



## CAUTION

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

# Roundup PowerMAX<sup>®</sup>

Herbicide by Monsanto

**ACTIVE CONSTITUENT: 540 g/L GLYPHOSATE (present as the potassium salt)**

GROUP **M** HERBICIDE

Non-selective herbicide for the control of many annual and perennial weeds.

READ COMPLETE DIRECTIONS FOR USE BEFORE USING THIS PRODUCT.

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APVMA Approval No.: 55687/ 52804

### DIRECTIONS FOR USE

#### RESTRAINT

DO NOT disturb weeds by cultivation, sowing or grazing for six hours of daylight following treatment of annual weeds and seven days for perennial weeds to ensure herbicide absorption, unless specified otherwise in critical comments.

#### CONSERVATION TILLAGE

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
SOUTHERN AUSTRALIA Prior to sowing a crop or pasture with <b>FULL SOIL DISTURBANCE</b> by cultivation or sowing with a tyned implement	Barley grass, Brome grass, Volunteer cereals, Wild oats	340-660mL/ha pre-tillering 660-840mL/ha post-tillering	<b>Rate Selection</b> Use higher rates for advanced weed growth or when treating under cold/overcast conditions. Cultivation or planting may proceed from 1 hour of daylight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment. <b>Silver grass</b> When treating dense infestations of Silver grass, add Wetter TX and use water volumes of 70L/ha or more and FINE to MEDIUM spray quality to improve coverage. <b>Perennial Weeds.</b> Roundup PowerMAX <sup>®</sup> will provide seasonal control and reduction in plant numbers. Control of Skeleton weed requires addition of full soil disturbance at planting. In Tasmania, for perennial weeds use 1-2L/ha.
	Annual phalaris, Annual ryegrass, Silver grass, Winter grass	660-840mL/ha pre-tillering 840mL-1L/ha post-tillering	
	Calomba daisy, Capeweed, Doublegee/Spiny emex, Fumitory, Volunteer lupins, Volunteer peas	340-660mL/ha less than 8cm dia/height 660mL-1L/ha greater than 8cm dia/height	
	Amsinckia, Dock (seedling), Paterson's curse, Saffron thistle, Scotch thistle, Spear thistle, Variegated thistle, Wild turnip	660-840mL/ha less than 12cm dia/height 840mL-1L/ha greater than 12cm dia/height	
	Perennial phalaris, Skeleton weed, Sorrel, Sub.clover	1L	

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
SOUTHERN AUSTRALIA To commence a fallow OR Prior to planting a crop or pasture with an implement that gives <b>MINIMAL SOIL DISTURBANCE</b> or prior to surface seeding of pastures	Barley grass, Canary grass, Wild oats, Volunteer cereals	660mL-1L/ha	<p><b>Rate Selection</b> Use the lower rate on young weeds; increase to the higher rate where grasses reach full tillering or where broadleaf weeds commence stem elongation or budding. Use higher rates in Spring and under cold conditions. In Tasmania use 1-2L/ha with the higher rate for control of perennial weeds.</p> <p><b>Pasture or Crop Establishment</b> DO NOT sow into excessive trash. Excessive plant residues may be removed by grazing after treatment. Planting may proceed from 1 hour of daylight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment.</p> <p><b>Aerial (or Surface) Seeding</b> Delay seeding until trash level is reduced to allow for satisfactory placement of broadcast seed on the soil surface.</p> <p><b>Bathurst burr</b> For mature weeds use the higher rate.</p> <p><b>Bent grass</b> Use a rate of 1.7L/ha. Apply in late Spring following initiation of seed-head emergence. Follow up with full disturbance with a tined implement 10-21 days after spraying.</p> <p><b>Couch, Kikuyu, Paspalum</b> Use the higher rate on dense infestations. Apply sequential treatments during Summer and Autumn. Repeat applications will be required for full control. For improved control, use in conjunction with cultivation.</p> <p><b>Kikuyu, Paspalum</b> Use the low rate for suppression, the high rate for control.</p> <p><b>Dock, Flatweed</b> Use the maximum rate for full control.</p> <p><b>Hoary cress.</b> Treat from late rosette to early flowering.</p> <p><b>Silver grass</b> When treating dense infestations of Silver grass, add Wetter TX and use water volumes of 70L/ha or more and FINE to MEDIUM spray quality to improve coverage.</p> <p><b>Soursob</b> Use at a rate of 1L/ha. Treat at tuber exhaustion.</p>
	Annual ryegrass, Brome grass, Capeweed, Paterson's curse, Saffron thistle, Scotch thistle, Silver grass, Soursob, Spear thistle, Variegated thistle, Wild mustard, Wild radish, Wild turnip, Winter grass	1-1.3L/ha	
	Bent grass, Bathurst Burr, Couch, Dock, Erodium, Flatweed, Hoary Cress, Kikuyu, Plantain, Paspalum, Perennial phalaris, Sorrel, Sub. clover, Yorkshire fog	1.25-2L/ha	
Pasture Topping	Poa tussock	2.0-2.7L/ha	<p><b>Timing</b> Treat fresh regrowth (at least 14 days after heavy grazing) after Autumn break and before onset of heavy frosts. Sowing may start from 14 days after spraying.</p>
	Annual ryegrass	300-680mL/ha	
	Barley grass, Brome grass, Capeweed, Silver grass	200-300mL/ha	
Seed-head Suppression	Calomba daisy	300mL/ha	<p>Remove livestock prior to application to allow even regrowth. Use lower rate if grasses are flowering and higher rate if at the milky dough stage. Apply to Capeweed and Calomba daisy at flowering. DO NOT add Wetter TX. DO NOT apply to clover or medic crops intended for seed production.</p>
	Bent grass	240-420mL/ha	
SOUTHERN AUSTRALIA NSW, ACT, Vic, Tas only For control/suppression prior to establishing crops or improved pasture species	Serrated tussock	2.7-4.0L/ha	<p>Apply to actively growing and stress free plants. Best results May to October.</p> <p><b>Application:</b> Boom spray volume of 70L/ha or more is recommended to improve plant coverage. Also see Aerial Equipment.</p> <p><b>Surfactants:</b> Addition of 200mL of Wetter TX to 100L of spraying solution may improve control of Serrated tussock.</p> <p><b>Site Preparation: Burning</b> of Serrated tussock 10-12 months before spraying or <b>slashing/heavy grazing</b> (cell grazing) 2 weeks before spraying is essential for good results (<b>Note:</b> Serrated tussock is almost indigestible and prolonged exposure can lead to starvation and death of stock).</p> <p><b>Rates:</b> Use lower rate on Serrated tussock regrowth after burning (no residual dead foliage). Use higher rate on Serrated tussock that has been slashed or grazed (may contain some residual dead foliage).</p>
For prevention of seed head emergence and seed formation	Serrated tussock	500-840mL/ha	<p>Apply to actively growing and stress free plants. Best results obtained during mid September–mid October. Apply prior to any seed head emergence. Also see Aerial Equipment.</p> <p><b>Surfactants:</b> Addition of 200mL of Wetter TX to 100L of spraying solution may improve results.</p> <p><b>Rates:</b> The lower rates will be less damaging to desirable pasture species. If seed head emergence is imminent then higher rates will give better results.</p>
NORTHERN AUSTRALIA In fallows or prior to planting a crop  Cotton : Shielded Sprayers	Paradoxa grass, Volunteer cereals, Wild oats	340-660mL/ha	<p><b>Rate Selection</b> Use the lower rates on young weeds and increase to the higher rate where weeds are dense or well developed. Dense infestations of some weeds e.g. Barnyard grass, Liverseed (<i>Urochloa</i>) grass may need follow up treatments for complete control.</p> <p><b>Tank Mixtures</b> Read and follow all label directions, restraints, plant-back and withholding periods, regional use restrictions and safety directions for the tank-mix products. Tank mixes with atrazine may give unacceptable knockdown control of certain weeds. DO NOT apply the tank-mix for control of barnyard grass, liverseed grass or milk thistle. Nufarm Liase may enhance knockdown weed control where tank mixtures of atrazine are used.</p> <p><b>Shielded Sprayers</b> Apply Roundup PowerMAX to weeds growing between crop rows using a shielded sprayer. DO NOT apply in cotton less than 20cm high. DO NOT allow spray or spray drift to contact any part of the cotton plant as severe injury may result.</p> <p><b>Pasture or crop establishment</b> DO NOT sow into excessive trash. Excessive plant residues may be removed by grazing after treatment. Cultivation or planting may proceed from 1 hour of sunlight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment.</p>
	African Turnip weed, Black pigweed, Boggabri weed, Caltrop (Yellow vine), Deadnettle, Mintweed, Milk (sow) thistle, Stinkgrass (Lovegrass), Sweet Summer grass, Variegated thistle, Volunteer sorghum	500-660mL/ha up to 5 true leaves or 3cm in dia/height 660mL-1.35L/ha greater than 5 true leaves or 3cm in dia/height	
	Annual ground cherry, Barnyard grass, Bathurst Burr, Bladder ketmia, Button grass, Camel (Afgan) melon, Caustic Weed, Columbus grass, Liverseed grass, Mexican poppy, Native Millet, New Zealand Spinach, Noogoora burr, Pigweed (up to 25cm dia.), Spear thistle, Stinking goosefoot, Thornapple (Datura), Turnip weed, Wild/Prickly lettuce, Wireweed	625mL-1.3L/ha	

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
NORTHERN AUSTRALIA In fallows or prior to planting a crop	Prickly Paddy melon	640mL-1.3L/ha plus 80mL Invader®/Garlon* 600	DO NOT add crop oil.
Cotton : Shielded Sprayers (cont)	Climbing buckwheat (less than 12 leaves) Couch, Johnson grass	1.3-2L/ha	Use the higher rate on plants at the flowering/seedhead stage. For Johnson grass apply to plants with a minimum of 30cm new growth. For long term control of Couch and Johnson grass, repeat applications will be required.
	Nutgrass ( <i>Cyperus rotundus</i> )	2L/ha followed by 2L/ha	Make first application to actively growing plants when the majority of plants have reached at least the 6-8 leaf stage but preferably later. Allow for maximum re-emergence before retreating.
Sugar cane: Inter-row Spraying	Annual and Perennial Grasses and Broadleaf weeds	1.2-5L/ha	Apply to weeds growing between crop rows using a ground based hooded and shielded sprayer. Apply at early growth stage of crop, before formation of the cane. Apply no more than 3 applications, to a maximum of 12L/ha per crop. DO NOT allow spray or spray drift to contact any part of the crop as severe injury may result.
SUGAR CANE Ratoon spray out Qld, NSW only	Sugar cane ratoon regrowth	4-6L/ha	Apply under good growing conditions only to actively growing ratoons 60-120 cm tall. DO NOT apply if plants are under stress from low moisture or water logging. Use the lower rate for suppression or where cultivation is to follow. <b>Use higher rate for control.</b>

## PRE AND POST HARVEST USES

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Sorghum Control	Grain-sorghum (pre-harvest)	1-2L/ha	DO NOT apply if crop is under stress from low moisture, frost, cold or waterlogging. Apply when grain moisture is less than 25%. Use the higher rate where the crop has produced significant number of late tillers or where following crops will be established without further treatment. DO NOT apply to crops intended for seed production. Treatment may increase potential for crop lodging. Under any set of environmental conditions, individual varieties can vary in response to preharvest treatments. In general, varieties with a more "determinant" growth habit are more susceptible than "indeterminant" varieties.
	Grain-sorghum (post-harvest)	660mL-1.35L/ha	Slashed/grazed stubble. Apply when fresh regrowth is at least 20cm high. Use the higher rate on standing stubble or where re-growth from slashed sorghum has advanced beyond 50cm in height.
Cotton pre-harvest	Bathurst burr, Noogoora burr, Winter annual weeds	840mL-1.7L/ha	Treatments may be applied alone or in a tank mix with Dropp* or Harvade*. Apply when 60% of bolls are open. When tank mixed with conditioner/defoliant treatments, a slightly higher proportion of cotton leaf may be retained particularly where higher rates are used and conditions are unfavourable for defoliation.
PRE-HARVEST APPLICATION to reduce viable seed set of weeds in: Field Peas ( <i>Pisum sativum</i> ) Faba Beans ( <i>Vicia faba</i> )	Annual ryegrass ( <i>Lolium rigidum</i> )	320-680mL/ha	Use lower rate if Ryegrass is flowering and higher rate if Ryegrass is at milky dough stage. Application should be made at or after crop maturity. Application before this time may significantly reduce yields (in practice losses in excess of 25% can occur). Apply when the average seed moisture content is below 30%. For Faba Beans, this is indicated by the pods going black, and for Field Peas by the pods going yellow. DO NOT harvest within 7 days after application. DO NOT use on crops intended for seed or sprouting.
PRE-HARVEST APPLICATION as harvest aid and weed control: Wheat ( <i>Triticum aestivum</i> )	Annual weeds	900mL-1.8L/ha	Apply to mature crop from late dough stage (28% moisture) onwards. The higher rate will be required when crops are heavy and leaf shading effects may occur. DO NOT harvest within 7 days after application. DO NOT use on crops intended for seed or sprouting. Where wheat is grown in rotation with any herbicide tolerant crop, management should be consistent with implementation of any management plan for herbicide tolerant crops.
PRE-HARVEST APPLICATION To desiccate a crop as a harvest aid and weed control Adzuki beans, Chickpeas, Cowpea, Faba beans, Field peas, Lentils, Mungbeans, Soybean (Application to crops intended for seed production or for sprouting may reduce germination percentage to commercially unacceptable levels.)	Annual Weeds	680mL-1.8L/ha	Apply with boom or by air. Use higher rates where crops or weeds are dense and where faster desiccations is required. Application should be made at or after crop maturity: <b>Chickpeas and Lentils</b> -apply when physiologically mature and less than 15% green pods. <b>Soybean</b> -apply only after seed pods have lost all green colour and 80-90% of leaves have dropped. <b>Mungbeans/Adzuki and Cowpea</b> - apply to mature crops when pods are brown/black. <b>Field peas</b> - apply when seeds turn yellow and average seed moisture content is below 30%. <b>Faba beans</b> -apply when pods turn black and average seed moisture content is below 30%. <b>DO NOT harvest within 7 days of application. Speed of crop desiccation is dependant on crop stage, growing conditions and weather conditions during and after application.</b>
PRE-HARVEST APPLICATION As harvest aid and weed control: Chick Peas (Application to crops intended for seed production or for sprouting may reduce germination percentage to commercially unacceptable levels.)	Annual Weeds	500mL-1.1L/ha plus 5g/ha Associate® Herbicide	Apply by boom or by air. Apply when chickpeas are physiologically mature and less than 15% of green pods are present. Use higher rates where crops or weeds are dense and where faster desiccation is required. <b>DO NOT harvest within 7 days of application. Speed of desiccations is dependant on crop stage, growing conditions and weather conditions during and after application.</b>

**DIRECTIONS FOR USE**

<b>SITUATION</b>	<b>CRITICAL COMMENTS</b>
	READ APPLICATION CHECKLIST BEFORE USING. See Annual, Perennial and Woody weeds sections below for most appropriate rate.
GENERAL WEED CONTROL For General Weed Control In Domestic Areas (Home Gardens), Commercial, Industrial And Public Service Areas, Agricultural Buildings And Other Farm Situations. For Specific Weeds Refer To The Appropriate Weeds Controlled Table	For the control of many grasses and broadleaf weeds. <b>RATE: 7mL per litre of water</b> Apply when weeds are actively growing. Apply to ensure complete and uniform wetting of foliage. Visible symptoms may take from 3 to 7 days to develop.
Agricultural Areas	Roundup PowerMAX may be used for control of annual, perennial and woody weeds as directed, in agricultural land prior to sowing of any edible or non-edible crop, but not prior to transplanting tomato seedlings.
Dry Drains And Channels Only	DO NOT apply to weeds growing in or over water. DO NOT spray across open bodies of water, and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels and drains within 4 days of application.
Forests	Roundup PowerMAX may be used prior to establishment of nurseries, for site preparation prior to planting and amongst established trees using a directed or shielded spray, or using selective wiper equipment. DO NOT allow wiper surface to contact any part of the tree. DO NOT allow spray or spray drift to contact foliage or green bark of desirable trees, since severe injury may result.
Non- Agricultural Areas Around Buildings, Commercial and Industrial Areas, Domestic And Public Service Areas, Right-Of-Ways.	Roundup PowerMAX does not provide residual weed control. For residual control of annual weeds, Roundup PowerMAX may be tank mixed with certain residual herbicides. See Tank Mixtures/Compatibility.
Tree And Vine Crops Vineyards, Berries And Other Small Fruits (Excluding Strawberry), Citrus Fruits, Tropical And Sub-Tropical Fruits, Pome Fruits, Stone Fruits, Tree Nuts, Duboisia, Hops, Tea	Apply as a directed or shielded spray or using wiper equipment. DO NOT apply as spray near trees or vines less than 3 years old unless they are effectively shielded from spray and spray drift. DO NOT allow wiper surface to contact any part of the tree, vine or plant. <b>Citrus fruit, Nuts, Olives, Pome fruit &amp; Vineyards</b> DO NOT allow spray or spray drift to contact green bark or stems, canes, laterals, suckers, fresh wounds, foliage or fruit. <b>Hops</b> Apply in Winter, prior to crop emerging from dormancy. <b>Tea</b> Apply a maximum of 2.7L/ha by shielded boom or directed off-centre nozzle or 340mL/100L by directed hand-gun or knapsack to avoid application to the crop. <b>All other crops</b> DO NOT allow spray or spray drift to contact any part of the plant including the trunk. CAUTION Where split bark on Kiwifruit or green stems on Pawpaw occur, extreme care is required.

<b>WEEDS CONTROLLED</b>	<b>RATE</b>	<b>CRITICAL COMMENTS</b>
<b>ANNUAL WEEDS</b> Amaranth, Bathurst burr, Barley grass, Brome grass, Barnyard grass, Caltrop, Canary grass, Capeweed, Chickweed, Cobbler's peg, Deadnettle, Doublegee, Fumitory, Ground cherry, Hedge mustard, Lesser swinecress, Liverseed grass, Mintweed, Noogoora burr, Paradoxa grass, Paterson's curse, Pigweed, Potato weed, Ryegrass, Saffron thistle, Silver grass, Sow thistle, Spear thistle, Spiny burgrass, Spurge, Sub clover, Thornapple, Wild mustard, Wild oats, Wild turnip, Winter grass, Variegated thistle, Volunteer cereal	<b>Boom:</b> 1.35-2L/ha <b>Handgun:</b> 330-480mL per 100L <b>Knapsack:</b> 50-70mL per 15L	Apply to weeds whenever they are not subject to stress due to drought or frost. Use higher rate on weeds over 15cm in height or diameter or where dense weed cover limits spray coverage. Use higher spot spraying rate when applying less than 5L spray per 100sqm. Roundup PowerMAX does not provide residual weed control. Repeat treatments may be necessary to control later germinating weeds. For residual control of annual weeds Roundup PowerMAX may be tank-mixed with certain residual herbicides. See Tank Mixtures in the General Instructions for directions. DO NOT use an atrazine tank-mix for control of barnyard grass or liverseed grass.
<b>PERENNIAL WEEDS</b> Artichoke thistle, African lovegrass, Bent grass, Carpet grass, Cocksfoot, Flatweed, Johnson grass, Kangaroo grass, Kikuyu, Nutgrass ( <i>Cyperus rotundus</i> ), Paspalum, Phalaris, Plantains, Poa tussock, Prairie grass, Qld blue grass, Red-leg grass, Rhodes grass, Rope twitch, Sorrel, Soursob, Yorkshire fog	<b>Boom:</b> 2-4L/ha <b>Handgun:</b> 470-660mL per 100L <b>Knapsack:</b> 70-100mL per 15L	Control of established perennials is best obtained when plants are at the seedhead stage. In general best control of Winter growing perennials is obtained with application during Winter-Spring. Best control of Summer growing perennials is obtained with application late Summer and Autumn. For Nutgrass in cultivated situations apply sequential low rate treatments when Nutgrass has a minimum of 6-8 leaves. Use the higher rate in uncultivated situations. For Rhodes grass, Rope twitch, Prairie grass, Qld blue grass, Johnson grass, Kangaroo grass, Kikuyu, Red-leg grass, Paspalum and Sorrel, use the higher rates only.
Blady grass, Bracken, Couch, Guinea grass, *Paragrass, Silverleaf nightshade, *Water couch *Use on Dry Drains and Channels ONLY (see Use Situations critical comments above)	<b>Boom:</b> 6L/ha <b>Handgun:</b> 870mL or 1.35L per 100L <b>Knapsack:</b> 130 or 200mL per 15L	For Bracken add Pulse® at 200mL/100L spray mix. Best control of couch in WA and SA is obtained with Spring treatment. Most effective control of couch in eastern states is obtained with Summer and Autumn treatments. In cultivated situations use sequential treatments of 1.9 - 4.3L/ha for control. Only use higher rate for handgun and knapsack for Silverleaf nightshade.

WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
<b>WOODY WEEDS</b> Bamboo, Bitou bush, Boneseed, Boxthorn, Crofton weed, Gorse, Groundsel bush, Lantana, Mistflower	<b>Handgun:</b> 330-660mL per 100L <b>Knapsack:</b> 50-100mL per 15L	Apply to actively growing plants. DO NOT apply to drought stressed plants. Further treatment may be necessary to restrict seedling re-establishment. <b>Bamboo</b> , apply when foliage/regrowth is 1-2m tall, use higher rate only. <b>Bitou bush/Boneseed</b> , apply higher rate on bushes greater than 1.5m. Best results are achieved when treated at peak flower during Winter. <b>Boxthorn</b> minimum rate is 470mL for handgun and 70mL for knapsack. <b>Groundsel bush</b> , apply higher rate on bushes greater than 2m. DO NOT apply in Winter. Minimum rate is 470mL for handgun and 70mL for knapsack. <b>Gorse, always add Pulse®</b> at 200mL/100L of spray mix, use higher rate only. <b>Lantana</b> , use higher rate only. Addition of Pulse® (200mL/100L) may improve control. <b>Boxthorn, Gorse, Lantana</b> Removal of bushes (after complete brownout), pasture improvement or further treatment are recommended to control seedlings and/or regrowth.
Blackberry, Chinese scrub, Eucalyptus spp. (seedlings less than 2m), Hawthorn, Pampas grass, Sifton bush, Sweet Briar, Willow (less than 2m)	<b>Handgun:</b> 660-870mL/100L <b>Knapsack:</b> 100-140mL/15L	Apply to actively growing plants. Removal of bushes (after complete brownout), pasture improvement or further treatment are recommended to control seedlings and/or regrowth. <b>Blackberry</b> , apply from flowering to leaf fall, use higher rate on old dense infestations greater than 2m high. In Tasmania, DO NOT treat bushes bearing mature fruit. <b>Chinese scrub</b> , use higher rates on bushes greater than 1m. <b>Eucalyptus spp.</b> , add Pulse® at 200mL/100L of spray mix. <b>Hawthorn</b> , apply from flowering to leaf fall, use higher rates on bushes greater than 2m. <b>Pampas grass</b> , allow regrowth to reach 1m, best results-apply after flowering. <b>Sifton bush</b> , use higher rates on bushes greater than 1m. <b>Sweet briar</b> , apply from late flowering to leaf fall, use 1-1.35L/100L, and 150-200mL/15L, use higher rates on bushes greater than 1.5m.

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

#### WITHHOLDING PERIOD

**WHEAT, SORGHUM AND LEGUMES: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.**  
**ALL OTHER USES: NOT REQUIRED WHEN USED AS DIRECTED.**

#### PRODUCT INFORMATION

Roundup PowerMAX® is a non-volatile, non selective, water soluble liquid herbicide for the control of annual and perennial grasses and broadleaf weeds in a wide range of agricultural and non-agricultural use situations. Roundup PowerMAX® may be used for weed control on agricultural land prior to planting any edible or non edible crop but not prior to transplanting tomatoes. When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 20mm of natural rainfall or by applying water via a sprinkler irrigation system.

Roundup PowerMAX® is absorbed by plant foliage and green stems. It is inactivated on clay and organic matter in soil and does not provide residual weed control. Roundup PowerMAX® moves throughout the plant from the point of contact to and into the root system. Initial visible effects on annual weeds take 3-7 days but may not be noticeable for 2 to 3 weeks under cool cloudy conditions or on some perennial weeds.

#### RESISTANT WEEDS WARNING

GROUP	<b>M</b>	HERBICIDE
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Roundup PowerMAX® is a member of the Glycines group of herbicides. Roundup PowerMAX has the inhibition of EPSP synthase mode of action. For weed resistance management Roundup PowerMAX is a Group M herbicide. Some naturally occurring weed biotypes resistant to Roundup PowerMAX and other Group M 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 Roundup PowerMAX or other Group M herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Nufarm accepts no liability for any losses that may result from the failure of Roundup PowerMAX to control resistant weeds.

#### CROP ESTABLISHMENT

Roundup PowerMAX® is recommended for control of emerged weeds prior to crop establishment. Cultivation and/or planting operations which provide conditions suitable for crop emergence and establishment are required following herbicide application. Where heavy weed growth is present or soil conditions are unsuitable, planting should be delayed to allow for decay of weeds and/or development of more favourable soil conditions for the formation of a suitable seedbed. Incorporation of green or decaying vegetation may retard crop emergence under cold, wet conditions. Vegetation may be reduced by grazing and weed decay may be assisted by cultivation to leave trash on the surface.

#### MIXING

Roundup PowerMAX® mixes readily with water. Reduced results may occur if water is used containing; suspended clay or organic matter e.g. from dams, streams and irrigation channels, or high levels of calcium, magnesium or bicarbonate ions.

DO NOT mix, store or apply this product in galvanized steel or unlined steel containers or spray tanks, since a highly flammable gas mixture may be formed. Use stainless steel, aluminium, brass, copper, fibreglass, plastic or plastic lined containers or spray tanks. Spray tanks, pumps, lines and nozzles should be thoroughly cleaned with clean water following application. Ensure that the spray tank is free of any residue of other spray solutions prior to mixing. Use spray solutions promptly as a gradual loss of activity may occur over a period of days following spray preparation.

#### Mixing Instructions : General Uses

1. Fill the spray tank 1/3 to 1/2 full with clean water and start agitation.
  2. If adding Liase (ammonium sulphate), use a 2% v/v and mix thoroughly.
  3. If tank-mixing, add recommended herbicide/insecticide/additive to the spray tank and mix thoroughly.
  4. Add Roundup PowerMAX and the remaining water. Mix thoroughly.
  5. Add Pulse® Penetrant or Wetter TX, if required, near the end of the filling process.
  6. Always maintain adequate agitation during application and use the tank mix promptly.
- Clean all equipment after use by washing thoroughly with water.

**TANK MIXTURES**

Roundup PowerMAX, may be tank-mixed with the following herbicides, insecticides and adjuvants. Read and follow all label directions, restraints, plantback and withholding periods, and safety directions for the tank-mix products. In multiple product tank mixes a minimum water volume of 50L/ha is recommended and local advice should be sought. Correct mixing order is important as is good in-tank agitation when application/spraying is occurring.

**TANK MIXTURES – HERBICIDES**

Nufarm Estercide® 800, Nufarm Estercide® Xtra 680, Nuarm LV Estercide® 600 (2,4-D ester), Nufarm Surpass® 475, Ally\*, Associate®, Affinity®, Hammer®, Nu-trazine 600, Nu-trazine 900 DF, Avadex® Xtra, Flowable Simazine, Nufarm Simazine 900 DF (simazine flowable or granular), Nufarm Kamba® 500 (dicamba), Express\*, Eclipse\*, Flame®, Flandor\*, Garlon® 600, Invader®, Glean\*, Lusta®, Striker®, Logran® 750WG, Nugran\*, Logran B Power (ensure fully dispersed prior to addition of Roundup PowerMAX), Archer®, Lontrel\*, Nufarm LVE MCPA (MCPA LVE), MONZA®, Oust®, Rifle®, Comet® 400, Starane® 200, Stomp®, Surflan, TriflurX®, Triflur Xcel® (trifluralin) and Yield\*. Other brands have not been tested.

The addition of Strike® at 75mL/ha to recommended rates of Roundup PowerMAX prior to planting Winter cereals will improve knockdown of certain weeds.

**TANK MIXTURES - INSECTICIDES**

This product is compatible with the following insecticides. Imidan\*, Le-Mat\*, Lorsban® 500, Karate\*, Sumithion ULV, Talstar® and emulsifiable concentrates of dimethoate and fenitrothion. Other insecticides have not been tested.

**Adjuvants - Nufarm LI 700® Surfactant**

At rates of 300-500mL per 100L, LI 700 may modify the droplet spectrum produced by CP and flat fan nozzles. This may reduce the proportion of FINE droplets produced by these nozzles.

**Adjuvants - Wetter TX**

Wetter TX is recommended for the control of silver grass and annual ryegrass in late Winter and Spring. Wetter TX is not a general purpose surfactant and should only be used where recommended. Rate: 200mL/100L spray solution.

**Adjuvants - Pulse® Penetrant**

Pulse Penetrant is recommended for the control of Bracken and many woody weeds. Rate: 200mL/100L spray solution.

**Adjuvants - Nufarm Liase (ammonium sulphate)**

Liase may be used as an adjuvant to alleviate the adverse effects of high levels of calcium, magnesium and bicarbonate ions in water. Rate: 2L/100L spray solution.

**APPLICATION****Boom Equipment (Broadacre)**

For boom application, a spray volume of 80L/ha or less is recommended for broadacre uses and 200L/ha or less for treeline and vinline spraying in orchards and vineyards. Glyphosate works better when it is present at a higher concentration in the spray solution provided sufficient coverage of the target is achieved. Nozzles and pressure settings should be selected to deliver a COARSE to VERY COARSE spray quality (as defined by ASAE S572) at the target. The use of nozzles and/or pressure settings that produce VERY FINE or FINE spray quality should be avoided as these are prone to loss or drift. In multiple product tank mixes a minimum water volume of 50L/ha is recommended and local advice should be sought. Correct mixing order is important as is good in-tank agitation when application is occurring.

For shielded applications a spray volume of 80L/sprayed ha is recommended using nozzle types and pressure settings to deliver a COARSE ASAE S572 spray quality at the target. Crop damage may result if spray drift occurs through incorrect nozzle and/or pressure selection, inadequate shielding and/or wind strength, high evaporation rates or excessive ground speed.

**High Volume Application (eg Knapsack, Handgun Equipment)**

The dilution rate varies depending on the use situation and weeds controlled - see Weeds Controlled tables for specific rates and use recommendation. Adjust equipment to achieve an even spray pattern with a COARSE spray quality at the target. Apply to ensure complete and uniform wetting of all foliage.

**Wiper Equipment**

Wiper equipment (eg. Ropewick, canvas, felt or carpet applicators) may be used to apply Roundup PowerMAX. Avoid contact with desirable vegetation. Operate wiper equipment a minimum of 10cm above the crop or pasture. Weeds should be at least 15cm above the crop or pasture at time of application. Speed of travel should be no greater than 8km/h. Best results are achieved at lower speeds and where two applications are made in opposite directions (double pass). Where weeds are of variable height, or occur in dense infestations or clumps, some plants may not be contacted by the herbicide solution. In these cases repeat treatment may be necessary.

**RATE:** Mix 700mL Roundup PowerMAX with 2.3L clean water. Adjust flow rate to suit equipment.

**Controlled Droplet Application Equipment (CDA)**

Roundup PowerMAX can be applied through hand held and machine mounted CDA sprayers. See Weeds Controlled tables for specific rates and use recommendations. Due to the range of CDA equipment available, dilution rates, flow rates and travel speeds will need to be determined for individual sprayers to ensure labeled rates are applied. Use of Roundup PowerMAX at concentrations recommended for Roundup® can result in uneven droplet distribution. Spray units need to be cleaned thoroughly preferably after each application to ensure optimum performance. DO NOT add oils to Roundup PowerMAX/water mixture, otherwise difficulty in application and reduced weed control may occur.

Because CDA units may deliver relatively low spray volumes per hectare, use on large weeds may result in insufficient coverage resulting in inadequate weed control.

**CAUTION: CDA equipment produces a fine spray pattern which is not easily visible. Ensure spray pattern or drift does not contact foliage or any other green tissue of desirable plants, since severe injury or destruction may result.**

**Aerial Equipment**

Roundup PowerMAX may be applied by aircraft for control of weeds in forests, cropland or pasture prior to establishment of crops, new pastures or new forest plantings and for pre-harvest applications, up to a maximum rate of 2.7L/ha where specified by this label. DO NOT apply treatments by aircraft in situations where drift onto sensitive crops and pastures is likely to occur.

Apply treatments using boom or Micronair equipment using a spray volume not less than 20L/ha and using settings to produce a COARSE to VERY COARSE spray quality (as defined by ASAE S572). In multiple product tank mixes a minimum water volume of 50L/ha is recommended and local advice should be sought. Correct mixing order is important. Swath width should be set to take into account aircraft type, wind conditions and target height. Swath width will need to be reduced to avoid striping under light wind conditions and/or application to tall, dense targets eg, preharvest application, treatment in heavy crop stubble. Thoroughly wash aircraft after each day of spraying to remove herbicide residues.

#### **Application on hilly terrain**

Increase water volume to 30-80L/ha and use a COARSE spray quality to optimise spray coverage.

#### **Air temperature and relative humidity**

DO NOT apply Roundup PowerMAX by aircraft at temperatures above 30°C. Increase spray output to at least 30L/ha when temperatures rise above 25°C. Avoid application when relative humidity falls below 35%.

#### **AVOID DRIFT**

DO NOT apply treatments with spraying equipment or under weather conditions which are likely to cause spray drift onto nearby susceptible crops, pastures or other sensitive plants. Spray drift potential is lowest between wind speed of 3 to 15km per hour. However many factors including droplets size and equipment type determine drift potential at any given speed. Application should be avoided in wind speeds below 3km per hour (1.5 knots) due to variable wind direction and high inversion potential. DO NOT apply if wind is blowing towards a sensitive crop or situation and off-target damage cannot be avoided.

#### **APPLICATION CHECK LIST**

- DO NOT treat weeds under poor growing conditions due to moisture stress, waterlogging, severe frosting, insect damage etc. Reduced performance may also occur where weeds are covered with dust or silt.
- DO NOT add surfactants, adjuvants or other pesticides except as specifically directed on this label.
- Rain within 1 hour of application which causes runoff may require re-treatment. Rainfastness is reduced if weeds are not actively growing, under stress or conditions of low light intensity/darkness. The addition of Wetter TX may improve rainfastness on Winter annual weeds.
- A withholding period for grazing is not required. However, it is recommended that grazing of treated plants be delayed to ensure herbicide uptake. Certain plants such as Soursob, Variegated thistle, Sorghum and Johnson grass may be naturally toxic to stock when eaten in large quantities under certain conditions. Where plants are known to be toxic, grazing should be delayed until complete desiccation of treated plants has occurred.
- Apply treatments to weeds which have at least one true leaf (broadleaf weeds) or two leaves (grasses) to provide an adequate surface area for herbicide uptake.
- If heavy grazing has occurred, allow regrowth to 6-8 cm before spraying and use the higher rates recommended.

#### **PROTECTION OF CROP, NATIVE AND OTHER NON-TARGET PLANTS**

Avoid contact with foliage, green bark or stems, canes, laterals, suckers, fresh wounds, exposed non-woody roots, flowers or fruit of crops, desirable plants and trees, since severe injury or destruction may result.

DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

#### **PROTECTION OF WILDLIFE, FISH CRUSTACEA AND ENVIRONMENT**

DO NOT contaminate dams, rivers or streams with the product or used container. DO NOT apply to weeds growing in or over water. DO NOT spray across open bodies of water.

#### **STORAGE AND DISPOSAL**

##### **(15L)**

Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Triple or preferably pressure rinse inner bladder before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean packaging to recycler or designated collection point. If not recycling, deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500mm 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.

##### **(20L)**

Store in the closed, original container in a cool, well ventilated area. DO NOT store for prolonged periods in 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, triple rinse, break, crush or puncture and deliver empty packaging for appropriate disposal at 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. Empty containers and product must not be burnt.

##### **Refillable containers (60L, 110L, 500L-Bulk)**

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

#### **SAFETY DIRECTIONS**

Will irritate eyes and skin. Avoid contact with eyes and skin. If product in eyes, wash it out immediately with water. If product on skin, immediately wash area with soap and water. Wash hands after use. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, elbow length PVC or nitrile gloves and face shield or goggles. When using controlled droplet applicator, wear protective waterproof clothing and impervious footwear. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

#### **FIRST AID**

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26

#### **MATERIAL SAFETY DATA SHEET**

For further information refer to the Material Safety Data Sheet (MSDS), which can be obtained from your supplier or the Nufarm website - [www.nufarm.com.au](http://www.nufarm.com.au)

**In case of emergency: Phone 1800 033 498** Ask for shift supervisor. Toll free 24 hours.

For Technical enquiries phone 1800 639 899

**CONDITIONS OF SALE**

"Any provisions or rights under the Trade Practices Act 1974 or relevant State legislation which cannot be excluded by those statutes or by law are not intended to be excluded by these conditions of sale. Subject to the foregoing, all warranties, conditions, rights and remedies, expressed or implied under common law, statute or otherwise, in relation to the sale, supply, use or application of this product, are excluded. Nufarm Australia Limited and/or its affiliates ("Nufarm") shall not accept any liability whatsoever (including consequential loss), or howsoever arising (including negligence) for any damage, injury or death connected with the sale, supply, use or application of this product except for liability which cannot be excluded by statute."

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