



# RHIZEUP

MAPP 15043

A soluble concentrate herbicide containing 360 g/litre glyphosate acid present as 480 g/litre (41.5% w/w) isopropylamine salt and polyoxyethyleneamine surfactant.

**A foliar-applied, translocated herbicide for the control of annual and perennial weeds in a range of agricultural, horticultural, forestry, industrial, amenity and aquatic situations.**



**DANGEROUS FOR THE ENVIRONMENT**

Contains 480 g/litre (41.5% w/w) glyphosate isopropylamine salt and polyoxyethyleneamine.

**Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment**

Use appropriate containment to avoid environmental contamination  
This material and its container must be disposed of in a safe way

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

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

### IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL/INDUSTRIAL/FORESTRY/AQUATIC HERBICIDE

<b>Crops</b>	Wheat, durum wheat, barley, oats, oilseed rape, combining pea, mustard, field bean, linseed, sugar beet, swede, turnip, bulb onion, leek, stubbles of all crops, grassland, hard surfaces, natural surfaces not intended to bear vegetation, permeable surfaces overlying soil, all edible and non-edible crops (destruction of established vegetation prior to sowing or planting), green cover on land not being used for production, apple, pear, plum, cherry, damson, enclosed waters, open waters, land immediately adjacent to aquatic areas, forestry and forest nursery (weed control and chemical thinning by stump application and injection).
<b>Maximum individual dose</b>	See Directions for Use
<b>Maximum total dose</b>	'' ''
<b>Maximum number of treatments</b>	'' ''
<b>Latest time of application</b>	'' ''

#### Other specific restrictions

- 1) Users must consult the appropriate water regulatory body (Environmental Protection Agency/Scottish Environmental Protection Agency) before using this product to control aquatic weeds. The maximum concentration of glyphosate in the water must not exceed 0.2ppm or such lower concentration as the appropriate water regulatory body may require.
- 2) The dose applied to green cover on land not being used for crop production must not exceed 6.0 litres of product per ha per year.
- 3) When applying through rotary atomisers, the spray droplet spectrum must be of a minimum Volume Median Diameter (VMD) of 200 microns.
- 4) Weed-wipers may be used in any crop where the wiper does not touch the growing crop. The maximum concentrations used must not exceed a 1:2 dilution with water in a Weed-wiper mini or a 1:1 dilution with water in other wipers.
- 5) The maximum individual dose must not exceed 22.5 g/l glyphosate for hydraulic knapsack sprayers.
- 6) For stump applications, the maximum concentration must not exceed 200 ml product made up to a total volume of 1 litre with water (20% solution).

**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 and hand-held rotary atomisers.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES, RUBBER BOOTS AND FACE PROTECTION (FACESHIELD) when using weed-wiper equipment, making cut-stump treatments and 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.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH CONCENTRATE from skin or eyes immediately.

DO NOT BREATHE SPRAY.

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

WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

### **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.

### **Storage and disposal**

KEEP OUT OF THE REACH OF CHILDREN.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

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

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of the container safely.

**For advice on medical emergencies, fires, spillages or chemical hazards, telephone: 01235 239 670 (24 hour)**

This product is approved under the Plant Protection Products Regulations (as amended).

Approval Holder and Marketing Company:

**Clayton Plant Protection (UK) Limited**

**Unit F10, Bracetown Business Park**

**CLONEE**

**Co. Meath**

**Ireland.**

Tel: (00 353) 1 8210127

Contents: **5 litres**

PROTECT FROM FROST

Batch No:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains glyphosate isopropylamine and polyoxyethyleneamine). UN 3082; Class 9; Packing group III

**Conditions of Supply:** all goods supplied by us are of high quality and we believe them to be correct but, as we cannot exercise control over their storage, handling, mixing or use, or weather conditions before, during and after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded, and no responsibility will be accepted by us or resellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods.

## 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.

### CONDITIONS RELATING TO USE

Crops/Situations	Maximum Individual dose (litres of product per ha)	Maximum total dose (litres of product per ha)	Latest time of application
Wheat, durum wheat, barley, oats, combining pea, field bean	4.0	4.0 per crop	7 days before harvest
Wheat, barley, oats, combining and vining pea, field bean, oilseed rape, mustard, linseed, sugar beet, swede, turnip, bulb onion, leek	1.5	1.5 per crop	Pre-emergence
Oilseed rape, linseed	4.0	4.0 per crop	14 days before harvest
Mustard	4.0	4.0 per crop	8 days before harvest
Stubbles of all edible crops, stubbles of all non-edible crops	<b>Either</b> 4.0	4.0 per year	5 days before drilling or planting of following crop
	<b>Or</b> 1.5	1.5 per year	2 days before drilling or planting of following crop or 24 hours before cultivating
All edible and non-edible crops (destruction prior to sowing/planting)	5.0	5.0 per year	-
Grassland	6.0	6.0 per year	5 days before harvest, grazing or drilling
Hard surfaces, natural surfaces not intended to bear vegetation, permeable surfaces overlying soil, enclosed waters, open waters, land immediately adjacent to aquatic areas	5.0	-	-
Green cover on land not being used for crop production	6.0	6.0 per year	24 hours before cultivation
Amenity vegetation	5.0	-	-
Apple, pear	5.0	5.0 per year	After harvest but before green cluster stage
Plum, cherry, damson	5.0	5.0 per year	After harvest but before white bud stage
Forestry, forest nursery – weed control	10.0	-	-
Forestry, forest nursery – chemical thinning by injection	2ml per 10 cm diameter (or less) of tree	-	-
Forestry, forest nursery – stump applications	200ml/litre of water (20% solution of product in water)	-	-

## GENERAL INFORMATION

Rhizeup is a soluble concentrate herbicide, containing the active ingredient glyphosate, for the control of most species of emerged annual and perennial grass and broad-leaved weeds. It is absorbed by the weed foliage and translocated to the growing points in the roots and to the underground rhizomes/stolons of perennial weeds. Best results are obtained from applications made under good growing conditions (adequate soil moisture and warm/humid conditions), when the weeds are actively growing and at the recommended growth stages for treatment.

After application, glyphosate is strongly adsorbed onto the soil particles and becomes practically immobilized within the soil. As a result, it has no further herbicidal activity and it is subsequently broken down by microbial activity. New crops can be sown or planted at very short intervals after application.

## WARNINGS AND RESTRICTIONS

TAKE EXTREME CARE TO AVOID SPRAY DRIFT to avoid severe damage or complete destruction of plants outside the target area.

DO NOT APPLY under windy conditions.

DO NOT MIX, STORE, USE OR APPLY IN GALVANISED OR UNLINED STEEL CONTAINERS OR SPRAY TANKS.

DO NOT allow the spray mixture to stand in the tank for a long period and make sure spray tanks are well vented.

FOLIAGE OF ANY POISONOUS WEEDS (SUCH AS RAGWORT) MUST BE REMOVED OR BURIED PRIOR TO GRAZING OR CUTTING FOR FEED when applications are made to foliage which will be subsequently fed to stock in any way.

At least 6 hours are required for the spray to become rainfast and taken up by the foliage after application. For maximum efficacy, it is preferable that at least 24 hours elapse before any rainfall occurs after application. Do not apply where the target weeds are senescing naturally or if they are under stress, particularly from drought, high temperatures or frost, as they may be poorly controlled under these conditions. Weed control will take longer when weeds are growing slowly.

Do not cultivate BEFORE application.

After application Rhizeup takes several days to fully translocate through the plant. For this reason, do not make applications of fertiliser, lime, manure or other pesticides for at least 5 days before or after application.

Do not tank-mix with any other product except with a suitable authorised adjuvant where specifically recommended on this label. After application, large concentrations of decaying foliage, roots, or rhizomes/stolons should be dispersed or buried by thorough cultivation before crop drilling. Trace amounts of Rhizeup remaining in the sprayer after use can cause damage to other crops subsequently treated with the same equipment.

Immediately after use thoroughly clean the sprayer and all equipment as detailed in the section "SPRAYER DECONTAMINATION".

## TRANSFORMATION PROCESSES

Effects on brewing and baking have not been established. Consult grain merchant or processor before use.

## WEEDS CONTROLLED

Rhizeup controls most species of emerged annual and perennial grass and broad-leaved weeds. After application the active ingredient is translocated from the treated foliage to the roots and other underground parts of perennial plants. Weeds are most susceptible to Rhizeup when they are actively growing under warm, humid conditions with adequate soil moisture. Poor control will occur if application is made to weeds that are subject to natural senescence or if their growth is held back by dry conditions, waterlogging, high temperatures or frost. Weed control can also be reduced if these conditions occur soon after application. Any other situation that restricts uptake into the plant (e.g. a covering of dust on the foliage from wind-blown soil) will reduce levels of weed control.

It is important that weeds are actively growing and at the correct growth stages at the time of application, otherwise re-growth can occur and will require subsequent re-treatment.

Symptoms of weed control are usually seen within 7 - 10 days after application but it may take longer under poor growing conditions. Treated foliage usually shows a gradual wilting and loss of vigour followed by a slight reddening then yellowing followed by plant death. Symptoms are usually seen on grass weeds before becoming apparent on broad-leaved weeds. Complete death and deterioration of the weed foliage and root system may take up to 4 weeks or longer under poor growing conditions.

For application rates of Rhizeup of 2.0 litres per ha or less, in certain situations it is recommended to add a suitable authorised adjuvant. Do not use an adjuvant when applying through a rotary atomiser sprayer.

### **Annual Weeds**

For best results annual weeds must be growing actively at the time of application. Annual grass weeds should have at least 5 cm of emerged leaf length and broad-leaved weeds should have at least 2 fully expanded true leaves.

When used for the control of green cover on land not being used for production, annual grasses such as Black-grass and Brome grasses should be treated either at full ear emergence or before stem elongation. Treatments made during the stem elongation phase of annual grasses may result in poor weed control and require a further application.

### **Perennial Weeds**

For best results perennial broad-leaved weeds must be treated when they are actively growing (they are most susceptible around the time of flowering).

Perennial grass weeds must have fully emerged foliage and be actively growing when application is made. For Common couch the tillering stage (when the growth of new rhizomes starts) is the most susceptible growth stage. This is usually when there are 4-5 leaves, each about 10-15cm in length.

The action of Rhizeup on the control of Nettles is slow and does not give an acceptable level of control of Horsetails (*Equisetum arvense*) from a single application.

### **FOLLOWING CROPS**

After application, glyphosate is strongly adsorbed by the soil particles and subsequently broken down by microbial activity. Once adsorbed onto the soil, Rhizeup has no further herbicidal activity and crops can be sown or drilled at specified intervals after application. However, a slight check to crop growth can occur if seeds of the newly planted crop germinate within the residual mat of dying and decaying weed foliage, roots, or rhizomes/stolons. Direct drilled crops are particularly susceptible. Cultivate the ground thoroughly to disperse or bury the decaying organic matter remaining after application. Loose or fluffy soils/seedbeds should be consolidated and a normal programme of fertiliser and crop protection treatments should be applied as appropriate to the new crop, particularly where this follows destruction of grassland.

Trees and shrubs may be planted 7 days after application.

Grass may be sown 14 days after application.

All other crops may be sown or planted 2 days after application.

### **RESISTANCE MANAGEMENT**

There is low risk for the development of weed resistance to Rhizeup.

Strains of some annual weeds (e.g. Black-grass, Wild oats and Italian Ryegrass) have developed resistance to herbicides which may lead 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. Guidelines have been produced by the Weed Resistance Action Group and copies are available from the HGCA, CPA, your distributor OR crop adviser. Implement a weed resistance strategy based on Good Agricultural Practice and including the following:

Follow the label recommendations.

Adopt complementary weed control practices.

Minimise the risk of spreading weed infestations.

Implement good spraying practice to maintain effective weed control.

Use the correct spray nozzles to maximise coverage.

Apply only under appropriate weather conditions.

Monitor herbicide performance and report any unexpected results to Clayton Plant Protection Ltd

### **APPLICATION**

Before use, make sure the spraying equipment is cleaned from any previous use and that it is calibrated to apply the recommended spray volume and pressure. This is particularly important when using low-volume applications. After use, make sure the sprayer and all equipment are thoroughly cleaned as detailed in the section "SPRAYER DECONTAMINATION".

Do not store, mix or use in unlined or galvanized steel tanks or equipment.

Spray immediately after mixing, do not allow the mixture to stand for long periods in the spray tank and ensure that tanks are well ventilated.

### **Tractor-mounted or Trailed Sprayers**

Before use, make sure the sprayer is cleaned from any previous use and calibrated to apply the recommended spray volume and pressure. Make sure all the sprayer nozzles are performing equally and that the spray boom is set at the correct height above the target weeds. This is particularly important when making pre-harvest applications to a crop.

Unless a different water volume is specified under "Crop Recommendations", apply in 80 - 250 litres of water per hectare as a MEDIUM or COARSE spray (BCPC) and with a spray pressure of 1.5 – 2.5 bars using suitable 80° or 110° nozzles. For best results and to reduce the risk of spray drift, use a spray pressure within this range. The preferred application volume is normally between 200 – 250 litres per ha but this can be reduced with the use of appropriate low volume nozzles, adjusting spray pressure and tractor ground speed (tractor speed will typically need to be set to 4-9 kph). Do not allow the spray boom to bounce or yaw, this is particularly important for pre-harvest applications. Ensure that the water volume selected gives a good even spray cover of the target weeds.

Half fill the sprayer tank with clean water and begin gentle agitation. To avoid the mixing operation resulting in excessive foaming, do not use agitation from the top of the tank. Add the required quantity of product into the sprayer tank and allow to disperse fully. Rinse the containers thoroughly by using an integrated pressure rinsing device or manually rinsing three times. Add the washings to the sprayer and continue agitation whilst topping up the tank with water to the required level. Continue agitation until the mix is sprayed out. The use of a de-foaming product may be necessary. Spray immediately after mixing; do not allow the mixture to stand. If a tank-mix with an authorised adjuvant is being used, add to the sprayer tank separately, and follow any specific instructions on the order of mixing.

### **Knapsack Sprayers**

Knapsack sprayers may be used for spot or directed applications, for example to land not intended to bear vegetation, orchards, non-crop areas and in forest and farm forestry.

Apply in 100 – 300 litres of water per hectare as a MEDIUM or COARSE spray (BCPC). For water volumes in the range of 100 – 150 litres of water per ha, it will be necessary to fit low volume spray nozzle(s).

Example spray dilution calculation: To apply 5.0 litres per ha of Rhizeup in a water volume of 200 litres per ha in a sprayer tank of capacity 5 litres, add 125 ml of Rhizeup to 4.88 litres of water in the sprayer tank. This volume of diluted spray will cover an area of 250m<sup>2</sup>. Do not make up a spray solution of a greater quantity than required for the area to be treated. Ensure an even spray coverage with an even walking speed during application.

Half fill the sprayer tank with clean water. Add the required quantity of product into the sprayer tank and allow to disperse fully. Rinse any empty containers thoroughly by using an integrated pressure rinsing device or manually rinsing three times. Add the washings to the sprayer and top up the tank with water to the required level and mix thoroughly by agitating the tank. Spray immediately after mixing; do not allow the mixture to stand. If a tank-mix with an authorised adjuvant is being used, add to the sprayer tank separately, and follow any specific instructions on the order of mixing.

### **Rotary Atomiser Sprayers**

Apply through a rotary atomizer sprayer using a minimum water volume of 40 litres per ha and a spray droplet spectrum of a minimum Volume Median Diameter (VMD) of 200 microns and up to 300 microns. This corresponds to a MEDIUM or COARSE spray (BCPC). The tractor forward speed will typically be in the range of 4-9 kph but it must be calibrated in the field to apply the correct spray volume. Use a spray bout marker to avoid overlapping spray bouts.

Do not tank-mix Rhizeup with any adjuvant when applying through Rotary Atomiser Sprayers.

### **Hand-held Weedwipers**

For use only in orchards and non-crop situations. Use a concentration of 1 part of Rhizeup to 2 parts of water. Do not exceed this maximum concentration and add a dye (water-based) if necessary.

### **Tractor-mounted Weedwipers**

Tractor-mounted weed-wipers may be used in grassland and arable crops for the control of Weed beet, Sugar beet bolters and other tall weeds growing above the crop.

DO NOT USE WEEDWIPERS IN SOFT FRUIT CROPS.

WEEDS THAT ARE NOT ACTIVELY GROWING WILL NOT BE CONTROLLED.

KEEP STOCK OUT of treated areas for 7 days.

THE FOLIAGE OF ANY POISONOUS WEEDS (SUCH AS RAGWORT) MUST BE REMOVED OR BURIED PRIOR TO GRAZING OR CUTTING FOR FEED.

To ensure that application does not result in crop damage, the weeds should always be at least 10cm taller than the crop vegetation and a distance of 5cm must be maintained between the top of the crop vegetation and the wiper. The optimum weed height for treatment is 10cm above the height of the crop vegetation.

If the weed vegetation is dense, it will be necessary to make two passes of the wiper from opposite directions of the tractor travel. Weeds growing from below the wiped area will need subsequent applications. To minimize weed seed return to the soil, application should be made prior to weed seed maturity. For sugar beet bolters, apply a programme of three applications with an interval of two weeks between applications starting in early July to early August.

Use a concentration of 1 part of Rhizeup to 1 part of water. Do not exceed this maximum concentration. Under very hot or dry conditions it may be necessary to reduce the concentration to 1 part of Rhizeup to 2 parts of water. For best results, ensure that the wiping surface is impregnated with the herbicide solution at all times but does not drip. Clean the wiping ropes as required during the working day to ensure that flow rate to the wiping surface is maintained at full rate at all times. The maximum recommended forward speed is 5kph or less.

## **CROP RECOMMENDATIONS**

### **Pre-harvest Treatment in Arable Crops**

Rhizeup can be applied as a pre-harvest treatment for the control of weeds in certain recommended arable crops prior to harvest for the control of a range of perennial and annual grass and broad-leaved weeds.

**DO NOT TREAT CROPS GROWN FOR SEED.**

Consult the processor before use on any crop intended for processing.

#### ***Wheat (including Durum Wheat), Barley and Oats***

Apply when the moisture of the youngest grains in the ear is below 30% and not less than 7 days before harvest. Make an accurate measurement of seed moisture immediately prior to application.

**DO NOT TREAT CROPS GROWN FOR SEED.**

To minimise crop damage, apply using a high-clearance tractor fitted with narrow wheels and crop dividers.

Do not use straw from a treated crop as a horticultural mulch. Straw from a treated crop may be used for any other purpose.

After harvest, straw may be chopped, incorporated or removed according to normal practice and the land can be cultivated normally after harvest and straw disposal.

For best results if dull weather conditions occur after application, allow up to 14 days between application and harvest.

Certain broad-leaved weeds (Annual nettle, Rosebay willow-herb, Redshank, Pale persicaria and Knotgrass) are not susceptible at rates of 1.5 l/ha or less. For application rates of Rhizeup of 2.0 litres per ha or less, in certain situations it is recommended to add a suitable authorised adjuvant. Do not use an adjuvant when applying through a rotary atomiser sprayer.

Apply in 80 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the crop canopy and/or weed foliage is dense. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns.

Select the correct application rate according to the weed species to be treated, weed population or situation as in the table below.

<b>Weed Species/Situation</b>	<b>Application rate – Litres product/hectare</b>
Common couch - up to 25 shoots/m <sup>2</sup>	2.0 *
Common couch 25 – 75 shoots/m <sup>2</sup>	3.0
Common couch – over 75 shoots/m <sup>2</sup> in direct drilled crops Perennial broad-leaved weeds and other perennial grasses	4.0
Annual grasses, cereal stems, cereal leaves plus reduction of green material in the crop (harvest management aid)	1.0 *
Annual broad-leaved weeds plus reduction of green material in the crop (harvest management aid)	1.5 *

\* For application rates of Rhizeup of 2.0 litres per ha or less, it is recommended in certain situations to add a suitable authorised adjuvant. Do not use an adjuvant when applying through a rotary atomiser sprayer.

### **Oilseed Rape and Mustard**

Apply when the moisture of the grains (crop seeds) is below 30% and at the time as indicated below. Make an accurate measurement of seed moisture immediately prior to application.

Oilseed Rape: 14 – 21 days before harvest. Observe the latest time of application of 14 days before harvest.  
Mustard: 8 – 10 days before harvest. Observe the latest time of application of 8 days before harvest.

#### **DO NOT TREAT CROPS GROWN FOR SEED.**

To minimise crop damage, apply using a high-clearance tractor fitted with narrow wheels and crop dividers. After harvest, straw may be chopped, incorporated or removed according to normal practice and the land can be cultivated normally after harvest and straw disposal.

Uneven crop maturity may occur from applications made to crops under stress due to drought, disease or excessive heat.

Do not treat patches or areas of the crop that are late maturing due to any cause e.g. waterlogging or pigeon damage.

Do not treat crops that have a significant number of secondary re-growth shoots.

Apply in 100 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the crop canopy and/or weed foliage is dense. Do not apply with a rotary atomiser sprayer.

Select the correct application rate according to the weed species to be treated, weed population or situation as in the table below.

<b>Weed Species/Situation</b>	<b>Application rate – Litres product/hectare</b>
Common couch - up to 75 shoots/m <sup>2</sup> Annual weeds Crop destruction before direct combine harvesting (harvest management aid)	3.0
Common couch – over 75 shoots/m <sup>2</sup> Perennial broad-leaved weeds and other perennial grasses	4.0

### **Combining Pea, Field Beans**

Apply when the moisture of the grains (crop seeds) is below 30% and at least 7 days before harvest. Make an accurate measurement of seed moisture prior to application. Observe the latest time of application of 7 days before harvest.

#### **DO NOT TREAT CROPS GROWN FOR SEED.**

Apply using a high-clearance tractor fitted with narrow wheels and crop dividers to minimise crop damage.

Not for use as a crop desiccant treatment.

Apply in 80 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the crop canopy is dense. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns.

Select the correct application rate according to the weed species to be treated, weed population or situation as in the table below.

<b>Weed Species/Situation</b>	<b>Application rate – Litres product/hectare</b>
Common couch - up to 75 shoots/m <sup>2</sup>	3.0
Common couch – over 75 shoots/m <sup>2</sup> Perennial broad-leaved weeds and other perennial grasses	4.0



### **Linseed**

Apply when the moisture of the grains (crop seeds) is below 30% and at least 14 days before harvest. Make an accurate measurement of seed moisture prior to application. The seed pods will usually be brown, the seeds light brown, and the plant leaves and stems yellow-green to green in colour. An interval of up to 4 weeks may be required before the crop can be harvested by direct combining.

Weeds may not be susceptible from applications made in the autumn – see “Weed Control”.

**DO NOT TREAT CROPS GROWN FOR SEED.**

Apply in 80 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the crop canopy is dense. Do not apply with a rotary atomiser sprayer.

Select the correct application rate according to the weed species to be treated, weed population or situation as in the table below.

<b>Weed Species/Situation</b>	<b>Application rate – Litres product/hectare</b>
Common couch - up to 75 shoots/m <sup>2</sup>	3.0
Common couch – over 75 shoots/m <sup>2</sup>	4.0
Perennial broad-leaved weeds and other perennial grasses	4.0
Crop destruction before direct combine harvesting (harvest management aid)	3.0

### **Treatment of Stubbles of all Crops or Cultivated Land prior to Sowing or Planting any Crop except Orchards (see Separate Section “Orchards”)**

#### ***Control of Common Couch, other Perennial Grasses and Volunteer Potatoes (Autumn) in Stubbles of all Crops***

Rhizeup can be applied to the stubbles of all crops in the autumn or spring for the control of Common Couch, other perennial grasses and volunteer potatoes, prior to cultivation and sowing or planting of any crop.

The ground must not be cultivated prior to application.

Leave an interval of at least 5 days before and after application.

Volunteer potatoes (autumn application only) must have a significant amount of top growth at application.

For spring applications allow a minimum of 21 days of weed growth prior to application.

Apply in 80 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the crop canopy is dense. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns.

Select the correct application rate according to the weed species to be treated, weed population or situation as in the table below.

<b>Weed Species/Situation</b>	<b>Application rate – Litres product/hectare</b>
Common couch - up to 75 shoots/m <sup>2</sup>	3.0
Common couch – over 75 shoots/m <sup>2</sup> Other perennial grasses Volunteer potatoes – autumn treatment only	4.0

**Control of Volunteer Cereals, Annual Grasses and Annual Broad-leaved Weeds in Stubbles of all Crops or on already Cultivated Land prior to Sowing or Planting any Crop.**

Rhizeup can be applied to the stubbles of all crops prior to cultivation or to already cultivated land in the autumn or spring for the control of Volunteer cereals, annual grasses and annual broad-leaved weeds prior to cultivation and sowing or planting of any crop.

Land may be cultivated after an interval of at least 24 hours has elapsed after application. Land can be direct drilled after an interval of at least 2 days has elapsed after application.

Apply in 80 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the crop canopy is dense. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns.

Apply Rhizeup at 1.5 litres per ha and for best results add a suitable authorised adjuvant. Do not use an adjuvant when applying through a rotary atomiser sprayer.

**Destruction of Established Grassland with Weed Control prior to Re-seeding, Planting or Sowing**

Rhizeup can be used for the destruction of established grassland and weeds present in the sward prior to re-seeding, planting or sowing new grassland or any other crop.

Apply to grass re-growth after grazing or cutting. Alternatively, apply before grazing or cutting between June-October to grassland 30-60 cm high that is not dense and before maturity of grass seeds.

Grassland crops can be used in the normal manner after 5 days have elapsed after application, including grazing by or feeding to cattle, dairy cows or sheep. THE FOLIAGE OF ANY POISONOUS WEEDS (SUCH AS RAGWORT) MUST BE REMOVED OR BURIED PRIOR TO GRAZING OR CUTTING FOR FEED.

Following removal of the grass crop, normal cultivations may be carried out in preparation for planting or sowing the following crop.

DO NOT APPLY any fertiliser or lime application prior to application of Rhizeup.

Apply in 150 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the grass canopy or weed foliage is dense. Do not apply with a rotary atomiser sprayer.

Select the correct application rate according to the grassland situation to be treated as in the table below and according to the rate required for the control of the least susceptible weed species present in the sward – see “Grassland Weed Control” below.

Weed Species/Situation	Application rate – Litres product/hectare
Short rotation Rye-grass containing annual weeds	3.0
Grass leys 2-4 years old containing perennial grass weeds	4.0
Longer term grass leys 4-7 years old containing perennial broad-leaved weeds	5.0
Permanent pasture	6.0

**Grassland Weed Control**

The following weeds are controlled at 3.0 litres per ha under good growing conditions from applications made for grassland destruction:

Annual meadow-grass  
Common chickweed  
Common mouse-ear  
Dock seedlings  
Italian rye-grass  
Mayweed species

Meadow Fescue  
Meadow Foxtail  
Rough meadow-grass  
Speedwell spp  
Timothy grass

The following weeds are controlled at 4.0 litres per ha under good growing conditions from applications made for grassland destruction:

Black bent	Creeping soft-grass
Broad-leaved dock	Curled dock
Cock's foot	Perennial rye-grass
Common bent	Plantains
Common couch	Soft brome
Creeping bent	Yorkshire fog

The following weeds are controlled at 5.0 litres per ha under good growing conditions from applications made for grassland destruction:

Bracken (at full frond expansion)	Red clover
Common sorrel	Sedges
Common nettle	Sheep's sorrel
Creeping buttercup	Soft rush
Creeping thistle	Spear thistle
Daisy	Tufted hair-grass
Dwarf thistle	Yarrow
Perennial sow-thistle	

The following weeds are controlled at 6.0 litres per ha under good growing conditions from applications made for grassland destruction:

Common ragwort	Nardus (Mat grass)
Hard rush	Red fescue
Heath rush	Sheep's fescue
Jointed rush	White clover*
Molinia (Purple moor-grass)	Yellow rattle

\* For best results against White clover, cut in June and spray 4 weeks later.

**Hard Surfaces, Natural Surfaces not intended to bear Vegetation, Permeable Surfaces Overlying Soil.**

Apply in 80 – 400 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the weed foliage is dense. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns.

Rhizeup may be used for the control of unwanted vegetation in non-crop areas such as roadsides, paths, hard surfaces and along fence lines, walls and similar situations in amenity and industrial areas. People, domestic pets and wildlife do not need to be excluded from the treated area. However, to avoid direct transfer of the wet spray onto desired vegetation, it is advisable not to walk in the treated area until the spray is dry on the foliage.

DO NOT USE IN OR ALONGSIDE HEDGEROWS.  
DO NOT USE UNDER GLASS OR POLYTHENE.

Select the correct application rate according to the weed species to be treated, weed population or situation as in the table below.

Weed Species/Situation	Application rate – Litres product/hectare
Annual weeds	1.5 *
Perennial grass weeds and perennial broad-leaved weeds	5.0

\* For application rates of Rhizeup of 2.0 litres per ha or less, it is recommended in certain situations to add a suitable authorised adjuvant. Do not use an adjuvant when applying through a rotary atomiser sprayer.

### **Enclosed Waters, Land immediately adjacent to Aquatic Areas and Open Waters**

Rhizeup may be used for the control of dense infestations only of emerged and floating weeds in enclosed waters, open waters and on land immediately adjacent to aquatic areas, e.g. reservoirs, irrigation ditches, water courses and waterways.

Before use read the official code of practice "Guidelines for the Use of Herbicides on Weeds in or near Watercourses and Lakes" obtainable from:

Department of the Environment and Rural Affairs (DEFRA publications, Tel: 08459 556000);  
Rural Affairs Department, Scottish Executive;  
Department of Agriculture and Rural Development for Northern Ireland;  
National Assembly for Wales Agriculture Department.

The following legislation may apply to the use of Rhizeup for the control of weeds in enclosed waters, open waters and on land immediately adjacent to aquatic areas:

Water Act 1989

Water Resources Act 1991

Control of Pollution Act 1974

Northern Ireland Water Resources Act 1992

Control of Pollution and Local Government (Northern Ireland) Order 1978

Consult the appropriate water regulatory body (Environmental Protection Agency/Scottish Environmental Protection Agency) before using this product to control aquatic weeds. The maximum concentration of glyphosate in the water must not exceed 0.2ppm or such lower concentration as the appropriate water regulatory body may require. Rhizeup may be used if fish are present in the water provided it is used in strict accordance with these recommendations.

For the control of dense infestations of emerged reeds, soft-rush, bulrush, bent-grass, creeping-grass, canary-grass, sweet-grass, whorl-grass and water-cress, apply 5.0 litres per hectare in 250 litres of water per ha using a hydraulic nozzle sprayer or a hand-held sprayer. For most species, treat actively growing plants during August – September. Best results against water-cress are obtained from spraying in June. Treat bulrush in late July.

For the control of dense infestations of floating white water-lily and yellow water-lily, apply 6.0 litres per ha in 100 – 200 litres of water per ha using a hydraulic nozzle sprayer or a hand-held sprayer. Treat actively growing floating weeds during July – August.

For best results, use a boat-mounted or tractor-mounted sprayer with a maximum spray pressure of 2.0 bar. When using a boat-mounted sprayer, minimise the forward speed to as low as possible so as to cause minimum wake and disturbance of the floating weed foliage. Even under ideal application conditions, some leaves may be disturbed by the boat or wash prior to full absorption of the spray and require a further application 2 – 3 weeks later. In flowing water, make the application against the direction of the water current. When using a tractor-mounted sprayer do not exceed a forward speed of 8 kph.

### **Orchards**

Rhizeup may be used on land that is to be planted to orchard (top fruit) or in established orchards.

#### ***Land to be planted to Orchard with Top Fruit Trees***

Apply in 200 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the weed foliage is dense. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns.

Select the correct application rate according to the weed species to be treated, weed population or situation as in the table below.

<b>Weed Species</b>	<b>Situation</b>	<b>Application rate – Litres product/hectare</b>
Perennial grasses and broad-leaved weeds	In stubbles of arable crops	4.0
	In pasture land	5.0

All top fruit crops may be planted after 7 days have elapsed after treatment.

### ***Established Apple, Pear, Plum, Damson and Cherry Orchards***

Apply in 200 – 400 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the weed foliage is dense. Do not apply with a rotary atomiser sprayer.

Timing: Apply after trees have lost their leaves in the autumn, but before the green cluster stage in apples and pears, and before the white bud stage in plums, cherries and damsons.

Do not use until after trees have been established for 2 years.

Avoid spray coming into contact with tree branches and tree trunks at a height of over 30cm above the ground.

Do not make more than 1 application per year.

<b>Weed Species/Situation</b>	<b>Application rate – Litres product/hectare</b>
Perennial grasses and broad-leaved weeds Root suckers – apply in late spring only	5.0

### **Wheat, Barley, Oats, Oilseed Rape, Combining Pea, Field Bean, Mustard, Linseed, Sugar Beet, Swede, Turnip, Bulb onion and Leek**

Rhizeup may be used as a post-sowing, pre-crop emergence treatment for the control of volunteer cereals and annual weeds on land planted with wheat, barley, oats, oilseed rape, combining pea, field bean, mustard, linseed, sugar beet, swede, turnip, onion and leek.

APPLICATION MUST BE MADE PRIOR TO ANY CROP EMERGENCE

Apply 1.5 litres per ha of Rhizeup in 80 – 250 litres of water per ha by means of a hydraulic nozzle sprayer. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns.

### **Green Cover on Land not being used for Crop Production**

Rhizeup may be used on land not being used for crop production (“set-aside”) for the control of perennial and annual grass and broad-leaved weeds before or during removal from production. Before use on land temporarily removed from production, make sure that any application complies with any rules and stipulations under grant programmes or other management considerations.

Do not top cut or cultivate immediately prior to application.

For the control of perennial weeds, allow at least 21 days of growth in the spring prior to application and at least 5 days after application prior to drilling or cultivating. For the control of annual weeds, allow at least 24 hours after application prior to cultivating. Do not direct drill after application to set-aside.

Apply in 80 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the foliage is dense. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns. Application can also be made using tractor-mounted weed-wiper equipment.

Select the correct application rate according to the weeds present as in the table below:

<b>Weed Species/Situation</b>	<b>Application rate – Litres product/hectare</b>
Common couch - up to 75 shoots/m <sup>2</sup>	3.0
Common couch – over 75 shoots/m <sup>2</sup>	4.0
Perennial broad-leaved weeds and other perennial grasses	4.0
Annual weeds – application in early Autumn or Spring	1.5
Annual weeds – application in late Spring or Summer	3.0

### **Forestry and Forest nursery**

Rhizeup may be used for pre-planting site preparation, weed control in established plantings and for chemical thinning by stump applications and direct injection.

#### ***Weed Control - Pre-planting Site Preparation***

Rhizeup may be used for the control of arable and grassland weeds in arable land, grassland areas and land to be re-planted prior to planting. Do not plant trees until at least 7 days have elapsed after application.

Apply in 80 – 250 litres of water per ha by means of a hydraulic nozzle sprayer. Use the higher volume within this recommended range where the weed foliage is dense. Alternatively, apply in a minimum of 40 litres of water per ha using a rotary atomiser sprayer ensuring that the spray droplet spectrum is in the range of a Volume Median Diameter (VMD) of 200 – 300 microns.

Apply 4.0 litres per ha for the control arable weeds and at 5.0 litres per ha for the control of grassland weeds.

#### ***Weed Control - Post-planting Directed Applications***

Rhizeup may be used for weed control around conifers and deciduous trees as a directed spray application using a hand-held sprayer.

Apply using a 2.0% spray concentration with a knapsack sprayer fitted with a tree guard. For example, in a knapsack sprayer with a 5.0 litre tank, use 100 ml of Rhizeup in 5.0 litres of water.

For all directed spray applications made during the growing season, a tree guard must be fitted to avoid damage to the trees.

Apply to Bracken when the tips of the fronds are fully unfurled but prior to senescence.

Apply to Heather during the period from late August to the end of September.

For Rhododendron, cut the coppice back and treat when it is over 1 metre in height. Apply the spray to just before the point of run-off.

All other woody weeds from June to August should be treated before leaf senescence has started but after new growth of the crop has hardened off.

Select the application rate per ha according to the target weeds to be controlled as in the following table:

<b>Weed Species/Situation</b>	<b>Application rate – Litres product/hectare</b>
Woody weeds including Ash, Beech, Bracken, Brambles, Hazel, Oak, Sycamore and Willow	3.0
Annual and perennial grass and broad-leaved weeds Heather on peat soils	4.0
Heather on mineral soils	6.0
Rhododendron	10.0 #

# The rate can be reduced to 8.0 litres per ha if a suitable authorised adjuvant is added.

#### ***Weed Control – Overall post-planting Application in the Dormant Season***

Rhizeup may be applied as an overall application to certain conifer species in the dormant season for the control of grass weeds, Bracken, Brambles, Beech and Birch.

**DO NOT MAKE AN OVERALL APPLICATION TO CHRISTMAS TREES OR OTHER SPECIES GROWN FOR ORNAMENTAL PURPOSES.**

Apply in 200 – 250 litres of water per ha by means of a hydraulic nozzle sprayer – use a higher volume within this range where the weed foliage is dense. Alternatively, apply using hand-held equipment.

Rhizeup may be safely applied as an overall spray to the species listed below, providing they are fully dormant and that leader shoot growth has hardened off. The actual time of leader shoot growth becoming fully hardened off can vary considerably according to location and season. It can range from late July until October or later. To avoid damage to Lammas growth, direct the spray away from the leaders. It is recommended to make a trial application to a small area of trees to check crop safety under local conditions before wide-scale application in following years.

Corsican pine  
 Douglas fir (**do not apply in Spring**)  
 Lawson cypress  
 Lodgepole pine  
 Noble fir (**do not apply in Spring**)

Norway spruce  
 Scots pine  
 Sitka spruce  
 Western red cedar

Select the application rate per ha according to the target weeds to be controlled as in the table below. These reduced application rates are specifically for use in Forestry. Poor weed control may occur if they are used in other situations.

Weed Species/Situation	Application rate – Litres product/hectare
Grass weeds in lowland areas	1.5
Grass weeds in upland areas Bracken, Beech and Birch	2.0
Brambles	3.0

#### **Chemical Thinning by Stump Application**

Application rate:

Deciduous trees: Apply a dilution of 1 part of Rhizeup to 9 parts of water (10% solution).

Coniferous trees: Apply a dilution of 1 parts of Rhizeup to 4 parts of water (20% solution).

A suitable water based dye can be added to the dilution in order to mark treated stumps.

Apply the diluted solution to the rim of the freshly cut tree surface, apply liberally to saturate the surface. Apply with a spot gun, paintbrush or specially adapted clearing saw. Apply to cut stumps as soon as possible after cutting, only during the period between November to April and before the start of active sap flow in spring or early summer. Do not make channels, trenches or holes in the cut stump and fill with dilution. Do not use undiluted product.

#### **Chemical Thinning by Injection of Tree Stems**

Rhizeup may be used for chemical thinning by direct injection into tree stems of all coniferous and deciduous tree species.

Make a notch cut with an axe in the tree stem and apply 2.0 ml of undiluted Rhizeup into the notch. For trees up to 10cm in diameter, make one cut, in trees over 10cm diameter, make two or three cuts. Do not apply to trees in the period of active sap flow in spring/early summer.

#### **SPRAYER DECONTAMINATION**

Trace amounts of Rhizeup remaining in the sprayer after use can cause damage to other crops subsequently treated with the same equipment. Immediately after use, thoroughly clean the sprayer and all equipment with a proprietary detergent cleaner. It is essential that all nozzles, filters, tubing, strainers, pumps and the spray tank are thoroughly cleaned after use to avoid the risk of damage to crops subsequently treated with the same equipment.

#### **COMPATIBILITY**

Rhizeup can be tank-mixed with a suitable authorised adjuvant and other products specified on the Clayton Plant Protection approved compatibility list. An up-to-date copy can be obtained from your distributor or directly from Clayton Plant Protection.