



# Roundup<sup>®</sup>

## GOLD 450

For Professional Use Only

**(H)** - **Herbicide****GROUP 9 HERBICIDE**

This product is a soluble concentrate containing 450 g/L glyphosate, present as 551 g/L (42.2 % w/w) of the potassium salt of glyphosate.

**SAFETY INFORMATION****ROUNDUP GOLD 450**

UFI: 1WS1-P03G-1006-F4ED

A soluble concentrate containing 450 g/L glyphosate, present as 551 g/L (42.2 % w/w) of the potassium salt of glyphosate.

**Warning****Causes serious eye irritation****Toxic to aquatic life with long lasting effects**

Wash hands thoroughly after handling.

Wear protective gloves/ protective clothing/ eye protection/ face protection.

Keep only in original container.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. If eye irritation persists: get medical advice/attention.

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 06055****PROTECT FROM FROST** Store in a cool dry place

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

Freephone Tel: 1800 818534

Website: [www.bayercropscience.ie](http://www.bayercropscience.ie)**For 24 hour emergency information****contact Bayer CropScience Ltd****Telephone: +44 330 678 3382 (24 hr)**

(charged as a standard international call to the UK)

**National Poisons Information Centre****Dublin: 01 809 2166**

# 15

## Litres

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

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

Degraded by micro-organisms/ microbes in the soil.





### DIRECTIONS FOR USE

CROP	MAXIMUM SINGLE DOSE L/HA	MAXIMUM NUMBER OF APPLICATIONS	MAXIMUM TOTAL DOSE	LATEST TIME OF APPLICATION
<b>Post-planting &amp; pre-crop emergence:</b> Barley, bulb onion, combining pea, durum wheat, field bean, leek, linseed, mustard, oats, oilseed rape, potato, sugar beet, swede, turnip, vining pea, wheat	1.06	-	1.06 L/ha/crop	Pre-emergence of crop
*Pre-harvest – wheat, barley, oats, triticale, rye, spelt	3.2	1	3.2 L/ha	7 days before harvest
*Pre-harvest – oilseed rape and linseed	3.2	1	3.2 L/ha	14 days before harvest
*Pre-harvest – Peas (combining)	3.2	1	3.2 L/ha/crop	7 days before harvest
Stubbles (including destruction of cover crops)	3.2	-	3.2 L/ha/year	2-5 days pre-cultivation/drilling/planting
Set-aside/fallow	3.2	-	3.2 L/ha/year	2-5 days pre-cultivation/drilling/planting
Grassland destruction	3.2	1 per year	3.2 L/ha	5 days before cutting/grazing
Apples, pears	4.0	-	4.0 L/ha/year	Post-harvest before green cluster stage
Cherries, plums	4.0	-	4.0 L/ha/year	After leaf fall/before white-bud stage
Non-cropped areas (hard and permeable surfaces)	4.0	-	4.0 L/ha/year	-
Forestry	3.2	-	3.2 L/ha	See recommendation table
Specific weeds controlled: Control of a range of annual and Perennial grass and broadleaf weeds.	<b>Other Specific restrictions:</b> *May only be applied when crop is > BBCH 87 and grain/seed moisture < 30%			

**Authorisation holder:**

Bayer CropScience Ltd.  
 PO Box 1582, Cambridge, CB1 0FE  
 United Kingdom

Freephone Tel: 1800 818534  
 Website: www.bayercropscience.ie

**Marketing company:**

Bayer CropScience Ltd, Bayer Ltd, 1st Floor,  
 The Grange Offices The Grange, Brewery Road,  
 Stillorgan, Co. Dublin A94 H2K7

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 (24 hr) (charged as a standard international call to the UK)

**National Poisons Information Centre Dublin:**  
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**SAFETY PRECAUTIONS**

**Environmental Protection**

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).



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## WARNING

EXTREME CARE MUST BE TAKEN TO AVOID SPRAY DRIFT ONTO NON-CROP PLANTS OUTSIDE OF THE TARGET AREA. DO NOT MIX, STORE OR APPLY ROUNDUP GOLD 450 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 GOLD 450 herbicide is an aqueous solution containing 450 g/l glyphosate. It is a foliar-acting herbicide with broad-spectrum activity. It 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.

## Effects of weather

A period without rain of at least 6 hours, and preferably 24 hours, must follow application of ROUNDUP GOLD 450 herbicide.

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

Do not spray on to weeds suffering from drought, water-logging, heat or frost, otherwise poor control may result.

## WEED SUSCEPTIBILITY

ROUNDUP GOLD 450 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 GOLD 450 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.

## Weed resistance strategy

There is risk for the development of weed resistance to ROUNDUP GOLD 450.

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

- Following label recommendations
- The adoption of complimentary weed control practices
- Minimising the risk of spreading weed infestations
- The implementation of good spraying practice to maintain effective weed control
- Using the correct nozzles to maximise coverage
- Application only under appropriate weather conditions
- Monitoring performance and reporting any unexpected results to your distributor.

## TANK-MIXTURES

Do not tank-mix ROUNDUP GOLD 450 with adjuvants, pesticides or fertilisers, except as advised by manufacturer.

## APPLICATION

Method of Application: Tractor mounted/trailed horizontal boom sprayer/knapsack

**Conventional Hydraulic Sprayers**  
Knapsack sprayers and tractor mounted or powered sprayers may be used. These should be capable of applying accurately 100 – 400 L/ha within a pressure range of 1.5 – 2.5 bars (20 – 35 psi).

## Medium Volume Application

Avoid high water volumes which may lead to run-off from the treated vegetation, resulting in reduced control. Nozzles producing a medium or coarse spray (BCPC definition) should be used to minimise the risk of drift.

## Low Volume Application

Nozzles which produce a medium spray (BCPC definition) should be used to minimise the risk of drift.

## Filling the Sprayer

**Knapsack:** Ensure the knapsack applicator is correctly calibrated using an appropriate nozzle for the intended job. Part fill the knapsack sprayer with water. Add the required volume of ROUNDUP GOLD 450 concentrate and ensure thorough mixing of product through gentle agitation with the lid on the spray tank. If necessary, triple rinse the measuring vessel / empty pesticide container with clean water and add the rinse water to the spray tank. Fill the sprayer with further clean water to the necessary level. Never mix up more product than is required for the job.

Once application is complete, thoroughly rinse the sprayer / clean the filters with clean water and apply in an unsprayed area intended for treatment. If unsure, consult best practice guidance.

**Tractor Mounted:** To avoid foaming do not use top tank agitation. Half fill the spray tank with clean water, start gentle agitation, then add the correct amount of ROUNDUP GOLD 450. Top up the tank with water to the required level. Use of a defoamer may be necessary.

## Calibration

All sprayers should always be calibrated before use. This is essential when nozzles are changed or if a different dose of product is to be applied.

## Sprayer maintenance

Ensure the sprayer is in good working order and replace damaged, worn or malfunctioning parts before use. Carry out maintenance according to the instructions of the sprayer manufacturer.

## 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.

## Caution

- Always wash out the sprayer thoroughly before and after use.
- Do not mix or apply in galvanised or mild steel containers, such as old steel drums or galvanised watering cans.

## HAND- HELD EQUIPMENT:

### Knapsack Sprayer Applicators

- Use in Orchard and Non-Crop.
- When used at a walking speed of 1 m/ sec to apply a swath of 1 m width, most knapsack sprayers deliver 200 L/ha spray volume (or 10 litres per 500 m<sup>2</sup>).  
*To apply 3.2 L/ha of ROUNDUP GOLD 450, therefore, use a 1.6 % solution (e.g. 160 ml ROUNDUP GOLD 450 made up to 10 litres).*

- When used as above, knapsack sprayers fitted with low volume nozzles typically deliver 100 L/ha spray volume (or 10 litres per 1000 m<sup>2</sup>).

*To apply 3.2 L/ha ROUNDUP GOLD 450 in this case, use a 3.2 % solution.*

## Metric conversion tables for ROUNDUP GOLD 450 (20 litre pack)

Rate L/ha	Area treated by the pack	
	Hectares	Acres
1.0	20	49
2.0	10	24
3.2	6.25	15.6
4.0	5	12.3

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

Take extreme care to avoid drift, particularly when using near or alongside hedgerows.

A rain-free period of at least 6 hours and preferably 24 hours should follow application.

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

Decaying vegetation following application of ROUNDUP GOLD 450 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.

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

<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Get medical attention if irritation develops and persists.
<b>Inhalation</b>	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.
<b>Advice to doctors</b>	This product is not an inhibitor of cholinesterase. For 24-hour emergency information contact: 00800 1020 3333, or For information or to report a poisoning incident contact The National Poisons Information Centre, Beaumont Hospital, Dublin. (01-8092166), retain the label for reference.
<b>Antidote</b>	Treatment with atropine and oximes is not indicated.

## Disposal

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

## Material Safety Data Sheet

A material safety data sheet for this product is available on request: [www.bayercropscience.ie](http://www.bayercropscience.ie) or call 1800 818534.

## 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.

DIRECTIONS FOR USE				
CROP	MAXIMUM SINGLE DOSE L/HA	MAXIMUM NUMBER OF APPLICATIONS	MAXIMUM TOTAL DOSE	LATEST TIME OF APPLICATION
<b>Post-planting &amp; pre-crop emergence:</b> Barley, bulb onion, combining pea, durum wheat, field bean, leek, linseed, mustard, oats, oilseed rape, potato, sugar beet, swede, turnip, vining pea, wheat	1.06	-	1.06 L/ha/crop	Pre-emergence of crop
*Pre-harvest – wheat, barley, oats, triticale, rye, spelt	3.2	1	3.2 L/ha	7 days before harvest
*Pre-harvest – oilseed rape and linseed	3.2	1	3.2 L/ha	14 days before harvest
*Pre-harvest – Peas (combining)	3.2	1	3.2 L/ha/crop	7 days before harvest
Stubbles (including destruction of cover crops)	3.2	-	3.2 L/ha/year	2-5 days pre-cultivation/drilling/planting
Set-aside/fallow	3.2	-	3.2 L/ha/year	2-5 days pre-cultivation/drilling/planting
Grassland destruction	3.2	1 per year	3.2 L/ha	5 days before cutting/grazing
Apples, pears	4.0	-	4.0 L/ha/year	Post-harvest before green cluster stage
Cherries, plums	4.0	-	4.0 L/ha/year	After leaf fall/before white-bud stage
Non-cropped areas (hard and permeable surfaces)	4.0	-	4.0 L/ha/year	-
Forestry	3.2	-	3.2 L/ha	See recommendation table
Specific weeds controlled: Control of a range of annual and Perennial grass and broadleaf weeds.	<b>Other Specific restrictions:</b> *May only be applied when crop is > BBCH 87 and grain/seed moisture < 30%			

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## SAFETY PRECAUTIONS

### Environmental Protection

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).

**RECOMMENDATION TABLES**

AREA OF USE	CROP	TARGET WEEDS / USAGE	MAXIMUM NUMBER OF APPLICATIONS	WEED INFESTATION	APPLICATION RATE L/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
PRE-HARVEST ARABLE CROPS*	WHEAT, BARLEY, OATS, TRITICALE, RYE, SPELT	Common Couch, Black Bent, Creeping Bent	1	1-25 shoots/m <sup>2</sup> Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	1.6 2.4 3.2	100-250 L/ha	*May only be applied when crop is > BBCH 87 and grain/seed moisture < 30% Harvest intervals: CEREALS, PEAS, OILSEED RAPE      7+ days OILSEED RAPE                      14-21 days LINSEED                                14-28 days Use high clearance, narrow wheeled tractors, wide booms and crop dividers. DO NOT TREAT CROPS GROWN FOR SEED. Consult grain merchant before treating crops grown on contract or intended for malt for distilling. Treated straw must not be used as a horticultural mulch. # Use higher volumes for dense canopies.
	OILSEED RAPE, LINSEED		1	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.4 3.2	100-250 L/ha#	
	COMBINING PEAS		1	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.4 3.2	100-250 L/ha	
	WHEAT, BARLEY, OATS, TRITICALE, RYE, SPELT	Perennial Broad-leaved Weeds and Other Perennial Grasses	1	All levels/species	3.2	100-250 L/ha	
	OILSEED RAPE, LINSEED		1	All levels/species	3.2	100-250 L/ha#	
	COMBINING PEAS		1	All levels/species	3.2	100-250 L/ha	
	OILSEED RAPE, LINSEED	Annual weeds, prior to direct combining	1	All levels/species	2.4	100-250 L/ha#	
	COMBINING PEAS		1	All levels/species	2.4	100-250 L/ha	
STUBBLES (INCLUDING DESTRUCTION OF COVER CROPS)	BEFORE ALL CROPS EXCEPT ORCHARDS	Common Couch, Black Bent, Creeping Bent	-	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.4 3.2	100-250 L/ha	Latest time of application: 2 - 5 days pre-cultivation/drilling/planting. 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: - 48 hours before cultivating and direct drilling Allow 7 days before planting trees
		Annual grasses; volunteer potatoes (autumn only)	-	All levels/species	3.2		
		Volunteer cereals and annual weeds	-	All levels/species	1.2		
		Perennial broad leaved weeds	-	-	3.2		
	BEFORE ORCHARD PLANTING	Pre-plant clean-up	-	-	3.2		
POST-PLANTING & PRE-CROP EMERGENCE	BARLEY, BULB ONION, COMBINING PEAR, DURUM WHEAT, FIELD BEAN, LEEK, LINSEED, MUTARD, OATS, OILSEED RAPE, POTATO, SUGAR BEET, SWEDE, TURNIP, VINING PEA, WHEAT	Volunteer cereals and annual weeds	-	-	1.06	100-250 L/ha	CAUTION - Ensure that spraying precedes ANY crop emergence.

AREA OF USE	CROP	TARGET WEEDS/USAGE	MAXIMUM NUMBER OF TREATMENTS	WEED INFESTATION	APPLICATION RATE L/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
SET ASIDE / FALLOW	BEFORE or DURING REMOVAL FROM PRODUCTION	Common Couch	-	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.4 3.2	100-250 L/ha	Spray from mid May to late June. Where topping is not practised, spray before seed set. 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: - 48 hours before cultivating. Do not direct drill after set-aside.
		Perennial broad-leaved weeds and other perennial grasses	-	-	3.2		
		Annual weeds: - autumn/spring of year 1 only - summer of year 1 and thereafter	-	-	1.2 2.4		
	AFTER SHORT ROTATION or LONG TERM REMOVAL FROM PRODUCTION	Annual weeds only and some Perennial weeds	-	-	2.4 3.2	150-250 L/ha	
GRASSLAND -DESTRUCTION	GRASS	See Table	1	At these rates control may vary, depending on conditions at the time of application.	3.2	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 re-growth of grasses and especially broad-leaved weeds 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.

**APPLICATION RATE FOR GRASSLAND DESTRUCTION**

2.4 L/ha		3.2 L/ha	
Annual Meadow-grass	Meadow Foxtail	Black-bent	Creeping Soft-grass
Common Chickweed	Rough Meadow-grass	Broad-leaved Dock	Curled Dock
Common Mouse-ear	Speedwell species	Cock's-foot	Perennial Rye-grass
Dock seedlings	Timothy	Common Bent	Plantains
Italian Rye-grass	Mayweed species	Common Couch	Soft Brome
Meadow Fescue		Creeping Bent	Yorkshire Fog

AREA OF USE	CROP	TARGET WEEDS/ USAGE	MAXIMUM NUMBER OF TREATMENTS	WEED INFESTATION	APPLICATION RATE L/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
ORCHARDS (Top fruit)	APPLE, PEAR, PLUM, CHERRY,	Perennial grasses, broad-leaved weeds	-	All levels of most species	4.0	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	-	-	4.0		
NON-CROPPED AREAS (HARD AND PERMEABLE SURFACES)	Including industrial sites, roadsides, paths, hard surfaces and along fences and walls and field edges	VEGETATION MANAGEMENT	-	Annual weeds	1.20	100– 250 L/ha Or Hand-held equipment	Do not use under polythene or glass. 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	4.0		
		-	Perennial Broad-leaved weeds	4.0			
FORESTRY – PRE-PLANTING		Arable land, Planting, Replanting & Grassland areas	-	Arable Weeds	3.2	Hydraulic sprayers 100-250 L/ha	All tree species may be planted 7 days or more after treatment.
FORESTRY – POST-PLANTING (DIRECTED) APPLICATION*	ALL SPECIES	Annual/perennial grasses and broad-leaved weeds	-	-	3.2	Knapsack sprayers: 200-250 L/ha	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 from late August to end September. Treat WOODY WEEDS from June to August, before leaf senescence, but after new crop growth has hardened. Treat HEATHER from late August While moderate control in the current season will be observed on summer treated woody weeds, benefits of autumn treated weeds will only be achieved in the following season.
		Woody weeds, including Bracken, Beech, brush, Brambles, Sycamore, Oak, Hazel, Willow and Ash	-	-	2.4		
		Heather (peat soils)	-	-	3.2		
		Grass weeds	-	-	1.6		
FORESTRY – POST-PLANTING (OVERALL DORMANT SEASON IN CERTAIN CONIFERS)		Bracken, Beech & Birch Brambles (Only moderate control can be expected in this situation)	-	-	2.4	Hydraulic sprayers: 200-250 L/ha Or Hand-held equipment	DO NOT OVERALL SPRAY trees being grown for ORNAMENTAL PURPOSES, including CHRISTMAS TREES. 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. 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 Lammas growth, sprays should be directed away from leaders.