Roundup® ProActive

Ⓗ - Herbicide

Bayer Amenity

Improved performance

360 g/L glyphosate

Rainfast from 1 hour

Superior performance in challenging conditions

A1a GB ONLY – GB30465147b

℮ 5 Litres

This product must only be used in England, Scotland and Wales.

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

For the control of emerged weeds in grassland, orchards, 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 containing 360 g/L glyphosate, present as 441 g/L (35% ww) of the potassium salt of glyphosate.

MAPP Number 21225

PROTECT FROM FROST

BAYER CROPSCIENCE LIMITED
PO Box 1582, Cambridge, CB1 0FE, UK

Telephone: 01223 226500
https://cropscience.bayer.co.uk/

GROUP	9	HERBICIDE

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For 24-hour emergency information contact Bayer CropScience Ltd.
Tel: 0330 678 3382 (24 hr)
National Poisons Information Centre UK: 0344 892 0111
(medical professionals only)

ROUNDUP PROACTIVE UFI: FN12-7076-K00Q-0UV6
Contains 360 g/L glyphosate, present as 441 g/L (35% ww) of the potassium salt of glyphosate.

Toxic to aquatic life with long lasting effects.
Wear protective gloves/protective clothing/eye protection/face protection.
Collect spillage.
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 PROFESSIONAL USE ONLY AS AN AGRICULTURAL / HORTICULTURAL / INDUSTRIAL / FORESTRY / AQUATIC HERBICIDE

Crops/situations: All edible and non-edible crops (destruction, before sowing/planting). Grassland. Apples, pears; plums, cherries, damsons. Natural surfaces not intended to bear vegetation; permeable surfaces overlaying soil; hard surfaces. Enclosed waters, open waters, land immediately adjacent to aquatic areas. Forest, forest nursery (weed control, stump application and chemical thinning). Amenity vegetation.

Maximum individual dose:
Maximum number of treatments:
Latest time of application:
Other specific restrictions:
} **Full details are given in the Statutory Area on the attached leaflet (Crop Specific Information – marked #)**

IMPORTANT: Note that goods treated under the terms of this Great Britain authorisation can only be legally marketed in Northern Ireland if they are in accordance with the statutory EU Maximum Residue Level (MRL) set under Regulation (EC) No 396/2005. This may also apply to residues in animal products where treated crops are fed to livestock. Growers are advised to draw this to the attention of distributors and retailers so that EU MRL breaches and any associated enforcement against goods marketed in Northern Ireland are avoided.

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, spot gun equipment or when making cut stump treatments OR WHEN USING STEM INJECTION 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 ProActive 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.

MAPP: 21225

GB30465148c A1a GB ONLY

Crop specific information

CROPS OR SITUATIONS	MAXIMUM INDIVIDUAL DOSE (litres product per hectare)	MAXIMUM TOTAL DOSE (litres product / hectare / crop)	LATEST TIME OF APPLICATION
Permanent grassland (destruction), rotational grassland (destruction).	6	6	5 days before harvest, grazing or drilling
Apple and pear orchards.	5	5	After harvest (post leaf-fall) but before green cluster stage
Cherry, plum and damson orchards.	5	5	After harvest (post leaf-fall) but before white bud stage
All edible and non-edible crops (destruction before sowing/planting)	5	5	-
Natural surfaces not intended to bear vegetation, permeable surfaces overlaying soil, hard surfaces	5	-	-
Enclosed waters, open waters, land immediately adjacent to aquatic area.	6	-	-
Forestry: Weed control	10 litres/hectare	-	-
Stump application	200 ml/litre of water (20% solution of product in water)	-	-
Chemical thinning (by injection)	2 ml per 10 cm diameter (or less) of tree	-	-
Amenity vegetation	5 litres/hectare	-	-

OTHER SPECIFIC RESTRICTIONS:

Users must consult the appropriate water regulatory 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.

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.

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

For stump application the maximum concentration must not exceed 200 ml product per 1.0 litre water.

AMENITY, INDUSTRIAL AND GENERAL WEED CONTROL

Exclusion Times

People, pets and wildlife need not be kept out of treated areas. It is best not to walk in areas where the spray is still wet as transfer to other vegetation may lead to unwanted damage to other foliage. Once the spray is dry this cannot occur.

Area of Use

Roundup ProActive is recommended for control of annual and perennial grasses

and broad-leaved weeds in non-crop areas, for cleaning up weedy ground prior to planting or sowing and for aquatic weed control. Roundup ProActive may also be used as a directed spray in ornamental plantings, orchards and for spot treating weeds in grassland. Roundup ProActive must be targeted only at weed growth on hard surfaces such as roadsides and paths, (see recommendation table for details).

Application Rate

1.5 to 6 litres/ha – refer to Recommendation Tables

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 ProActive 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 ProActive.

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 damaged or destroy them.

Do not tank-mix Roundup ProActive 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 ProActive.

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 ProActive 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 ProActive 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 ProActive 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 ProActive are lost permitting the drilling of crops 48 hours after application. See the 'Recommendation Tables' for specific restrictions.

Application Guidance

Use the following guidance when spraying at a rate of 5 L/ha.

For more details of suitable nozzles see 'Mixing and spraying' section.

	SPRAYING WITH 5 L/HA	
HYDRAULIC SPRAYERS	**STANDARD VOLUME (200 L/HA)***	**LOW VOLUME (100 L/HA)**
Boom sprayer	5 litres in 200 litres water covers 1 ha	5 litres in 100 litres water covers 1 ha
Knapsack / handheld sprayer*	250 ml in 10 litres water covers 500 m^2	500 ml in 10 litres water covers 1000 m^2

* Walking speed of 1 m/second and 1 m swath

Roundup ProActive can also be applied using rotary atomisers and weed wipers. See 'Mixing and Spraying' section

Mixing and spraying

Roundup ProActive 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 ProActive. 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 ProActive 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 1.2 or similar nozzle deliver approximately 200 L/ha spray volume (or 10 L per 500 m^2). To apply 3.0 L/ha of Roundup ProActive, therefore, use a 1.5% solution, i.e. 150 ml Roundup ProActive made up to 10 litres. Similarly, knapsack sprayers fitted with low volume nozzles such as Hypro DT 1.5 typically deliver approximately 100 L/ha spray volume. To apply 3.0 L/ha Roundup ProActive in this case use 3.0% solution.

c) Rotary Atomisers

Roundup ProActive may be applied neat through specialised ULV applicators which have drift reducing systems or at a spray volume of 10-40 L/ha through conventional 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 ProActive ensure that the droplet diameter falls within the range 200-300 microns for all uses.

Stir the correct amount of Roundup ProActive 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 ProActive 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 1part Roundup ProActive 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) Cut Stump Applicators

For cut stump treatment an Enso attachment to rotary saws may be used. This technique is specific to scrub clearance in forestry. A suitable water soluble dye may be used.

f) Stem injection

Use a hatchet to cut one notch in trees up to 10cm diameter and two to three notches in trees above 10cm diameter. Use 2 ml of undiluted Roundup ProActive per notch. Specialist stem injection equipment can be used to inject 2 mls Roundup ProActive into hollow stems such as Japanese Knotweed and Giant Hogweed.

g) Spot Gun Applicators

Spot gun applicators are for the treatment of individual weeds.

SPOT DIAMETER (METRES)	AMOUNT OF ROUNDUP PROACTIVE (ML) PER 5 LITRES SPRAY SOLUTION:			
	3.0 L/HA	4.0 L/HA	5.0 L/HA	10.0 L/HA
0.3	20	28	35	70
0.6	85	110	140	280

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

Roundup ProActive is physically compatible with some other pesticides. For up to date information on compatible products contact Bayer Crop Science.

Roundup ProActive is compatible with Mixture B NF (ADJ 0570). Where conventional hydraulic sprayers are being used Mixture B NF may be added to the spray tank solution, at a rate of 2% of the final water volume, for all pre-plant and post-plant directed sprays only.

DO NOT APPLY WITH MIXTURE B NF TO EDIBLE CROPS, GRASSLAND OR AQUATIC WEEDS.

Do not tank-mix Roundup ProActive when using rotary atomiser sprayers.

N.B. Maintain continuous agitation when using Roundup ProActive in a tank-mixture.

For knapsack sprayers: mix thoroughly and use immediately when using Roundup ProActive in tank mixture.

Always consult manufacturers' recommendations before use.

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 ProActive herbicide is an advanced formulation containing glyphosate. Roundup ProActive 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 ProActive 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 ProActive, glyphosate, is practically immobile in soils and is, therefore, unlikely to contaminate groundwater.

Roundup ProActive is a glyphosate formulation which, having no hazard classification, offers a high standard of operator safety. To maximise the intrinsic safety of Roundup ProActive 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.

IMPORTANT: To obtain optimum weed control, weeds must be left undisturbed with no further treatment or cultivation for 7 days after application. Allow 2-3 weeks for symptoms to develop then re-treat any unaffected plants using spot treatments.

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

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 ProActive 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 ProActive 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 ProActive. 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 Bayer Crop Science.

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, Carier 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”, 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

Roundup® is a Registered Trademark of the Bayer group.

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

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 is available on request.

Download from

https://cropscience.bayer.co.uk/our-products/amenity

or Telephone: 01223 226500

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Collect spillage.
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:
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Maximum individual dose: }
Maximum number of treatments: }
Latest time of application: }
Other specific restrictions: }

Full details are given in the Statutory Area on the attached leaflet (Crop Specific Information – marked #)

IMPORTANT: Note that goods treated under the terms of this Great Britain authorisation can only be legally marketed in Northern Ireland if they are in accordance with the statutory EU Maximum Residue Level (MRL) set under Regulation (EC) No 396/2005. This may also apply to residues in animal products where treated crops are fed to livestock. Growers are advised to draw this to the attention of distributors and retailers so that EU MRL breaches and any associated enforcement against goods marketed in Northern Ireland are avoided.

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* WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND RUBBER BOOTS when using hand-held sprayers, hand-held rotary atomisers, weed wiper equipment, spot gun equipment or when making cut stump treatments OR WHEN USING STEM INJECTION 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 ProActive 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.

MAPP: 21225

RECOMMENDATION TABLES

AREA OF USE	CROP/ SITUATION	TARGET WEEDS/USAGE	WEED INFESTATION	APPLICATION RATE L/HA	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
ALL EDIBLE AND NON-EDIBLE CROPS (DESTRUCTION, BEFORE SOWING/PLANTING)	Vegetation management	-	Annual weeds Perennial grasses Perennial broad-leaved weeds	1.5 4.0 5.0	80-250 L/ha* or hand-held equipment section	*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
GRASSLAND - DESTRUCTION	GRASS	Short rotation Ryegrass, longer leys and permanent pasture	Short rotation Ryegrass with annual weeds Leys 2-4 years old with perennial grass weeds Long leys 4-7 years old with perennial broad-leaved weeds Permanent pasture See Weed Table below	3.0 4.0 5.0 6.0	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 Ryegrass 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.

APPLICATION RATE FOR GRASSLAND DESTRUCTION												
3 L/HA			4 L/HA			5 L/HA			6 L/HA			
Annual Meadow-grass Common Chickweed Common Mouse-ear Dock Seedlings Italian Rye-grass Mayweed species	Meadow Fescue Meadow Foxtail Rough Meadow-grass Speedwell species Timothy		Black-bent Broad-leaved Dock Cock's-foot Common Bent Common Couch Creeping Bent	Creeping Soft-grass Curled Dock Perennial Rye-grass Plantains Soft Brome Yorkshire Fog		Bracken** Common Sorrel Common Nettle Creeping Buttercup* Creeping Thistle Daisy Dwarf Thistle Perennial Sow-thistle	Red Clover Sedges Sheep's Sorrel Soft Rush Spear Thistle Tufted Hairgrass Yarrow		Common Ragwort Hard Rush Heath Rush Jointed Rush *Mollinia* (Purple Moor-grass)	*Nardus* (Mat grass) Red Fescue White Clover* Yellow Rattle Sheep's Fescue	

* White clover and Creeping Buttercup are best cut in June and sprayed one month

** At full frond expansion

Japanese Knotweed control

Japanese Knotweed is an invasive alien species reducing biodiversity in areas where it becomes established and propagating from tiny fragments of root, often spreading along watercourses. It is scheduled under the Wildlife and Countryside Act 1981 and all parts of the plant must be treated as Controlled Waste under the Environmental Protection Act 1990. Roundup ProActive can be used alone as part of an eradication programme or as part of an integrated programme in conjunction with soil disturbance or removal. Dormant rhizomes will not be controlled by Roundup ProActive, but may be stimulated to grow by soil disturbance and then sprayed. It is particularly suitable for use near water. Sites must be monitored for at least three years and re-treated as necessary.

AREA OF USE	TARGET WEED	METHOD	APPLICATION RATE / WATER VOLUME	APPLICATION TIMING AND GUIDANCE
Amenity vegetation: Forestry; Natural surfaces not intended to be vegetation, permeable surfaces overlying soil, hard surfaces; Enclosed waters, open waters, land immediately adjacent to aquatic area	Japanese Knotweed	Foliar application	5 L/ha Hydraulic sprayers 80-250 L/ha or hand-held equipment	For best results apply after the onset of flowering (usually August/September) but before dieback. Use specialist extending hand lances for stands 2-3 m tall. Good coverage is essential; spray the underside as well as the upper surface of the leaves. Or As part of an integrated programme, spray when stems are 1-1.5 m high (Usually at end of May) and repeat once re-growth reaches 1-1.5 m again later in same season or the following year. (More re-growth will occur from this timing.) See National Trust Methodology for full details*. Cut stems approx. 200 mm above base of cane & 40 mm above node. Rupture the central stem tissue with a screwdriver and use a spot gun to insert Roundup ProActive into the hollow stem within 15 minutes of cutting.
		Stem filling technique	10 ml of 20% solution per stem	Use where overall spraying is not desirable, especially near watercourses or among desirable plants. Timing: After mid-August but before leaf fall.
		Stem injection technique	2 ml of neat solution per stem	Using specialist stem injection equipment, inject directly into individual stems.
		Hand-held weed wiper	1 part to 2 parts water	Use where overall spraying is not desirable or target plants are small or unsuitable for stem filling, (< 8 mm) e.g. in re-treatment following foliar spraying.

Natural surfaces not intended to bear vegetation, permeable surfaces overlying soil, hard surfaces

AREA OF USE	TARGET WEEDS/USAGE	WEED INFESTATION	APPLICATION RATE L/HA	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
NATURAL SURFACES NOT INTENDED TO BEAR VEGETATION, PERMEABLE SURFACES OVERLYING SOIL, RAILWAY BALLAST	Vegetation management - including roadsides, paths, and along fences	Annual weeds Perennial grass weeds Perennial broad-leaved weeds	1.5 4.0 5.0	Hydraulic sprayers 80-250 L/ha* or hand-held equipment.	Do not use under polythene or glass.
HARD SURFACES (EXCLUDING RAILWAY BALLAST)	Vegetation management on hard surfaces -including roadsides, paths, concrete and alongside walls	Annual weeds Perennial grass weeds Perennial broad-leaved weeds	1.5 4.0 5.0	Hydraulic sprayers 80-250 L/ha* or hand-held equipment.	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 gulley – do not overspray drains
AMENITY VEGETATION	Vegetation management Ornamental areas	Annual weeds Perennial grasses and broad-leaved weeds	1.5 5.0	Hydraulic sprayers (boom and knapsack) at water volumes 80-400 L/ha* 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

*Rotary atomisers may be used at a water volume of 10–40 L/ha. Ensure droplet diameter falls within the range 200-300 microns

AREA OF USE	CROP/SITUATION	TARGET WEEDS/USAGE	WEED INFESTATION	APPLICATION RATE L/HA	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
ORCHARDS	APPLE, PEAR, PLUM, CHERRY, DAMSON	Perennial grasses, broad-leaved weeds	All levels of most species	5	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		

AREA OF USE	CROP/SITUATION	TARGET WEEDS/USAGE	WEED INFESTATION	APPLICATION RATE L/HA	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
GRASSLAND, PLANT FREE AREAS, ORNAMENTAL PLANTINGS, AMENITY VEGETATION	-	Individual 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.		Weeds must be 10+ cm taller, and wiper 5+ cm higher, than desired vegetation. Contact Dispenser or your distributor for specific recommended weed wiper applicators. Treated PERENNIAL WEEDS must be removed or allowed to completely degenerate before grazing or conserving.

Forestry weed control

Roundup ProActive can be used for site preparation and for weed control in planted out trees.

AREA OF USE	TARGET WEEDS/USAGE	WEED INFESTATION	APPLICATION RATE L/HA.	WATER VOLUME	APPLICATION GUIDANCE
Forestry: - Pre-planting	Arable land, planting, replanting, & grassland areas	Arable weeds Grassland weeds	4.0 5.0	Hydraulic sprayers: 80-250 L/ha or rotary atomisers: 10-40 L/ha*	All tree species may be planted 7 days or more after treatment *Where rotary atomisers are used their droplet diameter must fall within the range 200-300µm.
Forestry: - Post-planting (directed) in conifers & broad-leaved trees	Clean-up around trees with knapsack applications.	Annual/perennial grasses and broad-leaves	4.0	Apply as a concentration of 1 part to 49 parts water (2%) or Weed wiper mini: 1 part to 2 parts water	It is ESSENTIAL to use a TREE GUARD for all applications made in the growing season. Treat bracken after frond tips are unfurled but before senescence. Treat heather late August to end September. All other woody weeds are treated June-August, before leaf senescence (but after new growth of crop has hardened).
		Woody weeds: Bracken/Beech Brush/Brambles Sycamore/Oak Hazel/Willow/Ash	3.0		
		Heather (peat soils)	4.0		
		Heather (mineral soils)	6.0		
		Rhododendron (*)	10.0 or 4% solution	250 L/ha	Cut back and treat re-growth when at least 1 metre in height throughout the entire coppice. Spray to just before point of run-off.

(*) For improved control of Rhododendron add Mixture BNF (ADJ AO570) at a concentration of 2% final water volume to 8.0 L/ha of Roundup ProActive. Application using the weed wiper is not suitable.

AREA OF USE	TARGET WEEDS/USAGE	WEED INFESTATION	APPLICATION RATE L/HA.	WATER VOLUME	APPLICATION GUIDANCE
Forestry: - Post-planting (overall dormant season in certain conifers – conifer release)	Grass weeds: - Lowland areas - Upland areas	Black Bent, Cock's-foot, Common Couch, Creeping Soft-grass, False Oat-grass, Fescues, Meadow-grasses, Other Bent species, Purple Moor-grass, Sweet Vernal-grass, Tufted Hair-grass, Wavy Hair-grass, Wood Small-reed (Bush grass)	1.5 2.0	Hydraulic sprayers: 200-250 L/ha or Hand-held equipment - see 'Mixing and Spraying' section	Species safe to spray when fully dormant and leader growth has hardened: Corsican, Lodgepole and Scots Pines, Norway Spruce, Sitka Spruce, Lawson Cypress, Western Red Cedar. Douglas Fir and Noble Fir – safe to spray when fully dormant and leader growth has hardened but NOT in spring. If overall application takes place after the optimum timing weed control may be reduced. It is advisable to spray a limited area of forest to test crop safety under local conditions before widespread overall application in subsequent years. These recommended application rates refer to forestry usage only. Inadequate control may result if used in other areas. Caution: The timing of hardening of leader growth varies considerably between locations and between seasons. It may occur as early as the end of July or be delayed to October or later. To avoid damage to summer growth, sprays should be directed away from leaders.
	Bracken Beech & Birch Brambles	All levels of all species All levels of all species All levels of all species	2.0 2.0 3.0		
Forestry: - Stump application for chemical thinning	Deciduous trees Coniferous trees	All species All species	10% solution of in water 20% solution of in water		Apply the solution to saturate the rim of the newly-cut surface, with a suitable adapted cleaning saw, spot gun or paintbrush. Treat as soon as possible after felling, in the period November to March/April. Do not apply in the period of active sap flow in the spring/early summer. Do not cut trenches or drill holes and fill with the solution or use undiluted product. Note: for ease of identification of treated areas a suitable, commercially available, water-soluble dye may be added to the prepared spray solution.
Forestry: - Chemical thinning by injection of tree stems	Coniferous and deciduous species	-	2 ml neat per cut per 10 cm diameter (or less) tree		Use a hatchet to cut one notch in trees up to 10 cm diameter and apply 2 ml of the solution to each cut. Use two or three notches in trees over 10 cm diameter. Do not treat in the period of active sap flow in the spring/early summer.
ENCLOSED WATERS, LAND IMMEDIATELY ADJACENT TO AQUATIC AREAS, OPEN WATERS	Emerged weeds: reeds, rushes, Sedges, grasses and Watercress	Dense infestations only	5.0 L/ha Hydraulic sprayers 200-400 L/ha (optimum 250 litres) or hand-held equipment See 'Mixing and Spraying.		Users must consult the appropriate Environment Agency Regional Office or Scottish Environmental Protection Agency before applying Roundup ProActive herbicide in reservoirs, water courses and waterways. Roundup ProActive herbicide may be used for the control of aquatic weeds in the presence of fish if used in strict accordance with the recommendations in this section.
	Floating weeds: -White Water-lily -Yellow Water-lily	Dense infestations only	6.0 L/ha Hydraulic sprayer 100-200 L/ha or hand-held equipment See 'Mixing and Spraying.		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 (5 mph). With a boat-mounted sprayer, use a slow forward speed to cause minimum disturbance to the floating leaves of the weeds. The use of a boat may result in some leaves being disturbed before Roundup Pro Bio herbicide can be absorbed. Applications made in flowing water should be sprayed against the directions of the flow. When disturbed by wash, WATER-LILIES may require re-treatment.

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

TARGET WEEDS	HYDRAULIC SPRAYERS	AMOUNT OF ROUNDUP PROACTIVE	AREA TREATED	WATER VOLUME
Emergent weeds e.g. reed, grasses, water cress	Boom sprayer Knapsack sprayer	5.0 litres 50 ml	1 ha 100 m²	200-400 litres (Optimum 250 litres) 2.0 to 4.0 litres
Floating weeds e.g. water-lilies	Boom Sprayer Knapsack Sprayer	6.0 litres 60 ml	1 ha 100 m²	100-200 litres 4.0 litres