

FRONT LABEL



ROUNDUP BIACTIVE XL

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

For use pre-emergence and pre-harvest in cereals and certain other crops, for destruction of grassland, and use in stubbles, orchards and non-crop areas.

For the control of emerged weeds in industrial and amenity situations, in forestry and in aquatic areas.

Degraded by micro-organisms/ microbes in the soil.

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 (SL) containing 360 g/l glyphosate, present as 441 g/l (34.83% ww) of the potassium salt of glyphosate.

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 non-hazardous waste.

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

PCS Number 04660

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)

PROTECT FROM FROST
Imported

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Not for reformulation or repackaging.
No licence is granted under any patent.

Lot number/production date:.

Trade Marks

BOOKLET AND BASE LABEL



- Herbicide

ROUNDUP BIACTIVE XL

**FOR USE AS AN AGRICULTURAL/HORTICULTURAL/INDUSTRIAL/ FORESTRY/AQUATIC
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 non-hazardous waste.

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

PCS Number 04660

Do not contaminate water with product or its container

If medical advice is needed, have product container or label at hand

Keep out of reach of children

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In case of emergency day or night, telephone Chemical Emergency

Centre:

Tel: 00 44 1865 407333

READ CAREFULLY ALL RECOMMENDATIONS FOR USE GIVEN WITH THIS CONTAINER.

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

DIRECTIONS FOR USE

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 XL 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.

GENERAL PROPERTIES

ROUNDUP® BIACTIVE XL herbicide is an advanced formulation containing glyphosate. ROUNDUP BIACTIVE XL 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.

Applied pre-harvest of specified

crops, ROUNDUP BIACTIVE XL provides, in addition to weed control, a diverse range of harvest management benefits accruing from the removal of green material from the crop. ROUNDUP BIACTIVE XL is recommended for control of annual and perennial weeds in non-crop areas such as roadsides, paths, hard surfaces and along fences and walls. It is recommended for cleaning up weedy ground prior to planting or sowing, for total weed control on industrial sites and for aquatic weed control.

ROUNDUP BIACTIVE XL may also be used as a directed spray in ornamental plantings, and in forestry, and forest nurseries for site preparation and post-planting treatments.

ROUNDUP BIACTIVE XL is rapidly adsorbed onto particulate matter in soils and water and is quickly degraded by the micro-organisms in soil and aquatic bottom sediments.

Until degraded, the active ingredient in ROUNDUP BIACTIVE XL, glyphosate, is practically immobile in soils and is, therefore, unlikely to contaminate groundwater.

When used as directed, any water subjected to ROUNDUP BIACTIVE XL spraydrift may be used immediately for irrigation purposes.

ROUNDUP BIACTIVE XL is a glyphosate formulation which, having no hazard classification, offers a high standard of operator safety.

General cautions

A period without rain of at least 6 hours and preferably 24 hours must follow application of ROUNDUP BIACTIVE XL.

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.

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.

Do not tank-mix ROUNDUP BIACTIVE XL with adjuvants, pesticides or fertilisers, except as specified in der Directions for Use, Tank Mixtures.

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

Decaying vegetation following application of ROUNDUP BIACTIVE XL may temporarily delay the emergence and early growth of crops direct drilled within 48 hours of spraying of annual weeds or within 24 hours after cultivation following spraying of annual weeds.

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

Weeds controlled

ROUNDUP BIACTIVE XL 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 XL 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 XL 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.

Symptoms on the weeds

Symptoms of treatment are generally first seen 7-14 days, or longer, if growth is slow. 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.

Following crops

Upon soil adsorption the herbicidal properties of ROUNDUP BIACTIVE XL are lost permitting the drilling of crops 24 hours after application. See the 'Recommendation Tables' for specific restrictions.

Specific Crop information

Crop	Maximum single dose	Max no of applicatio ns	Max total dose	Latest time of application:
Winter wheat, spring wheat, durum wheat, winter barley, spring barley, oats, combining pea & field bean (pre-harvest)	4.0l/ha	-	4.0l/ha/crop	7 days before harvest
Linseed, oilseed rape (pre-harvest).	4.0l/ha	-	4.0l/ha/crop	14 days before harvest
Mustard (pre-harvest)	4.0l/ha	-	4.0l/ha/crop	8days before harvest
Stubbles and set-aside	4.0l/ha	-	4.0l/ha/crop	2-7 days pre-drilling
Grassland destruction	6.0l/ha	-	6.0l/ha/crop	5 days before harvest or drilling
Top fruit orchards.	5.0l/ha	-	5.0l/ha/crop	After harvest
Forest & forest nursery	10.0l/ha	-	10.0l/ha/crop	
Non-crop areas including hard surfaces	6.0l/ha	-	6.0l/ha/crop	-
Aquatic use.	6.0l/ha	-	6.0l/ha/crop	

Specific weeds controlled:

Control of annual and perennial broadleaf and grass weeds, aquatic weeds, some woody weeds and pre-harvest desiccation.

Other Specific Restrictions:

When applying through rotary atomisers, the spray droplet spectra produced must be of a minimum Volume Median Diameter (VMD) of 200 microns.

Weed wipers may be used in any recommended crop where the wiper or chemical does not touch the growing crop. Weed wipers may be used in any recommended crop where the wiper or chemical does not touch the growing crop.

When using weed wipers, the maximum concentrations used must not exceed the following:

Weed wiper Mini	1:2.25 dilution with water
Other Wipers	1:1.5 dilution with water

RECOMMENDATION TABLE

AREA OF USE	CROP	TARGET WEEDS/USAGE	MAXIMUM NUMBER OF TREATMENTS PER SEASON	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
PRE-HARVEST ARABLE CROPS	WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS	SCUTCH	1	1-25 shoots/m ² Up to 75 shoots/m ² Over 75 shoots/m ²	2.0 3.0 4.0	80-250 l/ha*	<p>Grain/seed moisture must not exceed 30% at spraying.</p> <p>Harvest intervals: CEREALS, PEAS, BEANS 7+ days OILSEED RAPE 14-21 days LINSEED 14-28 days MUSTARDS 8-10 days</p> <p>Use high clearance, narrow wheeled tractors, wide booms and crop dividers. DO NOT TREAT CROPS GROWN FOR SEED. Where desiccating crops, check susceptibility of any weeds present. Do not attempt to desiccate OILSEED RAPE or MUSTARD crops with significant secondary growth, uneven maturity, disease or stress. Desiccate LINSEED when seeds are light brown and capsules brown; stems/leaves may be yellow/green.</p> <p>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. Treated straw must not be used as 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.</p> <p># Use higher volumes for dense canopies.</p>
	OILSEED RAPE, MUSTARDS		1	Up to 75 shoots/m ² Over 75 shoots/m ²	3.0 4.0	100-250 l/ha#	
	COMBINING PEAS, FIELD BEANS		1	Up to 75 shoots/m ² Over 75 shoots/m ²	3.0 4.0	80-250 l/ha*	
	LINSEED		1	Up to 75 shoots/m ² Over 75 shoots/m ²	3.0 4.0	80-250 l/ha*	
	WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS	Perennial broad-leaved weeds and other perennial grasses	1	All levels all species	4.0	80-250 l/ha*	
	OILSEED RAPE, MUSTARDS		1	All levels all species	4.0	100-250 l/ha#	
	COMBINING PEAS, FIELD BEANS		1	All levels all species	4.0	80-250 l/ha*	
	LINSEED		1	All levels all species	4.0	80-250 l/ha*	
	WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS	Harvest Management Crop desiccation & annual weeds, prior to direct combining	1	Annual grasses Crop stems and leaves, annual broadleaved weeds	1.0 1.5	80-250 l/ha*	
	OILSEED RAPE, MUSTARDS		1	All levels all species	3.0	100-250 l/ha#	
COMBINING PEAS, FIELD BEANS		1	All levels all species	3.0	80-250 l/ha*		

AREA OF USE	CROP	TARGET WEEDS/USAGE	MAXIMUM NUMBER OF TREATMENTS PER SEASON	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
STUBBLES AND GROUND PREPARATION PRE-SOWING OR PRE-PLANTING	BEFORE ALL CROPS EXCEPT ORCHARDS	Scutch, Black Bent, Creeping Bent	1	Up to 75 shoots/m ² Over 75 shoots/m ²	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 and soft fruit * 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)	1	All levels/species	4.0		
		Volunteer cereals and annual weed	1	All levels/species	1.5		
		Perennial broad leaved weeds	1	All levels/species	4.0		
BEFORE ORCHARD PLANTING	Pre-plant clean-up of perennial grasses and broad-leaved weeds	1	Arable weeds	4.0			
SET ASIDE MANAGEMENT	SET ASIDE LAND FOLLOWING SHALLOW CULTIVATION	Annual weeds including wild-oats	1	Germinating seedlings	1.0	80-250 l/ha* or Hand-held equipment (p8)	After April 15th following shallow cultivation repeat treatment for any subsequent flush of germinating seedlings. #rotary atomisers may be used at a water volume rate of 40l/ha. Ensure droplet diameter falls with the range 200-300 microns.- 5 days before cultivating or drilling. Spray mid May to late June. Where topping is not practised, spray before seed set. *rotary atomisers may be used at a water volume rate of 40l/ha. Ensure droplet diameter falls with the range 200-300 microns.
	UNCULTIVATED SET ASIDE LAND	Perennial grasses including Scutch, False Oat-grass, Creeping Soft -grass, annual & perennial broad leaved weeds	1		3.0 4.0		
GRASSLAND - DESTRUCTION	SILAGE GROUND	Grassland destruction	1	All levels/species	4.0	150-250 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 regrowth of grasses and especially broad-leaved weeds (see Section 2) 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			Permanent pasture	6.0		

AREA OF USE	CROP	TARGET WEEDS/USAGE	MAXIMUM NUMBER OF TREATMENTS PER SEASON	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
NON-CROP		Including industrial		Annual weeds	1.5	Hydraulic sprayers	

	VEGETATION MANAGEMENT	sites, roadsides, paths, hard surfaces and along fences and walls and field edges				(boom and knapsack) at water volumes 80-250 l/ha or Hand held equipment* (p8)	Where rotary atomisers are used their droplet diameter must fall within the range 200-300µm. Do not use under polythene or glass. Rotary atomisers* at water volumes 10-40 l/ha or hand-held equipment
				Perennial grasses and broad leaved weeds	6.0		
ORCHARDS	APPLE, PEAR, PLUM, CHERRY, DAMSON	Perennial grasses, broad-leaved weeds			5.0	200-400 l/ha	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			5.0		
AQUATIC (ENCLOSED WATERS, OPEN WATERS, LAND IMMEDIATELY ADJACENT TO AQUATIC AREAS)		Emerged Weeds -Reeds, Rushes, Sedges, Grasses and Watercress and broad-leaved weed		All levels/species	5.0	200-400 l/ha or handheld Equipment (p8)	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). Use boat-mounted sprayers at slowest practical speed. Always apply against direction of any current. When disturbed by wash, WATER-LILIES may require re-treatment. Large areas should be divided into quadrants and treated sequentially at intervals of at least 14 days. Application presents no hazard to fish.
		Floating Weeds -White water-lily -Yellow water-lily	1	All levels	6.0	100-200 l/ha or handheld Equipment (p8)	
IN-CROP (TRACTOR MOUNTED WEED WIPER APPLICATION	ARABLE CROPS, VEGETABLE CROPS, GRASSLAND, FORESTRY, FOREST NURSERY SET ASIDE	Bolters, weed beet, other weeds	1	All levels	1:1 dilution with water for wick-type weed wipers OR 1:2 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.

AREA OF USE	CROP	TARGET WEEDS/USAGE	MAXIMUM NUMBER OF TREATMENTS PER SEASON	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
FORESTRY AND FOREST NURSERY - DIRECTED APPLICATION	ALL SPECIES	Annual/perennial grasses and broadleaved weeds	1	All levels/species	4.0	Hand-held equipment (p8)	<p>Use a tree guard when using directed sprays during the growing season.</p> <p>Treat HEATHER from late August to end September. Treat WOODY WEEDS from June to August, before leaf senescence, but after new crop growth has hardened.</p> <p>For improved control of RHODODENDRON, apply 8.0 l/ha (Product), adding High Trees Mixture B (PCS No. 91597) at 2% of spray volume.</p>
		Woody weeds, including Bracken, Beech, brush, Brambles, Sycamore, Oak, Hazel, Willow and Ash	1	All levels/species	3.0		
		Heather (peat soils) Heather (mineral soils)	1	All levels/species	4.0 6.0		
		Rhododendron	1	All levels/species	10.0		

Mixing and spraying

ROUNDUP BIACTIVE XL 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 XL. 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 XL 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 0.6-AN 2.4 or similar nozzle deliver approximately 200 l/ha spray volume (or 10 l per 500 m²). To apply 5.0 l/ha of ROUNDUP BIACTIVE XL, therefore, use 50ml of product for each 2 litres of spray liquid required. Similarly, knapsack sprayers fitted with low volume nozzles such as D/0.23/1- D/0.68/1 typically deliver approximately 100 l/ha spray volume. To apply 5.0 l/ ha ROUNDUP BIACTIVE XL in this case, use 100ml of product for each 2 litres of spray liquid required.
Amount of Roundup Biactive XL required for a 20 litre knapsack for 3 spray volumes (100; 200 or 300 Liters per hectare)

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 XL ensure that the droplet diameter falls within the range 200-300 microns for all uses.

Stir the correct amount of Roundup Biactive XL 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 XL to 2 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 XL to 7.5 or 15 parts of water or as directed by manufacturer's instructions.

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 XL (ml) per 5 litres spray solution for targeted dosages of:		
	3.0 l/ha	4.0 l/ha	5.0 l/ha
0.3	21	85	28
0.6	110	35	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.

f) 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.

Amount of Roundup Biactive XL required for a 20 liter knapsack for 3 spray volumes (100; 200 or 300 Liters per hectare)

Rate of Roundup Biactive XL L/ha	Amount of Roundup Biactive XL required per 20 L knapsack calibrated to:		
	100 L/ha	200 L/ha	300 L/ha
2	400 ml	200 ml	133.3 ml
3	600 ml	3ml	200 ml
4	800 ml	400 ml	266.7 ml
5	1000 ml	500 ml	333.3 ml
Area sprayed per 20 L knapsack	2000 m ²	1000 m ²	667 m ²

Tank Mixtures

Do not tank mix ROUNDUP BIACTIVE XL with adjuvants, pesticides or fertilisers except as advised by Monsanto. For up to date information on compatible products contact Monsanto Ireland Limited, telephone (01) 825 0555 or (01) 825 0574.

Do not tank-mix ROUNDUP BIACTIVE XL when using rotary atomiser sprayers. For hydraulic sprayers: maintain continuous agitation when using ROUNDUP BIACTIVE XL in tank mixture.

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

Effects of weather

See Directions for Use (General Cautions).

ROUNDUP BIACTIVE XL 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.

Weed resistance strategy

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

There are no known cases of weed resistance to glyphosate in Ireland.

A strategy for preventing and managing such 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 Ltd (Tel: (01) 825 0555/825 0574)

Operating instructions for returnable containers

The product must only be transferred and measured using a closed transfer system.

If any doubt exists regarding equipment suitability contact the equipment manufacturer or your agronomist for further advice.

Remove the tamper evident plastic cap from valve unit fitted to the top of the IBC.

Attach the coupler of the transfer system as instructed in the equipment manual to the IBC and operate using the equipment manufacturer's instructions to transfer the required amount of product. Remove the

coupling after use and rinse the equipment in line with the instructions ensuring that the transfer system is clean and empty before placing in the storage position. The container must be empty of product and left in a clean condition for collection.

Do not attempt to rinse the inside – external clean only

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.

Metric conversion tables for ROUNDUP BIACTIVE XL (20 litre pack)

Rate l/ha	Area treated by the pack	
	Hectares	Acres
1.0	20	49
2.0	10	24
3.0	7	15.6
4.0	5	12.3
8.0	2.5	6.2

Rate l/ha	Product required to treat 1 acre	
	lb	kg
1.0	1.06	0.48
2.0	2.11	0.96
3.0	3.38	1.54
4.0	4.22	1.92
8.0	8.45	3.84

Kg	Litres	Kg	Litres	Kg	Litres
0.18	0.15	1.08	0.9	1.8	1.5
0.36	0.3	1.26	1.05	3.6	3.0
0.54	0.45	1.44	1.2	5.4	4.5
0.72	0.6	1.62	1.35	7.2	6.0
0.90	0.75			9.0	7.5

Material Safety Data Sheet

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

Trademark References

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