

**FRONT LABEL**



**ROUNDUP BIACTIVE GL**

- Improved performance
- 360 g/L glyphosate
- Rainfast from 1 hour
- Superior performance in challenging conditions

A foliar applied translocated herbicide for destruction of grassland, control of annual and perennial grass and broad-leaved weeds before sowing or planting of all crops.

For use pre-emergence and pre-harvest in cereals and certain other crops and the control of emerged weeds in stubbles, non-crop and aquatic areas.

Degraded by micro-organisms/ microbes in the soil.

<b>GROUP</b>	<b>9</b>	<b>HERBICIDES</b>
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UFI: FN12-7076-K00Q-0UV6

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

This product contains a soluble concentrate containing 360 g/l glyphosate, present as 441 g/l (35% ww) of the potassium salt of glyphosate.

Contents e XX

MAPP Number 17348

PROTECT FROM FROST

Batch/lot number:

**BOOKLET AND BASE LABEL**



**ROUNDUP BIACTIVE GL**

This product contains a soluble concentrate containing 360 g/l glyphosate, present as 441 g/l (35% ww) of the potassium salt of glyphosate

**MONSANTO (UK) LIMITED**

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Website: <https://cropscience.bayer.co.uk/>

**For 24-hour emergency information contact Bayer CropScience Ltd. Tel: 00800 1020 3333**

**ROUNDUP BIACTIVE GL**

Contains 360 g/l glyphosate, present as 441 g/l (35% ww) of the potassium salt of glyphosate.

Store away from food, drink and animal feedingstuffs.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean 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.

### IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL / HORTICULTURAL / AQUATIC HERBICIDE

**Crops/situations:**

Grassland

Wheat (including Durum wheat), barley, oats, combining peas, field beans and

Potatoes

Swede and turnips.

All edible crops (stubble), all non-edible crops (stubble).

All edible and non-edible crops (destruction, before sowing/planting).

Green cover on land not being used for crop production.

Natural surfaces not intended to bear vegetation; permeable surfaces overlaying soil; hard surfaces.

Enclosed waters, open waters, land immediately adjacent to aquatic areas.

**Maximum individual dose:** }

**Maximum number of treatments:** } Full details are given in the Statutory Area on

**Latest time of application:** } the attached leaflet

**Other specific restrictions:** } (Crop Specific Information – marked #)

**READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.**

### SAFETY PRECAUTIONS

#### Operator protection

\* *Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:*

\**WEAR SUITABLE PROTECTIVE GLOVES when handling the concentrate and when handling contaminated surfaces.*

\**WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND RUBBER BOOTS when using hand-held sprayers, hand-held rotary atomisers, weed wiper equipment or spot gun equipment.*

\* *However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.*

*WASH HANDS AND EXPOSED SKIN before eating and drinking and after work.*

#### Environmental protection

Do not contaminate water with the product or its container except when used as directed. Do not clean application equipment near surface water.

Avoid contamination via drains from farmyards and roads.

Recommendations apply to the use of this herbicide for the control of weeds growing in or by water and must be read in conjunction with the Official Code of Practice entitled "Guidelines for the Use of Herbicides on Weeds in or near Watercourses and Lakes" obtainable from Department of Environment and Rural Affairs (DEFRA publications 08459 556000), Scottish Executive, Environment and Rural Affairs Department, Department of Agriculture and Rural Development for Northern Ireland and the National Assembly for Wales Agriculture Department.

The Water Act, 1989, The Water Resources Act 1991, the Control of Pollution Act 1974, The Northern Ireland Water Resources Act 1992 and the Control of Pollution and Local Government (Northern Ireland) Order 1978, may apply to the act of applying Roundup Biactive GL for the control of weeds growing in or by reservoirs and water courses, e.g. rivers, streams, ditches, drains and ponds/lakes discharging into such water courses.

### **Storage and disposal**

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

KEEP OUT OF REACH OF CHILDREN.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

RINSE CONTAINER THOROUGHLY by using an integrated pressure-rinsing device or manually rinse three times. Add washings to sprayer at time of filling and dispose of safely. Triple rinsed containers may be disposed of as non-hazardous waste.

### **DIRECTIONS FOR USE**

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

#### **Warnings**

EXTREME CARE SHOULD BE TAKEN TO AVOID SPRAY DRIFT AS THIS CAN SEVERELY DAMAGE NEIGHBOURING CROPS OR PLANTS.

DO NOT MIX, STORE OR APPLY ROUNDUP Biactive GL IN GALVANISED OR UNLINED STEEL CONTAINERS OR SPRAY TANKS.

DO NOT leave spray mixtures in tank for long periods and make sure tanks are WELL VENTED.

#### **Restrictions**

A period without rain of at least 6 hours and preferably 24 hours must follow application of Roundup Biactive GL.

Do not spray onto weeds which are naturally senescent, or where growth is impaired by drought, high temperatures, a covering of dust, flooding or frost at, or immediately after application, otherwise poor control may result.

Do not spray in windy conditions as drift onto desired crops or vegetation can severely damage or destroy them.

Do not tank-mix Roundup Biactive GL with adjuvants, pesticides or fertilisers, except as specified in the Compatibility section.

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

Applications of lime, fertiliser, farmyard manure and pesticides should be delayed until 5 days after application of Roundup Biactive GL.

Keep stock out of treated areas for at least 5 days.

TREATED POISONOUS PLANT SPECIES MUST BE REMOVED BEFORE REGRAZING OR CONSERVING. Where Ragwort is present users should consult the Code of Practice on How to Prevent the Spread of Ragwort. Ragwort plants sprayed with this herbicide are more palatable and contain higher levels of toxins. Animals should be excluded from treated areas until any Ragwort has completely recovered or died and there is no visible sign of the dead weed. Do not include treated Ragwort in hay or silage crops.

### **Weeds controlled**

Roundup Biactive GL herbicide controls most emerged grasses and broad-leaved weeds. It is important that all weeds are at the correct growth stage when treated, otherwise some re-growth may occur and this will need re-treatment.

Apply Roundup Biactive GL herbicide once grasses and broad-leaved weeds have emerged and they have ACTIVELY GROWING green leaves.

- PERENNIAL GRASSES must have full emergence of healthy, green leaf. (Common Couch, 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. In set-aside, annual grasses are best treated at full ear emergence, or before stem elongation. Application during the stem extension phase of annual grasses e.g. Black-grass and Brome species on set-aside between the end of April and end of May, may result in poor control and require re-treatment.
- BRACKEN should be treated after frond tips are unfurled, but pre-senescence.
- OTHER SPECIES - recommendations for specific Areas of Use are given in the Recommendation Tables.
- This product will not give an acceptable level of control of Horsetails (*Equisetum arvense*)-repeat treatment will be necessary.

Aquatic

Roundup Biactive GL herbicide controls emerged and floating aquatic weeds including Common Reed, Reed Sweet-grass, Reed Canary-grass and Water-lily.

Treat when the weeds are actively growing with full emergence of green leaf, at flowering and before dieback. Best results are obtained from applications in the periods from mid-July to mid-August on Water-lilies and mid-August to mid-September on Reeds.

**Following crops**

Upon soil adsorption the herbicidal properties of Roundup Biactive GL are lost permitting the drilling of crops 48 hours after application. See the 'Recommendation Tables' for specific restrictions.

**Crop specific information**

	<b>Maximum individual dose (litres of product per hectare):</b>	<b>Maximum total dose (litres of product / hectare / crop)</b>	<b>Latest time of application:</b>
Permanent grassland (destruction), rotational grassland (destruction).	6.0	6.0 l/ha	5 days before harvest, grazing or drilling
Pre-harvest of wheat, barley, oats, combining peas, field beans.	4.0	4.0 l/ha	7 days before harvest
Post planting and pre-emergence of listed cereals, potatoes, swede and turnips.	1.33	1.33 l/ha	Pre-emergence
All edible and non-edible crops (stubble).	5.0  or  1.33	5.0 l/ha   1.33 l/ha	5 days before the drilling or planting of the following crop.   2 days before the drilling or planting of the following crop or 24 hours before cultivating.
All edible and non-edible crops (destruction before sowing/planting)	5.0	5.0 l/ha	-
Green cover on land not being used for crop production (e.g. set aside)	6.0	6.0 l/ha	24 hours before cultivating
Natural surfaces not intended to bear vegetation, permeable	5.0 litres/hectare	-	-

surfaces overlaying soil, hard surfaces							
Enclosed waters, open waters, land immediately adjacent to aquatic area.	6.0 litres/hectare	-	-				
<p><b>Other Specific Restrictions:</b></p> <p>Users must consult the appropriate water body (Environment Agency/Scottish Environmental Protection Agency) before using the product near water and must obtain their agreement before using this product to control aquatic weeds. The maximum concentration of active substance in treated water should not exceed 0.2 ppm.</p> <p>When applying through rotary atomisers, the spray droplet spectra produced must be of a minimum Volume Median Diameter (VMD) of 200 microns.</p> <p>Weed wipers may be used in any recommended crop where the wiper or chemical does not touch the growing crop.</p> <p>When using weed wipers, the maximum concentrations used must not exceed the following:</p> <table> <tr> <td>Weed wiper Mini</td> <td>1:2.25 dilution with water</td> </tr> <tr> <td>Other Wipers</td> <td>1:1.5 dilution with water</td> </tr> </table>				Weed wiper Mini	1:2.25 dilution with water	Other Wipers	1:1.5 dilution with water
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## RECOMMENDATION TABLE

AREA OF USE	CROP/ SITUATION	TARGET WEEDS/ USAGE	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
GRASSLAND - DESTRUCTION	GRASS	short rotation Ryegrass, longer leys and permanent pasture	Short rotation Ryegrass with annual weeds	3.0	150-250 l/ha*	Treat EITHER before grazing/mowing in June-Oct, when growth is 30-60 cm, not dense and lacking mature seeds, OR regrowth after grazing/mowing.  Select the application rate which controls/destroys the least susceptible weed and grass species present in the sward.  Grass may be conserved or grazed by cattle, dairy cows or sheep 5+ days after spraying. REMOVE POISONOUS PLANTS BEFORE GRAZING/MOWING. If Ragwort is present, the guidance in the 'DIRECTIONS FOR USE must be followed.  ONLY direct drill grass and clover EITHER into 1-2 year leys without mat, 5+ days after spraying, OR long leys with some mat, in the spring following autumn application.
			Leys 2-4 years old with perennial grass weeds	4.0		
			Long leys 4-7 years old with perennial broad-leaved weeds	5.0		
			Permanent pasture	6.0		
			See Weed Table below			

APPLICATION RATE FOR GRASSLAND DESTRUCTION							
3.0 l/ha		4.0 l/ha		5.0 l/ha		6.0 l/ha	
Annual Meadow-grass	Meadow Fescue	Black-bent	Creeping Soft-grass	Bracken**	Red Clover	Common Ragwort	Nardus (Mat grass)
Common Chickweed	Meadow Foxtail	Broad-leaved Dock	Curled Dock	Common Sorrel	Sedges	Hard Rush	Red Fescue
Common Mouse-ear	Rough Meadow-grass	Cock's-foot	Perennial Rye-grass	Common Nettle	Sheep's Sorrel	Heath Rush	White Clover*
Dock Seedlings	Speedwell species	Common Bent	Plantains	Creeping Buttercup*	Soft Rush	Jointed Rush	Yellow Rattle
Italian Rye-grass	Timothy	Common Couch	Soft Brome	Creeping Thistle	Spear Thistle	Molinia (Purple Moor-grass)	Sheep's Fescue
Mayweed species		Creeping Bent	Yorkshire Fog	Daisy	Tufted Hair-grass		
				Dwarf Thistle	Yarrow		
				Perennial Sow-thistle			

\* White clover is best cut in June and sprayed one month later

\*\* At full frond expansion



AREA OF USE	TARGET WEEDS/ USAGE	CROP	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
PRE-HARVEST ARABLE CROPS	Common Couch	WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS	1-25 shoots/m <sup>2</sup> Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.0 3.0 4.0	80-250 l/ha*	Grain/seed moisture must not exceed 30% at spraying.  Harvest intervals: CEREALS, 7+ days  Use high clearance, narrow wheeled tractors, wide booms and crop dividers.
	Perennial Broad- leaved Weeds and Other Perennial Grasses	WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS	All levels/species	4.0	80-250 l/ha*	DO NOT TREAT CROPS GROWN FOR SEED.  Where desiccating crops, check susceptibility of any weeds present.  Consult grain merchant before treating crops grown on contract or intended for malt for distilling.  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.
	Harvest Management	WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS	Annual grasses, crop stems and leaves  Annual broad- leaved weeds	1.0  1.33	80-250 l/ha*	Treated straw must not be used as a horticultural mulch.  * Rotary Atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns.  # Use higher volumes for dense canopies.

AREA OF USE	CROP/ SITUATION	TARGET WEEDS/ USAGE	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
STUBBLES, PRE-SOWING and PRE-PLANTING.	BEFORE ALL CROPS	Common Couch	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	3.0 4.0	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 * Rotary atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns.
		Other perennial grasses; volunteer potatoes (autumn only)	All levels/species	4.0		
		Volunteer cereals and annual weeds	All levels/species	1.5		
		Perennial broad leaved weeds	All levels/species	5.0		
POST SOWING/PLANTING, PRE-EMERGENCE OF THE CROP	LISTED CEREALS, POTATOES, SWEDE AND TURNIP,	Volunteer cereals and annual weeds	All levels/species	1.33	80-250 l/ha*	CAUTION - Ensure that spraying precedes ANY crop emergence. *Rotary atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns.
ALL EDIBLE AND NON- EDIBLE CROPS (DESTRUCTION, BEFORE SOWING/PLANTING)	Vegetation management	-	Annual weeds Perennial grasses Perennial broad- leaved weeds	1.33 4.0 5.0	80-250 l/ha* or hand-held equipment (p.13)	*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 in or alongside hedgerows

AREA OF USE	CROP/ SITUATION	TARGET WEEDS/ USAGE	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
GREEN COVER ON LAND NOT BEING USED FOR CROP PRODUCTION EG "SET ASIDE"	BEFORE or DURING REMOVAL FROM PRODUCTION  e.g. prior to growing a set aside mixture	Common Couch	Up to 75 shoots/m <sup>2</sup>	3.0	80-250 l/ha*  or  Hand-held equipment (p.13)	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:- - 21+ days growth before spraying in spring - 5 days before cultivating or drilling.  For ANNUAL weed control, allow: - 24 hours before cultivating.  Do not direct drill after set-aside.  Avoid applications during stem elongation as reduced control and re-spray is likely  *Rotary atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns.  Best control of annual grasses is achieved between full ear emergence and senescence.  + Only for weeds listed as per grassland destruction application rate table below.
			Over 75 shoots/m <sup>2</sup>	4.0		
		Perennial broad-leaved weeds and other perennial grasses	All levels/species	4.0	or  Tractor mounted weed wiper (p.13)	
	Annual weeds - Early autumn/spring - Late spring/summer	All levels/species  All levels/species	1.33  3.0			
	AFTER SHORT ROTATION or LONG TERM REMOVAL FROM PRODUCTION	Natural regeneration and cover crop destruction	Annual weeds only Perennial grasses Perennial broad- leaved weeds Perennial broad- leaved weeds as listed below.	3.0 4.0 5.0  6.0+	150-250 l/ha*	

AREA OF USE	CROP/ SITUATION	TARGET WEEDS/ USAGE	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
AROUND THE FARM NATURAL SURFACES NOT INTENDED TO BEAR VEGETATION, PERMEABLE SURFACES OVERLYING SOIL, ALL SITUATIONS (DESTRUCTION, BEFORE PLANTING).	Vegetation management	Including farm yards and roadsides, paths and along fences	Annual weeds	1.33	Hydraulic sprayers (boom and knapsack) at water volumes 80- 400 l/ha or rotary atomisers* at water volumes 10-40 l/ha or hand-held equipment. See Mixing & Spraying section.	Where rotary atomisers are used their droplet diameter must fall within the range 200-300µm.  Do not use under polythene or glass.
			Perennial grasses and broad-leaved weeds	5.0		
AROUND THE FARM HARD SURFACES	Vegetation management	Including non-porous farm yards, roads, paths & alongside walls	Annual weeds	1.33	Hydraulic sprayers (boom and knapsack) at water volumes 80- 400 l/ha or rotary atomisers* at water volumes 10-40 l/ha or hand-held equipment. See Mixing & Spraying section.	Apply this product carefully. Ensure spraying takes place only when weeds are actively growing (normally March to October) and is confined only to visible weeds including those in the 30cm swath covering the kerb edge and road gully – do not overspray drains
			Perennial grasses and broad-leaved weeds	5.0		
ENCLOSED WATERS, OPEN WATERS, LAND IMMEDIATELY ADJACENT TO AQUATIC AREAS	-	Emerged Weeds - Reeds, Rushes, Sedges, Grasses and Watercress	All levels/species	5.0	200-400 l/ha or hand- held equipment (p.8)	Consult appropriate Environment Agency regional office before use.  On water-lilies it is preferable to use a tractor or boat-mounted sprayer. During spraying do not exceed a pressure of 2.0 bars (30 p.s.i.). When using a tractor mounted sprayer do not exceed 8 kph (5mph).
		Floating Weeds - White water-lily - Yellow water-lily	All levels	6.0	100-200 l/ha or hand- held equipment (p.8)	
IN-CROP (TRACTOR- MOUNTED WEED WIPER APPLICATION)	ARABLE CROPS, GRASSLAND, SET ASIDE	Bolters, weed beet, other weeds	All levels	1:2.25 dilution with water for wick-type weed wipers  OR  1:1.5 dilution with water in hot, dry conditions.  For 'new generation' wipers consult the manufacturer for guidance.	1:2.25 dilution with water for wick-type weed wipers  OR  1:1.5 dilution with water in hot, dry conditions.  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. Treated POISONOUS WEEDS must be removed or allowed to completely degenerate before grazing or conserving. If Ragwort is present, the guidance in the 'DIRECTIONS FOR USE must be followed.

**ENCLOSED WATERS, OPEN WATERS, LAND IMMEDIATELY ADJACENT TO AQUATIC AREAS**

Target Weeds	Hydraulic Sprayers	Amount of Roundup Biactive GL	Area Treated	Water Volume
Emergent weeds e.g. reed, grasses, water cress	Boom sprayer	5.0 litres	1 ha	200-400 litres Optimum 250 litres
	Knapsack sprayer	50 ml	100 m <sup>2</sup>	2.0 to 4.0 litres
Floating weeds e.g. water-lilies	Boom Sprayer	6.0 litres	1 ha	100-200 litres
	Knapsack Sprayer	60 ml	100 m <sup>2</sup>	4.0 litres

## **Mixing and spraying**

Roundup Biactive GL mixes readily with water and can be applied in spray volumes ranging from 10-400 l/ha using tractor mounted, knapsack, rotary atomisers and hand-held sprayers. Specialised application equipment such as weed wipers, stem injection and spot gun applicators may be used where indicated.

Correctly calibrate all sprayers under field or use conditions prior to application.

### a) Tractor mounted and powered hydraulic sprayers

These should be capable of applying accurately 80 - 400 l/ha within a pressure range of 1.5 - 2.5 bars (20 - 35 psi).

Half fill the spray tank with clean water, start gentle agitation, and then add the correct amount of Roundup Biactive GL. Top up the tank with water to the required level. To avoid foaming do not use top tank agitation. Use of a defoamer may be necessary.

#### *Medium Volume application (150 - 300 l/ha)*

Avoid high water volumes (>300 l/ha) which may lead to run-off from the treated vegetation, resulting in reduced control. Low drift nozzles such as air induction and pre-orifice types producing a medium or coarse spray (BCPC definition) should be used to minimise the risk of drift.

#### *Low Volume Application (minimum 80 l/ha)*

Low volume application can be achieved by reducing pressure and the appropriate nozzle selection. Low drift nozzles which produce a medium spray quality (BCPC definition) should be used to minimise the risk of drift.

### b) Knapsack Sprayers

Recommended delivery range is 80 - 250 l/ha. Half fill the spray tank with clean water, add the correct amount of Roundup Biactive GL and top up with water.

When used at a walking speed of 1 metre/second to apply a swath of 1 metre width, most knapsack sprayers fitted with a Hypro AN 2.0 or similar nozzle deliver approximately 200 l/ha spray volume (or 10 l per 500 m<sup>2</sup>). To apply 3.0 l/ha of Roundup Biactive GL, therefore, use a 1.5% solution, i.e. 150ml Roundup Biactive GL made up to 10 litres. Similarly, knapsack sprayers fitted with low volume nozzles such as Hypro AN 1.0 typically deliver approximately 100 l/ha spray volume. To apply 3.0 l/ha Roundup Biactive GL in this case use 3.0% solution.

### c) Rotary Atomisers

Hand-held machines can be used to apply a spray volume of 10-40 l/ha, e.g. Herbi and Herbaflex. Tractor-mounted rotary atomiser boom sprayers are suitable for use in forest situations to apply a spray volume of 10- 40 l/ha.

When rotary atomisers are used to apply Roundup Biactive GL ensure that the droplet diameter falls within the range 200-300 microns for all uses.

Stir the correct amount of Roundup Biactive GL to control the particular target species into the sprayer bottle half filled with clean water. Top up with water, close the top and shake gently to ensure good mixing

#### d) Weed Wipers

For ropewick applicators use a concentration of 1 part Roundup Biactive GL to 2.25 parts of water and add a water-soluble dye if required. Care should be taken to avoid dripping onto wanted vegetation.

For new generation weed wipers, use 1 part Roundup Biactive GL to 10 or 20 parts of water or as directed by manufacturer's instructions. A list of machines is included in the Company Advisory section at the end of this label.

#### e) Spot Gun Applicators

Spot gun applicators are for the treatment of individual weeds. Apply 5ml of spray to target weed, using a narrow cone TG-3 or TG-5 nozzle.

Spot Diameter (metres)	Amount of ROUNDUP BIACTIVE GL (ml) per 5 litres spray solution for targeted dosages of:		
	3.0 l/ha	4.0 l/ha	5.0 l/ha
0.3	20	28	35
0.6	85	110	140

When used in paddocks keep livestock out of treated area until treated Ragwort or other poisonous weeds have either been removed or died down completely.

#### Boat mounted sprayers

For use in aquatic situations. Prepare sprayer as for knapsack sprayers (Section b above). Calibrate and spray at the lowest speed possible. Always apply against the direction of any current.

### **Compatibility**

Do not tank mix ROUNDUP BIACTIVE GL with adjuvants, pesticides or fertilisers except as advised by Monsanto. For up to date information on compatible products contact Monsanto UK Limited (Telephone: 01223 226500).

N.B. Maintain continuous agitation when using Roundup Biactive GL in a tank-mixture. For knapsack sprayers: mix thoroughly and use immediately when using Roundup Biactive GL in tank mixture. Always consult manufacturers' recommendations before use.

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

For hydraulic sprayers: maintain continuous agitation when using ROUNDUP BIACTIVE GL in tank mixture.

For knapsack sprayers: mix thoroughly and use immediately when using ROUNDUP BIACTIVE GL in tank mixture.

## **COMPANY ADVISORY INFORMATION**

This section is not part of the Product Label under the Plant Protection Products Regulations 1995 and provides additional advice on the product.

### **General Information**

Roundup BIACTIVE GL herbicide is an advanced formulation containing glyphosate. Roundup BIACTIVE GL is taken up by foliage and translocated to underground roots, rhizomes and stolons, providing control of both annual and perennial grasses and broad-leaved weeds. Roundup BIACTIVE GL 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. Until degraded, the active ingredient in Roundup BIACTIVE GL, glyphosate, is practically immobile in soils and is, therefore, unlikely to contaminate groundwater.

Roundup BIACTIVE GL is a glyphosate formulation which, having no hazard classification, offers a high standard of operator safety. To maximise the intrinsic safety of Roundup BIACTIVE GL to operator, consumer and environment, the label recommendations and the DEFRA/HSC/NAW publication "Code of Practice for Using Plant Protection Products" of January 2006, should be adhered to.

### **Symptoms on the weeds**

Symptoms of treatment are generally first seen 7-14 days, or longer, if growth is slow after spraying. Leaf symptoms take the form of a reddening then yellowing of the foliage and are first seen on the grass weeds but take longer to appear on broad-leaved weeds. Reaction of nettle is slow.

A covering of dew may reduce efficacy where run-off occurs.

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.

For aquatic weed control, on reeds and grasses leaf symptoms usually appear within 14-21 days of spraying in the early autumn. Complete foliage desiccation usually occurs 30-40 days after spraying. At this stage the reeds can be cut and removed. During cold conditions leaf symptoms may not appear before natural dieback but no growth will occur in the season following spraying.

### **Effects of weather**



See Directions for Use (Restrictions).

Roundup BIACTIVE GL will remain efficacious at low but not freezing temperatures however the onset of symptoms will be delayed.

A covering of dew may reduce efficacy where run-off occurs.

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.

### **Weed resistance strategy**

Glyphosate, the active ingredient in Roundup BIACTIVE GL is a Group H herbicide based on the mode of action classification system of the Herbicide Resistance Action Committee.

Under Best Practice there is a low risk for the development of weed resistance to Roundup BIACTIVE GL. There are no known cases of weed resistance to glyphosate in UK.

Strains of some annual weeds have developed resistance to glyphosate in some parts of the world leading to poor control. A strategy for preventing and managing such resistance should be adopted. This should include integrating herbicides with a programme of cultural control measures and /or active ingredients with a different mode of action.

Users are encouraged to implement a weed resistance strategy based on (a) Good Agricultural Practices and (b) Good Plant Protection Practices by:

- Following label recommendations on rates and timing.
- The adoption of Integrated Weed Management 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 UK Ltd (Telephone: 01223 226500).

### **General Cautions**

Take extreme care to avoid drift, particularly when using near or alongside hedgerows. The use of low drift nozzles such as 'air induction' and 'pre-orifice' nozzles are recommended.

### **New generation weedwipers**

Logic Contact 2000, Carrier Rollmaster, Allman Ecowipe, Rotowiper (UK) Ltd, C-Dax™ Eliminator, Weedswiper™

## **Disposal**

Follow the guidance on the disposal of surplus spray solution, tank washings, concentrate and containers as given in Section 5 of the DEFRA/HSC/NAW publication "Code of Practice for Using Plant Protection Products" of January 2006

## **Sprayer hygiene**

It is essential to thoroughly clean-out spray tanks, pumps and pipelines and nozzle or disc assemblies, with a recommended detergent cleaner, between applying this product and other pesticides to avoid contamination from pesticide residues.

## **Trademark References**

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

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## **Material Safety Data Sheet**

Following the instructions on this Product Label for the specified uses should ensure that the product is used safely and efficaciously for those uses.

A Material Safety Data Sheet can be downloaded from the Bayer CropScience website: <https://cropscience.bayer.co.uk/> or is available on request (Telephone: 01223 226500).