicide for control of a wide range of diseases on certain crops. BUMPER 432 EC fungicide will protect the crop from yield and quality losses due to disease. BUMPER 432 EC may be used in conjunction with higher seeding rates and higher fertilizer inputs. (See “NOTE” under PRECAUTIONS).

DIRECTIONS FOR USE:

DO NOT use in greenhouses.

BUMPER 432 EC may be applied to the crops listed in the table below to control or suppress the listed diseases.

Winter Wheat and Spring Wheat (including Hard Red, Durum, Canada Prairie, Soft White)	Septoria Leaf Spot (<i>Septoria tritici</i>); Glume Blotch (<i>Stagonospora nodorum</i>); Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>); Leaf Rust (<i>Puccinia triticina</i>); Stem Rust (<i>Puccinia graminis</i>); Tan Spot (<i>Pyrenophora tritici-repentis</i>); Stripe Rust (<i>Puccinia striiformis</i>)
Spring Barley	Net Blotch (<i>Drechslera teres</i>); Spot Blotch (<i>Cochliobolus sativus</i>); Scald (<i>Rhynchosporium secalis</i>); Powdery Mildew (<i>Erysiphe graminis</i> DC. f. sp. <i>hordei</i>); Septoria Leaf Spot (<i>Septoria passerinii</i>); Leaf Rust (<i>Puccinia hordei</i>); Stem Rust (<i>Puccinia graminis</i>)
Oats	Septoria Leaf Blotch (<i>Septoria avenae</i>); Crown Rust (<i>Puccinia coronata</i>)
Canola	Blackleg (<i>Leptosphaeria maculans</i>)
Corn (including Field, Seed and Sweet)	Rusts (<i>Puccinia sorghi</i>); Northern Corn Leaf Blight (<i>Setosphaeria turcica</i>); Southern Corn Leaf Blight (<i>Cochliobolus heterostrophus</i>); Helminthosporium Leaf Spot (<i>Helminthosporium carbonum</i>); Eye Spot (<i>Aureobasidium zeae</i>); Grey Leaf Spot (<i>Cercospora zeae-maydis</i>)
Soybeans (grown for seed)	Frogeye Leaf Spot (<i>Cercospora spp.</i>); Aerial Web Blight (<i>Rhizoctonia solani</i>)
Canary Seed	Septoria Leaf Mottle (<i>Septoria triseti</i>)
Dry Edible Beans (including kidney, navy and white beans)	Rust (<i>Uromyces appendiculatus</i>)
Peaches, Nectarines, Plums, Apricots	Brown Rot Blossom Blight (<i>Monilinia fructicola</i>); Fruit Brown Rot (<i>Monilinia fructicola</i>)
Sweet and Sour Cherries	Brown Rot Blossom Blight (<i>Monilinia fructicola</i>); Fruit Brown Rot (<i>Monilinia fructicola</i>); Cherry Leaf Spot (<i>Blumeriella jaapii</i>)
Highbush Blueberries	Mummyberry (<i>Monilinia vaccinii – corymbosi</i>)
Lowbush Blueberries	Monilinia Blight (Mummyberry) (<i>Monilinia vaccinii – corymbosi</i>)

Saskatoon Berry	Entomosporium Leaf and Berry Spot (<i>Entomosporium mespilii</i>); Saskatoon Juniper Rust (<i>Entomosporium mespilii</i>)
Cranberries	Cottonball (<i>Monilinia oxycocci</i>)
Rutabagas	Powdery Mildew (<i>Erysiphe</i> spp.)
Asparagus	Rust (<i>Puccinia asparagi</i>)
Western Red Cedar	Keithia Foliar Blight (<i>Didymascella thujina</i>)
Kentucky Bluegrass Grown for Seed	Powdery Mildew (<i>Erysiphe graminis</i>)
Caneberries (Crop Group 13A)	Yellow rust (<i>Phragmidium rubi-idaei</i>)
Strawberries	Leaf Spot (<i>Mycosphaerella fragariae</i>)
Plums and Sour Cherries	Black Knot (<i>Apiosporina morbosa</i>) [suppression only]

Factors Affecting BUMPER 432 EC Performance: BUMPER 432 EC should be applied as a preventative disease control measure. Established diseases are more difficult to control and may have already reduced crop vigour.

If rainfall occurs within one hour of application, reapplication is necessary.

AERIAL APPLICATION:

DO NOT apply when wind speed is greater than 16 km/h at flying height at the site of application. High humidity and low temperatures (10 – 20°C) allow for a better deposition of spray droplets.

SPRAYER AND APPLICATION INFORMATION:

The performance of this product depends on correct application. Follow the guidelines given below for optimal application of BUMPER 432 EC.

Sprayer Information:

	GROUND APPLICATION	AERIAL APPLICATION
Spray Volume	Minimum 200 L of water per hectare	50 L of water per hectare
Spray Pressure	200 - 300 kPa	100 - 200 kPa
Nozzle Type	110° Flat Fan (XR11004, 4110-20)	Flat Fan 6510-6515 or Hollow Cone (D8-45)
Droplet Size	Medium Spray (300 - 400 microns VMD)	Medium Spray (350 - 400 microns VMD)
Ground Speed	10 km/h	
Nozzle Angle	90° (straight down)	90° (straight down)
Boom Height	40-50 cm above the crop canopy	2-3 m above the crop canopy

Ground Application:

Mixing and Spraying Instructions:

- Spray equipment should be thoroughly flushed with clean water before mixing BUMPER 432 EC.

- Fill spray tank 1/2 full with clean water. Engage gentle agitation.
- Add the required amount of BUMPER 432 EC and agitate thoroughly.
- Continue filling the tank with water until the tank is 9/10 full and, if applicable, add the required amount of tank mix partner.
- Complete filling the spray tank with water, maintaining agitation during mixing and spraying operations.
- Use nozzle screens no finer than 50 mesh. Keep by-pass line on or near the bottom of the tank to minimize foaming.

Aerial Application:

Mixing and Spraying Instructions:

- Spray equipment should be thoroughly flushed with clean water before mixing BUMPER 432 EC.
- Fill premix tank 1/2 full with clean water. Engage gentle agitation.
- Add the required amount of BUMPER 432 EC and agitate thoroughly.
- Continue filling the tank with water until the tank is 9/10 full and, if applicable, add the required amount of tank mix partner.
- Complete filling the premix tank with water.
- Maintain gentle agitation during mixing.
- Transfer the premix contents into the aircraft spray tank.
- Maintain sufficient agitation during the mixing and spraying operation to ensure BUMPER 432 EC remains in suspension.
- Use nozzle screens no finer than 50 mesh. Keep by-pass line on or near the bottom of the tank to minimize foaming.

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 rates 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 a 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.

AERIAL APPLICATION 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 to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Coarse sprays are less likely to drift; therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty.

AERIAL APPLICATION 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.

The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. 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 1-212-661-9800 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:

Apply the recommended rate in a minimum spray volume of 50 litres per hectare.

Fertilizer:

Mixing and Spraying Instructions:

If desired, small amounts of nitrogen may be applied with BUMPER 432 EC. The appropriate amount of urea can be dissolved in water and added to the spray tank before adding BUMPER 432 EC. The rate of actual nitrogen must not exceed 10 kg/ha.

CAUTION: Excessive nitrogen concentrations may injure the crop.

NOTE: DO NOT add nitrogen when tank-mixing BUMPER 432 EC with a herbicide.

NOTE: Do not graze livestock on treated crops.

WHEAT, BARLEY AND OATS - INSTRUCTIONS FOR USE

Apply BUMPER 432 EC at the very early stages of disease. This could occur anytime during tillering or stem elongation. Typically, an application from the beginning of stem elongation up to flag leaf emergence is required.

BUMPER 432 EC lasts about three weeks in the plant. If conditions favourable to disease continue after this length of time, another application will be necessary to maintain control. The second spray is usually applied at the time of head emergence. In most cases, this second application is essential to maintain control of the Septoria disease complex.

CROP/DISEASE	RATE/HA	EARLY APPLICATION	LATER APPLICATION	MAXIMUM NUMBER OF APPLICATIONS PER SEASON
WHEAT Septoria Leaf Spot (<i>Septoria tritici</i>) and Tan Spot (<i>Pyrenophora tritici-repentis</i>) SPRING BARLEY Net Blotch (<i>Drechslera teres</i>)	150-300 mL	At Growth Stage (G.S). 12-23 (as early as the two leaf stage). For early season disease suppression, use the lower rate for suppression under normal field conditions. Use the higher rate for control if there is a history of high disease pressures in the field and/or field conditions favour disease development.	At the first sign of disease (G.S. 29-37) or before head is half emerged (G.S. 49-55). Apply only the high rate on any application from G.S. 29-55.	2 For net blotch on barley, in areas of high disease pressure, do not apply more than one (1) application of BUMPER 432 EC before alternating to a labelled fungicide with a different mode of action.
WHEAT Septoria Leaf Spot (<i>Septoria tritici</i>), Glume Blotch (<i>Stagonospora nodorum</i>), Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>), Leaf Rust (<i>Puccinia triticina</i>), Stem Rust (<i>Puccinia</i>	300 mL	At the first sign of disease, usually at the beginning of stem elongation (G.S. 29-37)	Before head is half emerged (G.S. 49-55)	2 For powdery mildew, net blotch and scald: in areas of high disease pressure, do not apply more than one (1) application of

CROP/DISEASE	RATE/HA	EARLY APPLICATION	LATER APPLICATION	MAXIMUM NUMBER OF APPLICATIONS PER SEASON
<p><i>graminis</i>), Tan Spot (<i>Pyrenophora tritici-repentis</i>), Stripe Rust (<i>Puccinia striiformis</i>)</p> <p>SPRING BARLEY Net Blotch (<i>Drechslera teres</i>), Spot Blotch (<i>Cochliobolus sativus</i>), Scald (<i>Rhynchosporium secalis</i>), Powdery Mildew (<i>Erysiphe graminis</i> DC. f. sp. <i>hordei</i>), Septoria Leaf Spot (<i>Septoria passerinii</i>), Leaf Rust (<i>Puccinia hordei</i>), Stem Rust (<i>Puccinia graminis</i>)</p> <p>OATS Septoria Leaf Blotch (<i>Septoria avenae</i>), Crown Rust (<i>Puccinia coronata</i>)</p>				BUMPER 432 EC before alternating to a labelled fungicide with a different mode of action.
LAST APPLICATION MUST BE MADE AT LEAST 45 DAYS BEFORE HARVEST.				

HERBICIDE TANK-MIXING - WHEAT & BARLEY:

BUMPER 432 EC can be tank-mixed with ONLY ONE of these herbicides at a time:
See tank mix partner label for rate to use

- | | |
|---|------------------|
| 2,4-D Amine | Estemine 2,4-D® |
| MCPA Amine | Estemine MCPA® |
| Badge Emulsifiable Selective Weedkiller | Bromotril 240 EC |

Tank-mixing Precautions:

- Do not tank-mix BUMPER 432 EC with herbicides for application onto Oats.
- Weeds and crops must be at the correct stage of growth as specified in both the BUMPER 432 EC label and the tank mix partner label.
- 2,4-D and MCPA formulations may be applied either by ground application or aerial application; tank-mixtures of BUMPER 432 EC and Badge Emulsifiable Selective Weedkiller or Bromotril 240 EC can only be applied by ground application.
- Consult the label of the herbicide partner for a list of weeds controlled, directions for use and precautions.
- Compatibility should always be confirmed by premixing small proportional quantities of water, BUMPER 432 EC, and the tank-mix partner in advance.

NOTE: Do not graze animals on treated green crops within three days of application of BUMPER 432 EC. Do not feed straw from crops treated with herbicide tank mixes to livestock. For fruit and specialty crops as listed, do not graze livestock on treated green crops.

HERBICIDE TANK-MIXING – WHEAT

FOR USE ONLY IN THE PRAIRIE AND PEACE RIVER, OKANAGAN AND CRESTON FLATS REGIONS OF BRITISH COLUMBIA.

BUMPER 432 EC can be tank-mixed with LADDER 240 EC Herbicide for disease and grassy weed control.

Tank-mixing Precautions:

- Do not apply by air.
- Consult the label of LADDER 240 EC Herbicide for a list of weeds controlled, directions for use and precautions.
- Apply prior to emergence of the 4th tiller (herbicide timing).

CANOLA - INSTRUCTIONS FOR USE

BUMPER 432 EC will control blackleg and enhance yield potential during the early stages of canola growth. The disease may reappear later in the season, but with minimal effect on yield. **DO NOT APPLY BY AIR.**

DISEASE	RATE/HA	REMARKS/TIMING		
Blackleg (<i>Leptosphaeria maculans</i>)	300 mL	Apply during the rosette stage; between 2 nd true leaf and bolting.		
		Seedling Stage 1	Rosette Stage 2	Bud (Bolted) Stage 3
LAST APPLICATION MUST BE MADE AT LEAST 60 DAYS BEFORE HARVEST.				

SEED CORN, FIELD CORN and SWEET CORN – INSTRUCTIONS FOR USE

BUMPER 432 EC can be applied alone or tank-mixed with the following partner: Silencer 120 EC Insecticide

A restricted entry interval of 1 day is required for workers handharvesting and detasseling treated corn.

Tank-mixing Precautions:

- The tank mix of BUMPER 432 EC + Silencer 120 EC Insecticide can be applied by air and ground. Use 40 L of water per hectare when applying by air.
- Insects and crops must be at the correct stage as specified on the BUMPER 432 EC as well as the Silencer 120 EC label. Follow the directions for use and precautions on all labels.
- A Pre harvest interval (PHI) of 14 days must be respected when using these tank-mixes on field and sweet corn.
- Compatibility should always be confirmed by premixing small proportional quantities of water, BUMPER 432 EC, and the tank-mix partner in advance.

DISEASE	RATE/HA BUMPER 432 EC Fungicide alone	RATE/HA Tank Mix partner	REMARKS
Rusts (<i>Puccinia sorghi</i>)	300 mL	+ 83 mL Silencer 120 EC	Apply 300 mL of BUMPER 432 EC per hectare when rust pustules first appear. Under severe disease pressure, make a second application 14 days after. Seed corn only , under severe disease pressure, make a third application 14 days after.
Northern Corn Leaf Blight (<i>Setosphaeria turcica</i>),	150-300 mL	+ 83 mL Silencer 120 EC	Apply 150 - 300 mL of BUMPER 432 EC per hectare when disease first appears. Use the 150 mL rate if disease

DISEASE	RATE/HA BUMPER 432 EC Fungicide alone	RATE/HA Tank Mix partner	REMARKS
Southern Corn Leaf Blight (<i>Cochliobolus heterostrophus</i>), Helminthosporium Leaf Spot (<i>Helminthosporium carbonum</i>)			pressure is low.
Eye Spot (<i>Aureobasidium zeae</i>) Grey Leaf Spot (<i>Cercospora zeae-maydis</i>)	300 mL	+ 83 mL Silencer 120 EC	Apply 300 mL of BUMPER 432 EC per hectare when disease first appears.

SOYBEANS GROWN FOR SEED – INSTRUCTIONS FOR USE

DISEASE	RATE/HA	REMARKS
Frogeye Leaf Spot (<i>Cercospora spp.</i>) Aerial Web Blight (<i>Rhizoctonia solani</i>)	300-455 mL	Apply 300 - 455 mL of BUMPER 432 EC per hectare, using ground application equipment only, when disease first appears. Use the higher rate for control if there is a history of high disease pressures in the field and/or field conditions favour disease development. Under severe disease pressure, make a second application 14 days after the first application.
Do not harvest soybeans within 50 days of the last application. Harvested soybean seed should not be used for human food or animal feed. For use only on soybeans grown for seed.		

CANARY SEED - INSTRUCTIONS FOR USE

DISEASE	RATE/HA	REMARKS
Septoria leaf mottle (<i>Septoria triseti</i>)	300 mL	For the suppression of Septoria leaf mottle; make one application at emergence of flag leaf; ground application only; apply in 200 L water/ha.

DRY EDIBLE BEANS – INSTRUCTIONS FOR USE

DISEASE	RATE/HA	REMARKS
Rust (<i>Uromyces appendiculatus</i>)	300 mL	Apply 300 mL of BUMPER 432 EC in minimum of 200 L of water per hectare by ground application or in 50 L of water per hectare by aerial application at the first detection of disease in the field and a second application 14 to 21 days later.
APPLY A MAXIMUM OF 2 APPLICATIONS PER SEASON OF BUMPER 432 EC TO DRY EDIBLE BEANS. DO NOT APPLY WITHIN 28 DAYS OF HARVEST.		

PEACHES, NECTARINES, PLUMS, AND APRICOTS - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Brown Rot Blossom Blight (<i>Monilinia fructicola</i>)	300 mL	Apply 300 mL of BUMPER 432 EC in a minimum of 500 L of water per hectare by ground. Make 1st application at early bloom with a 2nd application at 50% - 75% bloom. If disease conditions persist, make a 3rd application at petal fall.
Fruit Brown Rot (<i>Monilinia fructicola</i>)	300 mL	Apply no more than 2 applications in the 3 weeks prior to harvest. Apply 300 mL of product in a minimum of 500 L of water per hectare by ground.
Suppression of Black Knot (Plums only) (<i>Apiosporina morbosa</i>)	300 mL	Apply 300 mL of BUMPER 432 EC in a minimum of 500 L of water per hectare by ground. Make 1st application at early bloom with a 2nd application at 50% - 75% bloom. If disease conditions persist, make a 3rd application at petal fall.
DO NOT APPLY WITHIN 3 DAYS OF HARVEST.		

SWEET AND SOUR CHERRIES - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Brown Rot Blossom Blight (<i>Monilinia fructicola</i>)	300 mL	Apply 300 mL of BUMPER 432 EC in a minimum of 500 L of water per hectare by ground. Make 1st application at early bloom with a 2nd application at 50% - 75% bloom. If disease conditions persist, make a 3rd application at petal fall.
Fruit Brown Rot (<i>Monilinia fructicola</i>)	300 mL	Apply no more than 2 applications in the 3 weeks prior to harvest. Apply 300 mL of product in a minimum of 500 L of water per hectare by ground.
Cherry Leaf Spot (<i>Blumeriella jaapii</i>)	300 mL	Apply a maximum of 3 applications per season for control of Cherry Leaf Spot. Make the 1st application at petal fall. In the 3 weeks prior to harvest make a 2nd and 3rd application at a 7-10 day interval. Do not apply within 3 days of harvest. Apply 300 mL of product in a minimum of 500 L of water per hectare by ground.

SWEET AND SOUR CHERRIES - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Suppression of Black Knot (sour cherries only) (<i>Apiosporina morbosa</i>)	300 mL	Apply 300 mL of BUMPER 432 EC in a minimum of 500 L of water per hectare by ground. Make 1st application at early bloom with a 2nd application at 50% - 75% bloom. If disease conditions persist, make a 3rd application at petal fall.
It is recommended that no more than 2 consecutive applications of BUMPER 432 EC be made before switching to another fungicide with a different mode of action according to disease management practices.		
APPLY A MAXIMUM OF 5 APPLICATIONS PER SEASON OF BUMPER 432 EC TO SWEET AND SOUR CHERRIES. DO NOT APPLY WITHIN 3 DAYS OF HARVEST.		

HIGHBUSH BLUEBERRY - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Mummyberry (<i>Monilinia vaccinii – corymbosi</i>)	300 mL	Apply 1 st application at or near flower bud swelling; make a 2nd application at leaf bud swelling. Apply by ground only, making no more than two applications per year. In BC only, apply by ground, a 3 rd application at pink bloom and a 4 th application 7 to 10 days later at early bloom, making no more than 4 applications per year. Use a minimum of 200 L of water per hectare.
LAST APPLICATION MUST BE MADE AT LEAST 60 DAYS BEFORE HARVEST. A restricted entry interval of 5 days is required for workers hand pruning highbush blueberries.		

LOWBUSH BLUEBERRY - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Monilinia Blight (<i>Monilinia vaccinii – corymbosi</i>)	300 mL	Apply 1 st application when flower bud scales first appear and make a 2 nd application 10 days later. Use ground application or aerial application equipment, making no more than two applications per year. Use a minimum of 200 L of water per hectare if applying by ground equipment; use 50 L of water per hectare if applying by air.
LAST APPLICATION MUST BE MADE AT LEAST 60 DAYS BEFORE HARVEST.		

SASKATOON BERRY - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Entomosporium Leaf and Berry Spot (<i>Entomosporium</i>)	300 mL	As a foliar spray, apply up to three applications per season. The 1 st application to occur at “white tip”, the 2 nd application at “petal fall”, and the 3 rd application at “green fruit”. Apply 300 mL in a minimum of 200 L of water per hectare by

<i>mespili</i>), Saskatoon Juniper Rust (<i>Entomosporium mespili</i>)		ground, applying to runoff.
LAST APPLICATION MUST BE MADE AT LEAST 38 DAYS BEFORE HARVEST.		

CRANBERRY - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Cottonball (<i>Monilinia oxycocci</i>)	300 mL	Apply the 1 st application at leaf bud break. Make a 2 nd application 10 – 14 days later, a 3 rd application at early bloom and a 4 th application 10 – 14 days after the 3 rd application. Make no more than four applications per year. Apply product by ground.
LAST APPLICATION MUST BE MADE AT LEAST 45 DAYS BEFORE HARVEST.		

RUTABAGAS - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Powdery Mildew (<i>Erysiphe</i> spp.)	240 mL	Make two applications per season with the 1 st application at 50 days after planting and the 2nd application 20 days later. Apply to vegetative foliage. Apply 240 mL in a minimum 200 L of water per hectare by ground.
LAST APPLICATION MUST BE MADE AT LEAST 21 DAYS BEFORE HARVEST.		

ASPARAGUS - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Rust (<i>Puccinia asparagi</i>)	150 mL	Apply BUMPER 432 EC to asparagus ferns in Ontario and Quebec only. Once harvest is complete, make the 1st application of BUMPER 432 EC as soon as fern growth begins, followed by applications at 14 to 21 day intervals. For new, non-harvested plantings, apply BUMPER 432 EC when first sign of rust is visible, followed by applications at 14 to 21 day intervals. Apply by ground only, making no more than three applications per year. Use a minimum of 370 L of water per hectare.
LAST APPLICATION MUST BE MADE AT LEAST 8 MONTHS BEFORE HARVEST.		

WESTERN RED CEDAR - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Keithia Foliar Blight	300 mL	Apply using ground application equipment every four weeks. Make a maximum of 6 applications per year. Apply 300 mL of

<i>(Didymascella thujina)</i>		BUMPER 432 EC in a volume of 1000 L of water per hectare by ground.
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KENTUCKY BLUEGRASS FOR SEED PRODUCTION - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Powdery Mildew <i>(Erysiphe graminis)</i>	300 mL	Apply as a foliar spray. Make no more than 2 applications per crop year with the 1st application at pre-heading and the 2nd at 50% - 100% heading. Apply in 200 - 300 L/ha of water by ground or 50 L/ha of water by air.

CANEBERRIES (CROP GROUP 13A; CULTIVARS AND/OR VARIETIES OF RED AND BLACK RASPBERRY, LOGAN BERRY AND BLACKBERRY) - INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Yellow rust <i>(Phragmidium rubi-idaei)</i>	300 mL	Apply 300 mL of BUMPER 432 EC in a minimum of 500 L of water per hectare by ground application at first detection of disease in the field and a second application 14 days later.
It is recommended that no more than 2 consecutive applications of BUMPER 432 EC be made before switching to another fungicide with a different mode of action according to disease management practices.		
APPLY A MAXIMUM OF 2 APPLICATIONS PER SEASON OF BUMPER 432 EC TO CANEBERRIES. DO NOT APPLY WITHIN 30 DAYS OF HARVEST.		

NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS:		
<p>The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than Adama Agricultural Solutions Canada Ltd. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Adama Agricultural Solutions Canada Ltd. itself makes no representation or warranty with respect to performance (efficacy) or crop tolerance (phytotoxicity) claims for this product when used on the crops listed below.</p> <p>Accordingly, the User assumes all risks related to performance and crop tolerance arising, and agrees to hold Adama Agricultural Solutions Canada Ltd. harmless from any claims based on efficacy or phytotoxicity in connection with the uses described below.</p>		
STRAWBERRIES – INSTRUCTIONS FOR USE		
DISEASE	RATE/HA	REMARKS
Leaf Spot <i>(Mycosphaerella fragariae)</i>	300 mL	Apply 300 mL of BUMPER 432 EC fungicide per hectare by ground in enough water to ensure thorough coverage. Make 1st application when disease levels are no more than 5%. Apply BUMPER 432 EC fungicide at 10 day intervals for control of leaf spot.

It is recommended that no more than 2 consecutive applications of BUMPER 432 EC be made before switching to another fungicide with a different mode of action according to disease management practices.

APPLY A MAXIMUM OF 4 APPLICATIONS PER SEASON OF BUMPER 432 EC TO STRAWBERRIES. DO NOT APPLY WITHIN 1 DAY OF HARVEST.

RESISTANCE MANAGEMENT RECOMMENDATIONS:

For resistance management, BUMPER 432 EC contains a Group 3 fungicide. Any fungal population may contain individuals naturally resistant to BUMPER 432 EC and other Group 3 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. 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 fungicide resistance:

- Where possible, rotate the use of BUMPER 432 EC or other Group 3 fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that is effective on the target pathogen when such use is permitted.
- Avoid application of more than the maximum number listed in the label and consecutive sprays of BUMPER 432 EC or other fungicides in the same group in a season.
- Fungicide use should be based on an Integrated Pest Management program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications.
- Monitor treated fungal populations for sign of resistance development. Notify Adama Agricultural Solutions Canada Ltd. if reduced sensitivity of the pathogen to BUMPER 432 EC is suspected.
- If disease continues to progress after treatment with this product, do not increase the use rate. Discontinue use of this product, and switch to another fungicide with a different target site of action, if available.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and disease problems in your area.

For further information or to report suspected resistance, contact ADAMA agricultural solutions Canada Inc.. at 1 204 396-1640.

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