

CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Ravensdown
Metolachlor 720
Herbicide



ACTIVE CONSTITUENT: 720g/kg METOLACHLOR

GROUP	K	HERBICIDE
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Controls certain annual grasses and broadleaf weeds in certain crops as specified in the directions for use

IMPORTANT: READ THE ATTACHED BOOKLET THOROUGHLY BEFORE OPENING OR USING THIS PRODUCT.

CONTENTS:

RAVENSDOWN FERTILISER CO-OPERATIVE LIMITED
2 BIRKSGATE ROAD ROUS HEAD
Locked Bag 10
NORTH FREMANTLE, W.A. 6159 AUSTRALIA
Phone 08 9430 2222 Fax 1800 683 122
ACN 128 889 814

Batch Number:
Date of Manufacture:
APVMA Approval Number: !

56890/54154.

STORAGE AND DISPOSAL

Store in the closed original container in a dry, cool, well ventilated area out of direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

For refillable containers: Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

SAFETY DIRECTIONS

Avoid contact with eyes and skin. Repeated exposure may cause allergic disorders. Sensitive workers should use protective clothing. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre (TEL: 131126). If swallowed, do not induce vomiting. Give a glass of water.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet which is available from the supplier.

CONDITIONS OF SALE

The use of Ravensdown Metolachlor 720 Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Ravensdown Fertiliser Cooperative Limited regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Ravensdown Fertiliser Cooperative Limited accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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THIS BOOKLET IS PART OF THE LABEL.

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DIRECTIONS FOR USE

CROP	WEEDS CONTROLLED	STATE	RATE	CRITICAL COMMENTS
Barley, Oats	Suppression of Annual Ryegrass	NSW, ACT, Vic, Tas, SA, WA only	750 mL to 1 L per ha	Apply to moist soils immediately after planting and before crop and weeds emerge. Use the lower rate on light soils. Application should be made to a moist seedbed and sufficient rain to thoroughly wet the top 3 to 4 cm of soil should occur within 10 days after spraying. Damage may occur if crop is sown too shallow (less than 4 cm). Damage can occur on light sandy soil types after heavy rain. See General Instructions for use in zero-tillage systems.
Broccoli, Brussels sprouts, Cabbages, Cauliflowers	Barnyard Grass, Blackberry Nightshade, Chickweed (suppression), Deadnettle, Fat-hen, Lovegrass, Pigeon Grass, Pigweed (suppression), Potato Weed, Shepherd's Purse, Stinging Nettle, Summer Grass, Wireweed (suppression).	NSW, ACT, Vic, Qld, Tas, NT Only	3 to 4 L/ha	Apply immediately after transplanting. Sufficient irrigation to wet the top 3 to 4 cm of soil should be applied within 24 hours. Use rates towards the higher end of the range where Blackberry Nightshade, Chickweed, Fat-hen, Lovegrass, Pigeon Grass, Pigweed, Potato Weed and Wireweed are the major problem. See Warning - Brassica crops.
	Crowsfoot Grass, Fierce Thornapple (suppression), Liverseed Grass, Winter Grass.	NSW, ACT only		Apply immediately after transplanting. Sufficient irrigation to wet the top 3 to 4 cm of soil should be applied within 24 hours. Use rates towards the higher end of the range where Apple of Peru, Common Sowthistle, Fierce Thornapple, Liverseed Grass, Redroot Amaranth, Twiggy Turnip and Nettle leaf Goosefoot are the major problems.
	Apple of Peru, Awnless Barnyard Grass, Fierce Thornapple (suppression), Liverseed Grass, Yellow Weed, Redroot Amaranth (suppression).	Qld only		WARNING: Qld only. Stunting and reduced yield may occur in broccoli in red soils and light alluvial soils. Use rates towards the higher end of the range where Apple of Peru, Fierce Thornapple, Liverseed Grass and Redroot Amaranth are the major problems.
	Annual Ryegrass, Common Cotula, Common Sowthistle (suppression), Crowsfoot Grass, Fiddle Dock, Italian Ryegrass, Liverseed Grass, Nettle leaf Goosefoot (suppression), Twiggy Turnip (suppression), Winter Grass.	Vic, Tas, WA only		See Warning – Brassica crops. Use rates towards the higher end of the range where Common Sowthistle, Liverseed Grass, Twiggy Turnip and Nettleleaf Goosefoot are the major problems.
Broccoli, Brussels Sprouts, Cabbages, Cauliflower and Chinese Cabbage	Barnyard Grass, Blackberry Nightshade, Chickweed (suppression), Deadnettle, Fathen Lovegrass, Pigeon Grass, Pigweed (suppression), Potato Weed, Shepherds Purse, Stinging Nettle, Crab Grass, Wireweed (suppression), Winter Grass, Fiddle Dock, Goosefoot (suppression)	WA only	3 to 4 L/ha	On soils of extremely low organic matter use the lower rate. Apply immediately after transplanting. Sufficient irrigation to wet the top 3 to 4 cm of soil (but not greater than 25 mm irrigation) should be applied within 24 hours. Soil type permitting, use rates towards the higher end of the range where Blackberry Nightshade, Chickweed, Fathen Lovegrass, Pigeon Grass, Pigweed and Potato Weed are the major problem. See Warning – Brassica crops.
Canola	Toad Rush	NSW, ACT, SA, Vic, Tas, Qld only	0.3 to 0.5 L/ha	Apply at or immediately after planting and before crops and weeds emerge. Apply to moist soil. Use rates towards the higher end of the range where longer residual control is required.
		WA only		Apply before crops and weeds emerge. Apply to moist soil. To avoid crop injury use rates towards the lower end of the range on light sandy soils.
Cotton	Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Lovegrass, Pigeon Grass, Summer Grass, Wandering Jew.	NSW, ACT, Qld, WA only	2 L/ha	Pre-emergent: Apply before, at, or immediately after planting and before crops and weeds have germinated use a low volume boom sprayer applying 60 to 120 litres of mixture per hectare. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. DO NOT throw untreated soil onto treated areas as this will reduce weed control. DO NOT use on soils where the sand content exceeds 70%. Use lower rate where the sand content of the soil is within the range of 50-70%. Use rates towards the higher end of the range on heavy soils or where a heavy grass population is expected. See Warning – Cotton.

CROP	WEEDS CONTROLLED	STATE	RATE	CRITICAL COMMENTS
Green Beans Navy Beans	Blackberry Nightshade, Common Sowthistle, Fat- hen, Potato Weed, Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Lovegrass, Pigeon Grass, Summer Grass and suppression of Pigweed.	NSW, ACT, Qld, Vic, SA only	3 to 4 L/ha	Pre-emergent: Apply before, at, or immediately after planting and before crops and weeds have germinated. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. DO NOT throw untreated soil onto treated areas as this will reduce weed control.
	Powell's Amaranth	Tas only	4 L/ha	Pre-emergent: Apply before, at, or immediately after planting and before crops and weeds have germinated. For sufficient Amaranth control, Ravensdown Metolachlor 720 Herbicide application should be followed by 1 L/ha BASAGRAN (2-leaf Amaranth) plus 2 L/ha BASAGRAN (4-leaf Amaranth). Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. DO NOT throw untreated soil onto treated areas as this will reduce weed control.
Maize (not Waxy Maize) Sweet Corn	Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Lovegrass, Pigeon Grass. Summer Grass, Wandering Jew.	NSW, ACT, Vic, Qld, SA, NT, Tas only	2 to 4 L/ha	Pre-emergent: Apply before, at, or immediately after planting and before crops and weeds have germinated using a low volume boom sprayer applying 60 to 120 litres of mixture per hectare. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. Use rates towards the higher end of the range on heavy soils or where a heavy grass population is expected. DO NOT throw untreated soil onto treated areas as this will reduce weed control. DO NOT use on soils where the sand content exceeds 70%. Use the lower rate where sand content of the soil is within the range 50% to 70%.
	Blackberry Nightshade, Caltrop, Common Thornapple, Mintweed, Needle Burr, Noogoora Burr, Pigweed, Redroot Amaranth, Slim Amaranth.		2 to 4 L plus 2.5 L of Flowable Atrazine per Ha	
Pastures – Trikkala sub- clover, Haifa White Clover, Maral Persian Clover, Paradana Balansa Clover, Redquin Red Clover, Phalaris and Cocksfoot.	Toad Rush	Vic, NSW, ACT, NT, SA only	400 to 500 mL/ha	Apply at or immediately after planting and before pasture species and weeds emerge. Application should be made to a moist seedbed. Sufficient rain to thoroughly wet the top 3 to 4cm of soil should occur within 10 days of spraying. Use rates towards the higher end of the range in wet areas or when longer residual control is required. DO NOT use in soils where prolonged waterlogging is anticipated, otherwise unacceptable crop retardation will occur. Avoid damage to pasture species by avoiding overlaps and double spraying in headlands where White, Persian and Balansa clovers are sown if the 500mL rate is being used.
Frontier Balansa Clover,		WA only		
Peanuts	Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Love Grass, Pigeon Grass, Summer Grass, Wandering Jew	Qld, NSW, ACT, NT only	2 to 4 L/ha	Apply pre-irrigation where soil crusting is likely. Apply before, at, or immediately after planting and before weeds germinate. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4cm. DO NOT throw untreated soil onto treated areas as this will reduce weed control. Use rate towards the higher end of the range on heavy soils or where a heavy grass population is expected.
Soybeans, Sunflowers		NSW, ACT, Vic, Qld, SA, NT only		

CROP	WEEDS CONTROLLED	STATE	RATE	CRITICAL COMMENTS
Sorghum treated with Concep II Sorghum Seed Safener	Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Lovegrass, Pigeon Grass, Summer Grass, Wandering Jew	NSW, ACT, NT, Qld only	2 to 4 L per ha	Pre-emergent: Apply before, at, or immediately after planting and before crops and weeds have germinated using a low volume boom sprayer applying 60 to 120 litres of mixture per hectare. DO NOT apply to sorghum seed not previously treated with Concep II Sorghum Seed Safener. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. DO NOT throw untreated soil onto treated areas as this will reduce weed control. Use rate towards the higher end of the range on heavy soils or where a heavy grass population is expected. Use the lower rate on sandy soils.
	Blackberry Nightshade, Caltrop, Common Thornapple, Mintweed, Needle Burr, Noogoora Burr, Pigweed, Redroot Amaranth, Slim Amaranth.		2 to 4 L per ha plus 2.5 L of Flowable Atrazine per Ha	
Sugar Cane (plant and ratoon)	Awnless Barnyard Grass, Barnyard Grass, Bellvine, Billygoat Weed (Blue Top), Blackberry Nightshade, Caltrop, Common Sowthistle (Milk Thistle), Common Thornapple, Crowsfoot Grass, Green Summer Grass, Guinea Grass, Mexican Clover, Mintweed, Needle Burr, Passionfruit Vines, Pigeon Grass, Pigweed, Redroot Amaranth, Square Weed, Star of Bethlehem, Summer Grass, Wild Rose	Southern Qld only (Bundaberg South)	2.2 to 2.9 L plus 2.7 to 3.6 L Atrazine 500 Flowable per Ha or 1.5 to 2 kg of Ravensdown Atrazine 900 WDG Herbicide	Apply as a pre- or post-emergent application to crop. Apply once per year only. Application should be made to a moist soil before weeds and grasses have germinated. If conditions remain dry for a period of 10 days after spraying, irrigation or a shallow cultivation (2.5 cm) may assist results. DO NOT throw untreated soil on to treated areas as this will reduce weed control. In Southern Queensland, use rates toward the higher end of the range on heavy soils where a high grass population is expected. In Northern Queensland, application must be made to moist soil and rainfall or irrigation should occur within 24 hours of application. Use rates toward the higher end of the range where high Green Summer Grass population is expected. Where broadleaf weeds and grasses have emerged and are in the 2 to 4 true leaf stage, knockdown herbicides such as ametryn (2 L/ha), a flowable diuron (500 g/L) at 1 L/ha or Ravensdown Paraquat 250 Herbicide (1.2 to 1.6 L/ha), applied as a post directed spray, can be added. Where broadleaf weeds only have emerged and are at the 2 to 4 true leaf stage then a 500 g/L 2,4-D amine at 2 L/ha should be added. In all cases add a non-ionic surfactant. Follow all instructions and restrictions on the atrazine labels
		Northern Qld only (Mackay North)	2.9 to 3.6 L plus 3.6 to 4.5 L Atrazine 500 Flowable per Ha or 2 to 2.5 kg of Ravensdown Atrazine 900 WDG Herbicide	
Sweet Potatoes	Black Pigweed, Red Shank, Potato Weed, Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Lovegrasses, Pigeon Grass, Summer Grass, Suppression of Evening Primrose.	NSW, ACT, Qld, Vic, NT, SA only	3 L/ha	Pre-emergent: Apply before, at, or immediately after planting and before crops and weeds have germinated. Sufficient irrigation to wet the soil through the weed zone should be applied within 24 hours. Further weed germination may occur following reilling due to exposure of untreated soil.
Tobacco (transplanted in field)	Barnyard Grass, Lovegrass, Pigeon Grass, Summer Grass and suppression of Common Thornapple (<i>Datura stramonium</i>) and Nightshades (<i>Solanum sarrachoides</i> and <i>S. nigrum</i>)	Vic, NSW, ACT only	3 L/ha	Apply by low volume boom spray prior to transplanting and before weeds and grasses germinate. The seedbed should be fine and free of large clods. Thoroughly incorporate within 7 days of spraying using a rotary hoe or similar equipment set to work to a depth of 7.5 cm. DO NOT use disc-cultivating implements. An even coverage of the herbicide is essential. The herbicide needs to be activated by moisture through the top 3 to 4 cm of soil at the time of application or within 4 days of incorporation. This can be achieved by applying to moist soil, irrigating soon after incorporation or irrigating immediately after transplanting. Avoid boom overlaps as double treatment may cause growth suppression. Temporary crop retardation may be observed when soil conditions remain dry after application or where black root rot may occur.
Wheat, Barley, Oats, Triticale	Toad Rush	Vic, NSW, ACT, SA, WA only	300 to 500 mL/ha	Apply at or immediately after planting and before pasture species and weeds emerge. Application should be made to a moist seedbed. Sufficient rain to thoroughly wet the top 3 to 4 cm of soil should occur within 10 days of spraying. Use rates towards the higher end of the range in wet areas or when longer residual control is required or in situations where crop competition is minimal. When mixed with Triasulfuron 750 formulations, apply pre-sowing and incorporate by sowing operation (for wheat only).

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORIZED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIOD

CANOLA	DO NOT GRAZE TREATED FIELDS FOR 10 WEEKS AFTER APPLICATION.
GREEN BEANS	DO NOT HARVEST, GRAZE OR CUT FOR STOCK FOOD FOR 10 WEEKS AFTER APPLICATION.
PASTURES	DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 13 WEEKS AFTER APPLICATION.
SWEET POTATOES	DO NOT HARVEST, GRAZE OR CUT FOR STOCK FOOD FOR 23 WEEKS AFTER APPLICATION.
BRUSSEL SPROUTS, BROCCOLI, CABBAGES, CAULIFLOWER AND CHINESE CABBAGE	DO NOT HARVEST, GRAZE OR CUT CROP RESIDUE OR FAILED CROPS FOR STOCK FOOD.

GENERAL INSTRUCTIONS**Resistant Weeds Warning**

GROUP

K

HERBICIDE

Ravensdown Metolachlor 720 Herbicide is a member of the amide group of herbicides. Ravensdown Metolachlor 720 Herbicide has the diverse sites of action mode of action. For weed resistance management Ravensdown Metolachlor 720 Herbicide is a Group K Herbicide. Some naturally occurring weed biotypes resistant to Ravensdown Metolachlor 720 Herbicide and Group K herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by Ravensdown Metolachlor 720 Herbicide or any other Group K herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Ravensdown Cooperative accepts no liability for any losses that may result from the failure of Ravensdown Metolachlor 720 Herbicide to control resistant weeds.

Advice as to strategies and alternative treatments that can be used should be obtained from your local supplier, consultant, local Department of Agriculture, Primary Industries Department or a Ravensdown representative.

Uses

The product is a short residual pre-emergent herbicide for the control of many important annual grasses and broadleaf weeds in the crops nominated. The product does not control the important broadleaf weeds in maize, sweet corn and Concep II treated sorghum, but when mixed with Flowable Atrazine control of many important annual weeds and grasses is obtained without the problem of carryover of herbicides affecting succeeding crops. The product acts mainly through shoot (coleoptile) absorption. Its effectiveness depends on the occurrence of rainfall or irrigation to move it down into the top 3 or 4 cm of soil, where it must be present at the time of weed germination.

Mixing

Add the required amount directly to the spray tank, fill with water and mix well.

Compatibility

Ravensdown Metolachlor 720 Herbicide is compatible with Prometryn Flowable Liquid Herbicide, Fluometuron 500 Flowable Herbicide, Prometryn/Fluometuron 500 Liquid Herbicide, Atrazine Flowable Herbicide, Logran, Ravensdown Paraquat 250 Herbicide and Ravensdown Massacre 450 Herbicide.

Warning – Cotton: Heavy raining following an application of Ravensdown Metolachlor 720 Herbicide, together with below average soil temperatures can result in crop injury, due to the inability of the germinating plant being able to metabolise the herbicide. Ravensdown Metolachlor 720 Herbicide should not be used in situations where these conditions are likely to occur.

Warning – Brassica Crops: Crop retardation may occur where Ravensdown Metolachlor 720 Herbicide is used on soils that have a low organic matter content and which contain more than 60% of the fine sand and silt and less than 5% clay in the top 30cm. On these soil types, uses rates of Ravensdown Metolachlor 720 Herbicide towards the lower end of the rate range and apply onto moist soil. Irrigation after application should be limited to no more than 25 mm.

**DO NOT USE ON SOILS CONTAINING LESS THAN 5% CLAY IN THE TOP 30 CM.
DO NOT USE MORE THAN ONCE PER YEAR.**

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT plant crops other than maize, sweet corn, tobacco, cotton, sunflowers, peanuts, broccoli, Brussels sprouts, cabbages, cauliflowers or Concep II treated sorghum within six months of application of Ravensdown Metolachlor 720 Herbicide.

PROTECTION OF LIVESTOCK

DO NOT graze or cut sweet potato leaves for stock food.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Do not contaminate streams, rivers or waterways with the chemical or used containers.

Re-entry Period

DO NOT enter treated area until spray has dried.

STORAGE AND DISPOSAL

Store in a closed original container in a dry, cool, well ventilated area out of direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemical on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

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