

**FRONT LABEL**



## **ROUNDUP Gold 450**

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 use pre-harvest in cereals, oil seed rape, mustard, combining peas, field beans, linseed.

For destruction of grassland, and use in stubbles, orchards, aquatic, amenity and non-crop areas.

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

Degraded by micro-organisms/microbes in the soil.

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.

**For Professional Use only.**

### **SAFETY INFORMATION**



**WARNING**

**Causes serious eye irritation**

**Wash hands thoroughly after handling.**

**Wear protective eye protection**

**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 02623**

Do not contaminate water with the product or its container.

Marketed in Ireland by: MONSANTO IRELAND LIMITED

Unit C2, Dunshaughlin Business Park, Dunshaughlin, County Meath  
Tel (01) 825 0555/825 0574, Fax (01) 825 0570

Authorisation holder: MONSANTO UK LIMITED  
PO Box 663, Cambridge, CB1 0LD, UK

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

PROTECT FROM FROST  
Store in a cool dry place  
Imported

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

Lot number/production date:.

*Trade Marks*



- Herbicide

**ROUNDUP GOLD 450**

<b>DIRECTIONS FOR USE</b>			
<b>Situation</b>	<b>Maximum individual dose l/ha</b>	<b>Maximum number of applications</b>	<b>Latest time of applications</b>
Pre-harvest (wheat, barley, oats, combining peas and field beans)	3.2	1	7 days before harvest
Pre-harvest (oilseed rape and linseed)	3.2	1	14 days before harvest
Pre-harvest mustards	3.2	1	8 days before harvest
Stubbles/ground preparation, pre-sowing and setaside	3.2	1	Pre-sowing of crops
Orchards pre-and post planting	4.0	1	Before green cluster stage (soft fruit) or white bud stage (stone fruit)
Grassland destruction, aquatic and non crop areas	4.8	1	5 days before cutting/cultivating
Post sowing – pre-emergence (wheat, barley oats, oilseed rape, potatoes, mustard, combining peas, field beans, sugar beet, swede, turnip, onion, leek and linseed)	1.2	1	Pre-emergence
Forestry	8.0	1	See recommendation table
Aquatic	4.8	1	See recommendation table
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advice before using the product.

## 1. WARNING

TAKE EXTREME CARE TO AVOID DRIFT.

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.

## 2. 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. Applied pre-harvest of specified crops, ROUNDUP GOLD 450 provides, in addition to weed control, a diverse range of harvest management benefits accruing from the removal of green material from the crop. ROUNDUP GOLD 450 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 GOLD 450 may also be used as a directed spray in ornamental plantings, and in forestry for site preparation and post-planting treatments.

ROUNDUP GOLD 450 is rapidly adsorbed onto particulate matter in soils and water and is quickly degraded by the micro-organisms present in soil and aquatic bottom sediments. Upon absorption, the herbicidal properties of ROUNDUP GOLD 450 are lost, permitting drilling of crops within 24 hours of application. When used as directed, any water subjected to ROUNDUP GOLD 450 spray drift may be used immediately for irrigation purposes. Until degraded, the active ingredient in ROUNDUP GOLD 450, glyphosate, is practically immobile in soils and is, therefore, unlikely to contaminate groundwater.

### Symptoms on the weeds

Symptoms of treatment are generally first seen 7 - 10 days, or longer (if growth is slow), after spraying. These take the form of leaf reddening followed by yellowing and are usually quicker to appear on grasses than on broad-leaved weeds.

Reaction of nettles 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.

## 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.

### 3. 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.
- AQUATIC WEEDS should be treated 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-August to mid-September on reeds.
- OTHER SPECIES - recommendations for specific Areas of Use are given in the Recommendation Tables pages 6 - 15.
- This product will not give an acceptable level of control of Horsetails (*Equisetum arvense*)-repeat treatment will be necessary.

### Weed resistance strategy

There is low 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 Monsanto Ireland (Tel: (01) 825 0555/825 0574)

#### 4. TANK-MIXTURES

##### **Adjuvants**

For use in forestry: Mixture B may be added at the rate of 2 % of the spray volume. DO NOT APPLY TO EDIBLE CROPS OR GRASSLAND OR AQUATIC WEEDS.

Do not tank-mix ROUNDUP GOLD 450 when using rotary atomiser sprayers.

N.B. For hydraulic sprayer: maintain continuous agitation when using ROUNDUP GOLD 450 in tank mixture.

For knapsack sprayer: mix thoroughly and use immediately when using ROUNDUP GOLD 450 in tank mixture.

#### 5. APPLICATION

##### a) **Conventional Hydraulic Sprayers**

Knapsack sprayers and tractor mounted or powered sprayers may be used. These should be capable of applying accurately 80 - 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:

eg. Knapsack Lurmark AN 2.0, AN 4.0 Cooper Pegler Floodjet green, red  
Tractor Lumark 04-F110, 08-F110 Tee Jet 11004, 11008

##### **Low Volume Application**

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

eg. Knapsack Cooper Pegler VLV 100 Lurmark AN 1.0  
Tractor Lurmark Lo Drift

##### **Filling the Sprayer**

*Knapsack* Stir the correct amount of ROUNDUP GOLD 450 into at least 2 litres of clean water in a plastic bucket. Add this solution to a half filled sprayer and top up with water.

*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.

### **b) Rotary Atomisers**

When rotary atomisers are used to apply ROUNDUP GOLD 450 ensure that the droplet diameter falls within the range 200-300 microns for all uses.

- Hand-held machines can be used to apply a spray volume of 10 - 40 l/ha, eg. Herbi and Herbaflex.
- Ulvaforest tractor-mounted boom sprayer is suitable for use in forest situations to apply a spray volume of 40 l/ha.
- Rotary atomisers may be used for the control of aquatic weeds, the water volume must be 10 - 40 litres.

### **Filling the sprayer bottle – hand held machines**

Stir the correct amount of ROUNDUP GOLD 450 into the sprayer bottle half filled with clean water. Top up with water, close the top and shake gently to ensure good mixing.

### **c) Overall, Non-Selective applications**

#### Ulva and Mistblower

These applicators are recommended for use in FORESTRY areas ONLY. The principle of application is to drift the herbicide onto target weeds taking care to avoid contact between this product and all desired species.

Apply in a total volume of spray liquid at 10 - 20 l/ha in the Ulva and 90 - 175 l/ha in the Mistblower using the correct dose of ROUNDUP GOLD 450 herbicide to control the particular target species.

### **d) Hand-Held Wipers**

ROUNDUP GOLD 450 may be applied through the Weedwiper Mini. Use a concentration of 1 part ROUNDUP GOLD 450 to 2 parts of water and add a water-based scarlet dye if required. Care should be taken to avoid dripping onto wanted vegetation.

### **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**

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

## 6. AREAS OF USE, RATES, WATER COLUS AND TIMING

- See Recommendation Tables.

## 7. HAND- HELD EQUIPMENT:

### 7.1 Knapsack Sprayer Applicators

- Use in Orchard, Non-Crop and Aquatic areas.
- 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.*

### 7.2 Rotary Atomiser Applicators (e.g. Herbi, Herbaflex)

- Use in Orchard, Non-Crop and Aquatic areas.
- Choose setting to apply 10 - 40 l/ha spray volume, using a rate of ROUNDUP GOLD 450 appropriate to the target weed(s).

### 7.3 Spot Gun Applicators

- Treatment of Individual Weeds Apply 4 ml of spray to target weed, using a narrow cone TG-3 or TG-5 nozzle.
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Spot diameter (metres)	Amount of ROUNDUP GOLD 450(ml) per 5 litres of spray solution			
	2.4 l/ha	3.2 l/ha	4.0 l/ha	8.0 l/ha
0.3	16	22.4	28	56
0.6	68	88	112	224

### 7.4 Weedwiper Applicator (e.g. Weedwiper Mini)

- Use in Orchards, Non-Crop and Aquatic areas.
- Apply a solution of 1 part ROUNDUP GOLD 450 with 2 parts water.

## 8. GENERAL CAUTIONS

8.1 Applications of lime, fertiliser, farmyard manure and pesticides should be delayed until 5 days after application of ROUNDUP GOLD 450.

8.2 Do not tank-mix ROUNDUP GOLD 450 with adjuvants, pesticides or fertilisers, except as specified under: Directions for Use – Tank Mixtures.

8.3 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.



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

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

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

8.7 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.

## RECOMMENDATION TABLES

AREA OF USE	CROP	TARGET WEEDS/USAGE	MAXIMUM NUMBER OF TREATMENTS	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
PRE-HARVEST ARABLE CROPS	WHEAT, BARLEY and OATS	Scutch, Black Bent, Creeping Bent	1 per season	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	80-250 l/ha*	<p>Grain/seed moisture must not exceed 30% at spraying. Harvest intervals: CEREALS, PEAS, BEANS 7+ days OILSEED RAPE 14-21 days LINSEED 14-28 days MUSTARDS 8-10 days</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.</p> <p>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>
	OILSEED RAPE, MUSTARDS		1 per season	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.4 3.2	80-250 l/ha	
	COMBINING PEAS, FIELD BEANS		1 per season	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.4 3.2	80-250 l/ha*	
	LINSEED		1 per season	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.4 3.2	80-250 l/ha	
	WHEAT, BARLEY and OATS	Perennial broad-leaved weeds and other perennial grasses	1 per season	All levels /species	3.2	80-250 l/ha*	
	OILSEED RAPE, MUSTARDS		1 per season	All levels /species	3.2	200 - 250 l/ha	
	COMBINING PEAS, FIELD BEANS		1 per season	All levels /species	3.2	80-250 l/ha*	
	LINSEED		1 per season	All levels /species	3.2	80-250 l/ha*	
	WHEAT, BARLEY and OATS	Harvest Management	1 per season	Annual grasses	0.8	80-250 l/ha*	
				Crop stems and leaves, annual broadleaved weeds	1.2		
	OILSEED RAPE, MUSTARDS	Crop desiccation & annual weeds, prior to direct combining	1 per season	All levels /species	2.4	200 - 250 l/ha	
	COMBINING PEAS, FIELD BEANS		1 per season	All levels /species	2.4	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 per season	Up to 75 shoots/m <sup>2</sup> Over 75 shoots/m <sup>2</sup>	2.4 3.2	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 See 'General Cautions' point 8.7
		Other perennial grasses; volunteer potatoes (autumn only)	1 per season	All levels/species	3.2		
		Volunteer cereals and annual weed	1 per season	All levels/species	1.2		
	BEFORE ORCHARD PLANTING	Pre-plant clean-up of perennial grasses and broad-leaved weeds	1 per season 1 per season	Arable weeds Pasture weeds	3.2 4.0		
SET ASIDE MANAGEMENT	SET ASIDE LAND FOLLOWING SHALLOW CULTIVATION	Annual weeds including wild-oats	1 per season	Germinating seedlings	1.0	40-250 l/ha* or Hand-held equipment (p4-5)	After April 15th following shallow cultivation repeat treatment for any subsequent flush of germinating seedlings.
	UNCULTIVATED SET ASIDE LAND	Perennial grasses including Scutch, False Oat-grass, Creeping Soft -grass, annual & perennial broad leaved weeds	1 per season	Moderate Scutch infestation  Heavy Scutch infestation and all other weeds	2.4  3.2		Spray from mid May to late June. Where topping is not practised, spray before seed set.
GRASSLAND - DESTRUCTION	SILAGE GROUND	Grassland destruction	1 per season	All levels/species	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 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		1 per season	All levels/species	4.8		

AREA OF USE	CROP	TARGET WEEDS/USAGE	MAXIMUM NUMBER OF TREATMENTS	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
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POST SOWING/ PLANTING, PRE- EMERGENCE OF THE CROP	LISTED CEREALS, OILSEED RAPE, POTATOES, MUSTARD, LINSEED, PEAS, FIELD BEANS, SUGAR BEET, SWEDE, TURNIP, ONION and LEEK	Volunteer Cereals and Annual Weeds	1 per season	All levels/species	1.2	80 – 250 l/ha*	CAUTION - Ensure that spraying precedes ANY crop emergence.
AMENITY, INDUSTRIAL AND AROUND THE FARM	Including industrial sites, roadsides, paths, hard surfaces and along fences and walls and field edges	VEGETATION MANAGEMENT	1 per season	Annual weeds	1.2	40 – 250 l/ha Or Hand-held equipment (p4-5)	Use as a directed spray in ornamental plantings. See Section 3.1 for optimum timing of application. Do not use under polythene or glass.
			1 per season	Perennial grasses	3.2		
			1 per season	Perennial Broad-leaved weeds	4.8		
ORCHARDS	APPLE, PEAR, PLUM, CHERRY, DAMSON	Perennial grasses, broad-leaved weeds	1 per season	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 Trees must have been established 2+ years. Avoid contact with tree 30+ cm above ground
AQUATIC	-	Emerged Weeds -Reeds, Rushes, Sedges, Grasses and Watercress and broad-leaved weed	1 per season	All levels/species	4.8	200-400 l/ha or handheld Equipment (p4-5)	Always apply against direction of any current. Large areas should be divided into quadrants and treated sequentially at intervals of at least 14 days. Use boat mounted sprayers at slowest practical speed. Application presents no hazard to fish.
IN-CROP (TRACTOR MOUNTED WEED WIPER APPLICATION	ARABLE CROPS, VEGETABLE CROPS, GRASSLAND, FORESTRY, FOREST NURSERY SET ASIDE	Bolters, weed beet, other weeds	1 per season	All levels	1:1 dilution with water OR 1:2 dilution with water in hot, dry conditions.		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. POISONOUS WEEDS and grazing/mowing interval - See GRASSLAND section.

AREA OF USE	CROP	TARGET WEEDS/USAGE	MAXIMUM NUMBER OF TREATMENTS	WEED INFESTATION	APPLICATION RATE l/ha	WATER VOLUME	APPLICATION TIMING AND GUIDANCE
FORESTRY – PRE- PLANTING	ALL SPECIES	Arable land, Planting, Replanting & Grassland areas	1 per season	Arable Weeds	3.2	Hydraulic sprayers 80-250l/ha Or rotary atomisers 10 – 40 l/ha	All tree species may be planted 7 days or more after treatment.
			1 per season	Grassland Weeds	4.0		

FORESTRY – POST-PLANTING (DIRECTED) APPLICATION	ALL SPECIES	Annual/perennial grasses and broadleaved weeds	1 per season	All levels/species	3.2	Hand-held equipment: apply as a 1.6% concentration of ROUNDUP GOLD 450 Or Weedwiper mini	<p>It is ESSENTIAL to use a TREE GUARD for all applications made in the growing season.</p> <p>Treat BRACKEN after frond tips are unfurled but before senescence.</p> <p>Treat HEATHER from late August to end September.</p> <p>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 6.4 l/ha ROUNDUP GOLD 450, adding High Trees Mixture B (PCS No. 91597) at 2% of spray volume.</p> <p>Application using a Weedwiper is not suitable.</p> <p>Treat HEATHER from late August</p> <p>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.</p>
		Woody weeds, including Bracken, Beech, brush, Brambles, Sycamore, Oak, Hazel, Willow and Ash	1 per season	All levels/species	2.4		
		Heather (peat soils) Heather (mineral soils)	1 per season	All levels	3.2 4.8		
		Rhododendron (*)	1 per season	All levels	8.0		
FORESTRY – POST-PLANTING (OVERALL DORMANT SEASON IN CERTAIN CONIFERS)	CORSIKAN, LODGEPOLE & SCOTS PINES, NORWAY SPRUCE, LAWNS CYPRESS, WESTERN RED CEDAR (SAFE TO SPRAY WHEN FULLY FORMANT & LEADER GROWTH HAS HARDENED). DOUGHLAS FIR & NOBLE FIR (SAFE TO SPRAY WHEN FULLY FORMANT & LEADER GROWTH HAS HARDENED BUT NOT IN SPRING).	Grass weeds	1 per season	Black Bent, Cock's foot, Common Couch, Creeping Soft-grass, False Oat-grass, Fescues, Meadow-grasses, Other Ben-species, Purple Moor-grass, Sweet Vernal-grass, Tufted Hair-grass, Wavy Hair-grass, Wood Small-reed (Bush grass) All levels of all species	1.6	Hydraulic sprayers 200-250l/ha  Or  Hand-held equipment – See Water volume and spray equipment section.	<p>DO NOT OVERALL SPRAY trees being grown for ORNAMENTAL PURPOSES, including CHRISTMAS TREES.</p> <p>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.</p> <p>These recommended application rates refer to Forestry usage only. Inadequate control may result if used in other areas.</p> <p>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.</p> <p>To avoid damage to Lammas growth, sprays should be directed away from leaders.</p>
		Bracken, Beech & Birch Brambles (Only moderate control can be expected in this situation)	1 per season		1.6		
			1 per season		1.6		
			1 per season		2.4		

**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
8.0	2.5	6.2

Rate l/ha	Product required to treat 1 acre	
	lb	kg
1.0	1.20	0.55
2.0	2.40	1.10
3.2	3.84	1.74
4.0	4.80	2.18
8.0	9.60	4.36

**Volumetric measurement tables for ROUNDUP GOLD 450**

Kg	Litres	Kg	Litres	Kg	Litres
0.18	0.14	1.08	0.83	1.8	1.38
0.36	0.28	1.26	0.96	3.6	2.75
0.54	0.42	1.44	1.10	5.4	4.13
0.72	0.56	1.62	1.24	7.2	5.50
0.90	0.70			9.0	6.90

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

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

### **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 from Monsanto.

### **Trademark References**

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