



## **ROUNDUP POWERMAX**

- High load 720 g/Kg
- High level of efficacy
- Minimum waste
- Superior performance in challenging conditions

A foliar applied herbicide for the control of annual and perennial grass and broad-leaved weeds, before sowing or planting all crops, pre-emergence and pre-harvest in cereals and certain other crops, for destruction of grassland, and set-aside and for use in stubbles, orchards, vineyards, forestry, industrial, horticultural, aquatic and non-crop areas.

Degraded by micro-organisms/microbes in the soil.

This product contains a water soluble granule (WG) containing 720.0 g/kg glyphosate.

FOR USE ONLY AS AN  
AGRICULTURAL/HORTICULTURAL/INDUSTRIAL  
HERBICIDE.

For professional use only

### **SAFETY INFORMATION**

Keep only in original container.

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for triple rinsed empty containers which can be disposed of as non-hazardous waste.

**To avoid risks to human health and the environment, comply with the instructions for use.**

**PCS Number 04534**

Do not contaminate water with the product or its container (Do not clean application equipment near surface water / Avoid contamination via drains from farmyards and roads).

Harmful to aquatic life with long lasting effects

Contents e10kg

PROTECT FROM FROST  
Store in a cool, dry place.  
Imported

Lot number/production date:.

**In case of emergency day or night, telephone Chemical Emergency Centre:  
Tel: 00 44 1865 407333**

Marketed in Ireland by: MONSANTO IRELAND LIMITED  
Unit C2, Dunshaughlin Business Park,  
Dunshaughlin, County Meath

Tel (01) 825 0555/825 0574 - Fax (01) 825 0570

Authorisation holder: MONSANTO UK LIMITED,  
PO Box 663, Cambridge CB1 0LD, UK  
Tel: (01954) 717550  
Tel: (01954) 717575 - Technical Enquiries  
E-mail: technical.helpline.uk@monsanto.com  
Website: www.monsanto-ag.co.uk

READ CAREFULLY THE RECOMMENDATIONS FOR USE PRINTED ON THIS BAG.

All users must ensure that they have read the recommendations for use and follow its advice before using the product.

#### **WARNING**

TAKE EXTREME CARE TO AVOID DRIFT.  
DO NOT MIX, STORE OR APPLY ROUNDUP POWERMAX IN GALVANISED  
OR UNLINED MILD STEEL CONTAINERS OR SPRAY TANKS.  
DO NOT leave spray mixtures in tank for long periods and make sure tanks  
are WELL VENTED.

#### **GENERAL PROPERTIES**

ROUNDUP POWERMAX is a foliar-acting herbicide with broad-spectrum activity. It is translocated, after absorption, from treated green growth to underground roots, rhizomes and stolons, providing control of both annual and perennial weeds. Applied pre-harvest of specified crops, ROUNDUP POWERMAX provides, in addition to weed control, a diverse range of harvest management benefits accruing from the removal of green material from the crop.

ROUNDUP POWERMAX is a water-soluble granule formulation with very superior handling characteristics. The free-flowing, dust-free granules dissolve rapidly and completely in water. Because the bulk density of this granular formulation is very stable, ROUNDUP POWERMAX may be measured both by weight, or volume, as required.

ROUNDUP POWERMAX is an advanced granular glyphosate formulation. In addition to being approved pre-harvest in specified crops and grassland, ROUNDUP POWERMAX is of exceptionally low toxicity to mammals, fish, birds, beneficial insects and both terrestrial and aquatic invertebrates.

ROUNDUP POWERMAX is rapidly adsorbed onto particulate matter in soils and water and is quickly degraded by the micro-organisms present in soil and aquatic bottom sediments. Upon adsorption, the herbicidal properties of ROUNDUP POWERMAX are lost, permitting drilling of crops within 24 hours of application. Prior to degradation, the active ingredient in ROUNDUP POWERMAX, glyphosate, is practically immobile in soils and is, therefore, unlikely to contaminate groundwater sources.

## **DIRECTIONS FOR USE**

### **Weed Susceptibility**

All target weeds must be actively growing at spraying:

PERENNIAL GRASSES must have full emergence of healthy, green leaf. (Scutch, for example, becomes susceptible at the onset of tillering and new rhizome growth, which usually occurs when plants have 4-5 leaves, each with 10-15 cm of new growth).

PERENNIAL BROAD-LEAVED WEEDS are most susceptible around the flowering stage.

ANNUAL GRASSES AND BROAD-LEAVED WEEDS should have at least 5 cm of leaf, or 2 expanded true leaves, respectively.

BRACKEN should be treated after frond tips have unfurled.

OTHER SPECIES - recommendations for specific areas of use are given in the Recommendation Tables.

### **Weed resistance strategy**

There is low risk for the development of weed resistance to ROUNDUP POWERMAX.

A strategy for preventing and managing weed resistance should be adopted. This should include integrating herbicides with a programme of cultural control measures. Growers are encouraged to implement a weed resistance strategy based on (a) good agricultural practices and (b) good plant protection practices by:

- Following label recommendations
- The adoption of complimentary weed control practices
- Minimising the risk of spreading weed infestations
- The implementation of good spraying practice to maintain effective weed control
- Using the correct nozzles to maximise coverage
- Application only under appropriate weather conditions
- Monitoring performance and reporting any unexpected results to Monsanto Ireland (Tel: (01) 825 0555/825 0574)

### **Application**

### Method of Application

Tractor mounted/trailed sprayer/knapsack/weedwiper/boat mounted hydraulic sprayer

### Spray Quality

A MEDIUM or COARSE quality spray should be applied, using either a conventional hydraulic or rotary atomiser sprayer. This is best achieved within a pressure range of 1.5 to 2.5 bar.

### Filling the Sprayer

Fill the spray tank with water until the re-circulation outlet is submerged and start agitation. Add the appropriate quantity of ROUNDUP POWERMAX. Top up the tank to the level required.

When using a chemical induction bowl or hopper, half fill the bowl with water and add ROUNDUP POWERMAX until within 2 cm (1 inch) of the surface of the water.

With the rinsing system on, open the valve to empty the bowl into the main tank.

Repeat until the required amount of ROUNDUP POWERMAX has been introduced.

### Sprayer Hygiene

It is essential to thoroughly clean out the entire sprayer system, using a recommended detergent cleaner, between ROUNDUP POWERMAX and other pesticides.

### **Tank-mixtures**

ROUNDUP POWERMAX is compatible with the following herbicides:

Butisan S

Venzar Flowable

Starane (add to tank first)

N.B. Ensure and maintain continuous agitation when using ROUNDUP POWERMAX in tank-mixture with these herbicides. Always consult manufacturer's recommendations before use.

Do not tank-mix ROUNDUP POWERMAX when using rotary atomiser sprayers.

### **Areas of Use, Rates and Timing**

See Recommendation Tables.

### **Hand-held equipment: specific guidance**

Wear suitable protective clothing (coveralls), suitable gloves and rubber boots when using hand-held rotary atomisers, weed-wipers and spot gun

### Knapsack sprayer applicators (for use in non-crop areas):

When used at a walking speed of 1 metre/second to apply a swath of 1 metre width, most knapsack sprayers deliver 200 l/ha spray volume (or 10 litres per 500m<sup>2</sup>).

Do not tank-mix ROUNDUP POWERMAX with adjuvants, pesticides or fertilisers, except as specified under 'Tank-mixtures' section.

To apply 2.0 kg/ha of ROUNDUP POWERMAX, therefore, use 20 g product for each 2 litres of spray liquid required.

Weedwiper applicator (e.g. Weedwiper Mini)  
(for use in non-crop areas).

Apply a solution of 265 g ROUNDUP POWERMAX per 1 litre of water.

### **GENERAL CAUTIONS**

Applications of lime, fertiliser, farmyard manure and pesticides should be delayed until 5 days after application of ROUNDUP POWERMAX.

Do not tank-mix ROUNDUP POWERMAX with adjuvants, pesticides or fertilisers, except as specified under 'Tank-mixtures' section.

Reduced control is likely where weed growth is impaired by natural senescence, drought, high temperature, a covering of dust, flooding or severe/prolonged frost at, or immediately after application.

Take extreme care when using near or alongside hedgerows.

A rain-free period of at least 6 hours should follow application.

After application, large concentrations of decaying foliage, stolons, roots or rhizomes should be dispersed or buried by thorough cultivation before crop drilling.

### **USAGE INSTRUCTIONS**

#### **Standard sprayer:**

1. Fill the spray tank with 2/3 of the required quantity of water.
2. Switch on the agitation and re-circulation.
3. Add the granules "progressively" and when completed add the remaining water. Continue agitation for a minimum of 5 minutes.  
(Alternatively, a re-circulation washed sieve on top of the tank may be used if available. First fill the tank with required volume of water and slowly add granules to the sieve as they dissolve).

#### **Sprayers with induction hoppers:**

Follow Stages 1 and 2.

3. Half fill the bowl with water.

4. Add product until within 2 cm of the water's surface.

5 + 6. Open the valve to empty the bowl into the main tank and close when all the contents have emptied. Do not leave the induction valve permanently open or excessive air entrapment will occur. Repeat until the required amount of product has been introduced.

### **Crop specific information**

Situation	Maximum single dose (kg / ha):	Maximum number of applications	Maximum total dose Kg/ha	Latest time of application:
Wheat, durum wheat, barley, oats combining pea and field beans (pre-harvest)	2.0	-	2.0	7 days before harvest
Mustards (pre-harvest)	2.0	-	2.0	8 days before harvest
Oilseed rape and linseed (pre-harvest)	2.0	-	2.0	14 days before harvest
Stubbles	2.5 Or 0.75	-	2.5 or 0.75	Perennial weeds, 5 days pre-drilling Annual weeds, 2 days before drilling or 6 hours before cultivating
Set-aside	3.0	-	3.0	24 hours before cultivating
All crops (post plant pre-emergence)	0.75	-	0.75	Pre-crop emergence
Top fruit orchards	2.5	-	2.5	After harvest. Before green cluster stage (soft fruit) or white bud stage (stone fruit)
Grassland (destruction)	3.0	-	3.0	5 days before harvest drilling or grazing
Asparagus (outdoor)	2.5	-	2.5	Pre-crop emergence
Forestry & forest nursery	5.0	-	5.0	-
Non-crop areas including hard surfaces	2.5	-	2.5	-
Aquatic (Enclosed waters and land immediately)	3.0	-	3.0	-

adjacent to aquatic areas)				
Specific weeds controlled: Control of annual and perennial broadleaf and grass weeds, aquatic weeds, some woody weeds and pre harvest desiccation				When using weed wipers the maximum concentration used must not exceed the following (a) Weedwiper mini 1 kg:5.5 litres dilution with water (b) Other wipers 1 kg:3.8 litres dilution with water



## **ROUNDUP POWERMAX**

### **First aid information in the event of accidental exposure or ingestion**

Eye contact	Immediately flush with plenty of water. Continue for at least 15 minutes. If easy to do, remove contact lenses. If there are persistent symptoms, obtain medical advice.
Skin contact	Take off contaminated clothing, wristwatch, jewellery. Wash affected skin with plenty of water. Wash clothes and clean shoes before re-use.
Inhalation	Remove to fresh air.
Ingestion	Rinse mouth thoroughly with water. Remove particles from mouth. Immediately offer water to drink. Do NOT induce vomiting unless directed by medical personnel. If symptoms occur, get medical attention.
Advice to doctors	This product is not an inhibitor of cholinesterase. Medical guidance is available for doctors by telephoning the National Poisons Information Service on (01) 837 9964 or (01) 809 2566.
Antidote	Treatment with atropine and oximes is not indicated.



RECOMMENDATION TABLES

AREA OF USE	TARGET WEEDS/ USAGE	CROP	WEED INFESTATION	MAXIMUM NUMBER OF TREATMENT S PER SEASON	TOTAL SEASON AL APPLICA TION RATE KG/HA	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
PRE-HARVEST ARABLE CROPS	Scutch, Black Bent, Creeping Bent	WHEAT, BARLEY and OATS	1-25 shoots/m <sup>2</sup> Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	-	1.0 1.5 2.0	80-250 l/ha	Grain/seed moisture must not exceed 30% at spraying. Harvest intervals: CEREALS, PEAS, BEANS           7+ days OILSEED RAPE                   14-21 days LINSEED                           14-28 days MUSTARDS                       8-10 days Use high clearance, narrow wheeled tractors, wide booms and crop dividers. DO NOT TREAT CROPS GROWN FOR SEED Consult grain merchant or processor before use. At harvest management rates, ANNUAL NETTLE, VOLUNTEER POTATO, ROSEBAY WILLOW HERB and POLYGONUM WEEDS will not be susceptible. WHEAT crops, WHEAT VOLUNTEERS and BROAD-LEAVED WEEDS may require up to 14 days before harvest. DO NOT USE treated straw as horticultural mulch.
		OILSEED RAPE, MUSTARDS COMBINING PEAS, FIELD BEANS LINSEED	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	-	1.5 2.0		
	Perennial broad-leaved weeds and other perennial grasses	WHEAT, BARLEY and OATS	All levels/species	-	2.0		
		OILSEED RAPE, MUSTARDS COMBINING PEAS, FIELD BEANS LINSEED	All levels/species	-	2.0		
	Harvest Management	WHEAT, BARLEY and OATS	Annual grasses, crop stems and leaves Annual broad- leaved weeds	-	0.5		
					0.75		

AREA OF USE	TARGET WEEDS/ USAGE	CROP	WEED INFESTATION	MAXIMUM NUMBER OF TREATMENT S PER SEASON	TOTAL SEASON AL APPLICA TION RATE KG/HA	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
STUBBLES AND GROUND PREPARATIO N, PRE-SOWING OR PRE- PLANTING	Scutch, Black Bent, Creeping Bent	BEFORE ALL CROPS EXCEPT ORCHARDS, SOFT FRUIT and FORESTRY	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	-	1.5  2.0	80-250 l/ha	Do not cultivate immediately before spraying. For PERENNIAL weed control, allow: - 21+ days growth before spraying in spring - VOLUNTEER POTATOES to make ample top growth - 5 days before cultivating or drilling For ANNUAL weed control, allow: - 24 hours before cultivating - 48 hours before direct drilling Allow 7 days before planting trees and soft fruit
	Other perennial grasses; volunteer potatoes (autumn only)		All levels/species	-  -	2.5		
	Volunteer cereals and annual weeds		All levels/species	-	0.75		
	Pre-plant clean- up of perennial grasses and broad-leaved weeds	BEFORE ORCHARD, SOFT FRUIT and FORESTRY PLANTING	All levels/species	-	2.0		

AREA OF USE	TARGET WEEDS/USAGE	CROP	WEED INFESTATION	MAXIMUM NUMBER OF TREATMENTS PER SEASON	TOTAL SEASONAL APPLICATION RATE KG/HA	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
POST SOWING/PLANTING PRE-EMERGENCE OF THE CROP	Volunteer cereals and annual weeds	LISTED CEREALS, OILSEED RAPE, MUSTARD, LINSEED, PEAS, FIELD BEANS, SUFAR BEET, SWEDE, TURNIP, ONION AND LEEK	All levels/species	1	0.75	80-250 l/ha	CAUTION - Ensure that spraying precedes ANY new spear emergence
	Annual weeds Perennial grasses Perennial broad-leaved weeds	ASPARAGUS	All levels/species		0.75 2.0 2.5	80-250 l/ha	CAUTION - Ensure that spraying precedes ANY new spear emergence
ALL EDIBLE AND NON-EDIBLE CROPS (DESTRUCTION, BEFORE SOWING/PLANTING)	-	VEGETATION MANAGEMENT	Annual weeds Perennial grasses Perennial broadleaved weeds		0.75 2.0 2.5	80-250 l/ha* or hand-held equipment (p. XX) 80-250 l/ha* or hand-held equipment Or tractor mounted weed wiper	Rotary atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns Do not use under polythene or glass. Do not use in or alongside hedgerows.
GREEN COVER ON LAND NOT BEING USED FOR CROP PRODUCTION e.g. SET-ASIDE	Common Couch	BEFORE or DURING REMOVAL FROM PRODUCTION	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	-	1.5 2.0	(see mixing & spraying section)	Before using on land taken out of production as part of a grant aided scheme, ensure compliance with the management rules of that scheme. Do not 'top' or cultivate immediately before application. For PERENNIAL weed control, allow:
	Perennial broad-leaved weeds and other perennial grasses		All levels/species	-	2.0		

Annual weeds: - autumn/spring of year 1 only - summer of year 1 and thereafter		All levels/species All levels/species	- -	0.75 1.5		- 21+ days growth before spraying in spring - 5 days before cultivating or drilling. For ANNUAL weed control, allow: - 6 hours before cultivating.
Natural regeneration and 150-250 l/ha Do not direct drill after set-aside. cover crop destruction	AFTER SHORT ROTATION or LONG TERM REMOVAL FROM PRODUCTION	Annual weeds only Perennial grasses Perennial broad-leaved weeds Perennial broad-leaved weeds as follows; Common ragwort, Nardus (matgrass), Hard rush, Heathrush, Jointed rush, Molinia (purple moor-grass), Sheep's fescue, Red fescue, White Clover (best cut in June and sprayed one month later and yellow rattle	- -	1.5 2.0 2.5 3.0	150-250 l/ha	Do not direct drill after set-aside.

AREA OF USE	TARGET WEEDS/ USAGE	CROP	WEED INFESTATION	MAXIMUM NUMBER OF TREATMENTS PER SEASON	TOTAL SEASONAL APPLICATION RATE KG/HA	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
IN-CROP (TRACTORMOUNTED WICKTYPE WEED WIPER APPLICATION)	Bolters, weed beet, other weeds	ARABLE CROPS GRASSLAND SET ASIDE	All levels		265g product per 1 litre water (26% solution) OR 360g product per 2 litres water in hot, dry conditions. (18% solution) For 'new generation' wipers consult the manufacturer for guidance		Weeds must be 10+ cm taller, and wiper 5+ cm higher, than desired vegetation. Wipe dense populations twice, in opposite directions. BOLTING BEET requires three applications, 2 weeks apart, from early July to early August. Contact Monsanto or your Distributor for specific recommended weed wiper applicators. IN GRASSLAND SITUATIONS REMOVE POISONOUS PLANTS BEFORE GRAZING/MOWING.
ORCHARDS (Hydraulic sprayers or hand held weed wipers)	Perennial grasses, broad-leaved weeds	APPLE, PEAR, PLUM, CHERRY, DAMSON	All levels of most species		2.5 18% solution of the product for hand held weed wipers	200-400 l/ha See Mixing & Spraying section for spot applications	Spray AFTER autumn leaf-fall and BEFORE: Apples, pears - green cluster stage Stone fruit - white bud stage Treat root suckers in late spring only. Trees must have been established 2+ years. Avoid contact with tree 30+ cm above ground.
	Root Suckers		-	2.5 18% solution of the product for hand held weed wipers			

GRASSLAND DESTRUCTION	Grassland destruction	SILAGE GROUND	All levels/species		2.5	80-250 l/ha	Pre-cut, silage ground: treat 5 days before 2nd or 3rd cut. Consume in normal manner. Post-cut, silage ground and permanent pasture: allow adequate re-growth of grasses and especially broad-leaved weeds (see 'Weed Susceptibility' section) prior to application. Grass may be conserved or grazed by cattle, dairy cows or sheep 5+ days after spraying. REMOVE POISONOUS PLANTS BEFORE GRAZING/MOWING.
		PERMANENT PASTURE	All levels/species		3.0		
FORESTRY PREPLANT AND SITE PREPARATION	Annual and perennial weeds Grassland and woody weeds Rhododendron	ALL SPECIES OF FOREST TREES	All levels/species		2.0	80-250 l/ha	All tree species may be planted 7 days or more after treatment. Treat WOODY WEEDS from June to August before leaf senescence, but after new crop growth has hardened
					2.5		
					5.0		
AQUATIC USE (ENCLOSED WATERS AND LAND IMMEDIATELY ADJACENT TO AQUATIC AREAS)	Emerged Weeds: Reeds, Rushes, Sedges, Grasses and Broad-leaved Weeds		All levels/species		3.0	200-400 l/ha	Always apply against direction of any current. Large areas should be divided into quadrants and treated sequentially at intervals of at least 14 days. Use boat mounted sprayers at slowest practical speed. Application presents no hazard to fish.

**GENERAL INFORMATION**  
**Metric Conversion Tables**

Rate kg / ha	Area treated by this pack	
	Hectares	Acres
0.5	20	49.4
0.75	13.3	32.9
1.0	10	24.7
1.5	6.7	16.6
2.0	5	12.3
2.5	4	9.9
3.0	3.3	8.1

Rate kg / ha	Product required to treat 1 acre	
	Lb	kg
0.5	0.4	0.2
0.75	0.6	0.3
1.0	0.9	0.4
1.5	1.3	0.6
2.0	1.8	0.8
2.5	2.2	1.0
3.0	2.7	1.2

**Material Safety Data Sheet**

A material safety data sheet for this product is available on request from Monsanto.

**Trade Mark References**

All other brand names referred to are trade marks of other manufacturers in which proprietary rights may exist.

Monsanto does not warrant that the purchase or use of equipment mentioned in this document will not infringe any patent or trade mark registration.