



# ROUNDUP® FLEX

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-emergence and pre-harvest in cereals and certain other crops, for destruction of grassland, and the control of emerged weeds in stubbles, orchards, non-crop and aquatic areas.

Degraded by micro-organisms/microbes in the soil.

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

This product contains a soluble concentrate containing 480 g/l glyphosate, present as 588 g/l (43.8% w.w.) of the potassium salt of glyphosate.

Contents **e** 15 litres

MAPP Number 15541

PROTECT FROM FROST

Imported

Lot number/production date:

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



The Voluntary Initiative

*This label has been produced according to the  
Crop Protection Association Voluntary Initiative (VI) guidance.*

## ROUNDUP® FLEX

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National Chemical Emergency Centre: (01865) 407333**

**To avoid risks to man and the environment, comply with the instructions for use  
Keep only in the original container  
Do not contaminate water with product or its container**

### IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL AGRICULTURAL/HORTICULTURAL /AQUATIC  
HERBICIDE

**Crops/situations:**

Wheat (including Durum wheat), barley, oats, combining peas, vining peas,  
field beans Oilseed rape, mustard, linseed, Potatoes

Sugar beet, swedes, turnips, bulb onions, leeks and asparagus.

All edible crops (stubble), all non-edible crops (stubble).

All edible and non-edible crops (destruction, before sowing/planting).

Grassland.

Apples, pears; plums, cherries, damsons.

Green cover on land not being used for crop production.

Natural surfaces not intended to bear vegetation; permeable surfaces  
overlying soil; hard surfaces.

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

|                                      |  |
|--------------------------------------|--|
| <b>Maximum individual dose:</b>      | }  |
| <b>Maximum number of treatments:</b> | } Full details are given in              |
| <b>Latest time of application:</b>   | } the attached leaflet                   |
| <b>Other specific restrictions:</b>  | } (Crop Specific Information – marked #) |

**READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS  
INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF  
PRACTICE FOR USING PLANT PROTECTION PRODUCTS.**

## **SAFETY PRECAUTIONS**

### **Operator protection**

*Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:*

WEAR SUITABLE PROTECTIVE GLOVES when handling the concentrate and when handling contaminated surfaces.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND RUBBER BOOTS when using hand-held sprayers, hand-held rotary atomisers, weed wiper equipment or spot gun equipment.

*However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.*

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

### **Environmental protection**

Do not contaminate water with the product or its container except when used as directed. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

Recommendations apply to the use of this herbicide for the control of weeds growing in or by water and must be read in conjunction with the Official Code of Practice entitled "Guidelines for the Use of Herbicides on Weeds in or near Watercourses and Lakes" obtainable from Department of Environment and Rural Affairs (DEFRA publications 08459 556000), Scottish Executive, Environment and Rural Affairs Department, Department of Agriculture and Rural Development for Northern Ireland and the National Assembly for Wales Agriculture Department.

The Water Act, 1989, The Water Resources Act 1991, the Control of Pollution Act 1974, The Northern Ireland Water Resources Act 1992 and the Control of Pollution and Local Government (Northern Ireland) Order 1978, may apply to the act of applying ROUNDUP FLEX for the control of weeds growing in or by reservoirs and water courses, eg rivers, streams, ditches, drains and ponds/lakes discharging into such water courses.

## **Storage and disposal**

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

KEEP OUT OF REACH OF CHILDREN.

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

RINSE CONTAINER THOROUGHLY by using an integrated pressure-rinsing device or manually rinse three times. Add washings to sprayer at time of filling and dispose of safely. Triple rinsed containers may be disposed of as non-hazardous waste.

## **Medical advice**

Medical guidance is available on a 24 hour basis by telephoning the National Chemical Emergency Centre on 01865 407333 or for doctors, from the National Poisons Information Service on 0844 8920111

## **DIRECTIONS FOR USE**

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

### **Warnings**

EXTREME CARE SHOULD BE TAKEN TO AVOID SPRAY DRIFT AS THIS CAN SEVERELY DAMAGE NEIGHBOURING CROPS OR PLANTS.

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

DO NOT leave spray mixtures in tank for long periods and make sure tanks are WELL VENTED.

### **Restrictions**

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

Do not spray onto weeds which are naturally senescent, or where growth is impaired by drought, high temperatures, a covering of dust, flooding or frost at, or immediately after application, otherwise poor control may result.

Do not spray in windy conditions as drift onto desired crops or vegetation can severely damaged or destroy them.

Do not tank-mix ROUNDUP FLEX with adjuvants, pesticides or fertilisers, except as specified in the Compatibility section.

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

Applications of lime, fertiliser, farmyard manure and pesticides should be delayed until 5 days after application of ROUNDUP FLEX. TREATED POISONOUS PLANT SPECIES MUST BE REMOVED BEFORE REGRAZING OR CONSERVING. Where Ragwort is present users should consult the Code of Practice on How to Prevent the Spread of Ragwort. Ragwort plants sprayed with this herbicide are more palatable and contain higher levels of toxins. Animals should be excluded from treated areas until any Ragwort has completely recovered or died and there is no visible sign of the dead weed. Do not include treated Ragwort in hay or silage crops.

## **Weeds controlled**

ROUNDUP FLEX 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 FLEX 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.

Note: The effects of treatment on the long-term control of perennial broad-leaved weeds have not been investigated.

## Aquatic

ROUNDUP FLEX herbicide controls emerged and floating aquatic weeds including Common Reed, Reed Sweet-grass, Reed Canary-grass and Water-lily.

Treat when the weeds are actively growing with full emergence of green leaf, at flowering and before dieback. Best results are obtained from applications in the periods from mid-July to mid-August on Water-lilies and mid-August to mid-September on reeds.

## Following crops

Upon soil adsorption the herbicidal properties of ROUNDUP FLEX are lost permitting the drilling of crops 48 hours after application. See the 'Recommendation Tables' for specific restrictions.

## Crop specific information

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|   | <b>Maximum individual dose (litres of product per hectare):</b> | <b>Maximum total dose (litres of product per hectare)</b> | <b>Latest time of application:</b>   |
|---|---|---|--|
| Pre-harvest of wheat, barley, oats, combining peas, field beans.  | 3.0   | 3.0 l/ha/crop   | 7 days before harvest  |
| Post planting and pre-emergence of listed cereals, oilseed rape, combining peas, vining peas, field beans, potatoes, mustard, linseed, sugar beet, swede, turnips, bulb onions and leeks. | 1.0   | 1.0 l/ha/crop   | Pre-emergence  |
| Asparagus   | 3.75  | 3.75 l/ha/crop  | Pre-emergence  |
| Pre-harvest of oilseed rape and linseed.  | 3.0   | 3.0 l/ha/crop   | 14 days before harvest   |
| Pre-harvest of mustard.   | 3.0   | 3.0 l/ha/crop   | 8 days before harvest.   |
| All edible and non-edible crops (stubble).  | 3.75  | 3.75 l/ha/year  | 5 days before the drilling or planting of the following crop.                                |
|   | or<br>1.0   | 1.0 l/ha/year   | 2 days before the drilling or planting of the following crop or 24 hours before cultivating. |

|   |                     |                |   |
|---|---------------------|----------------|---|
| Permanent grassland (destruction), rotational grassland (destruction).                              | 4.5                 | 4.5 l/ha/year  | 5 days before harvest, grazing or drilling                    |
| Apple and pear orchards.  | 3.75                | 3.75 l/ha/year | After harvest (post leaf-fall) but before green cluster stage |
| Cherry, plum and damson orchards.   | 3.75                | 3.75 l/ha/year | After harvest (post leaf-fall) but before white bud stage     |
| All edible and non-edible crops (destruction before sowing/planting)                                | 3.75                | 3.75 l/ha/year | -   |
| Green cover on land not being used for crop production (e.g. set aside)                             | 4.5                 | 4.5 l/ha/year  | 24 hours before cultivating                                   |
| Natural surfaces not intended to bear vegetation, permeable surfaces overlaying soil, hard surfaces | 3.75 litres/hectare | -              | -   |
| Enclosed waters, open waters, land immediately adjacent to aquatic area.                            | 4.5 litres/hectare  | -              | -   |

**Other Specific Restrictions:**

Users must consult the appropriate water body (Environment Agency/Scottish Environmental Protection Agency) before using the product near water and must obtain their agreement before using this product to control aquatic weeds. The maximum concentration of active substance in treated water should not exceed 0.2 ppm.

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

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

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

|                 |                         |
|-----------------|-------------------------|
| Weed wiper Mini | 1:3 dilution with water |
| Other Wipers    | 1:2 dilution with water |

## RECOMMENDATION TABLES

| AREA OF USE  | TARGET WEEDS/ USAGE                                      | CROP  | WEED INFESTATION                      | APPLICATION RATE l/ha       | WATER VOLUME  | APPLICATION TIMING AND GUIDANCE  |                    |               |     |              |
|--|--|---|---------------------------------------|-----------------------------|---------------|--|--------------------|---------------|-----|--------------|
| PRE-HARVEST ARABLE CROPS                                     | Common Couch   | WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS | 1-25 shoots/m <sup>2</sup>            | 1.5                         | 80-250 l/ha*  | <p>Grain/seed moisture must not exceed 30% at spraying.</p> <p>Harvest intervals:<br/>           CEREALS, PEAS, BEANS      7+ days<br/>           OILSEED RAPE                14-21 days<br/>           LINSEED                         14-28 days<br/>           MUSTARDS                       8-10 days</p> <p>Use high clearance, narrow wheeled tractors, wide booms and crop dividers.</p> <p>DO NOT TREAT CROPS GROWN FOR SEED.</p> <p>Where desiccating crops, check susceptibility of any weeds present.</p> <p>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.</p> <p>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.</p> <p>Treated straw must not be used as a horticultural mulch.</p> <p>* Rotary Atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns.</p> <p># Use higher volumes for dense canopies.</p> |                    |               |     |              |
|  |  |   | Up to 75 shoots/m <sup>2</sup>        | 2.25                        |               |  |                    |               |     |              |
|  |  |   | Over 75 shoots/m <sup>2</sup>         | 3.0                         |               |  |                    |               |     |              |
|  |  | OILSEED RAPE, MUSTARDS  | Up to 75 shoots/m <sup>2</sup>        | 2.25                        | 100-250 l/ha# |  |                    |               |     |              |
|  | Over 75 shoots/m <sup>2</sup>                            |   | 3.0                                   |                             |               |  |                    |               |     |              |
|  | COMBINING PEAS, FIELD BEANS                              | Up to 75 shoots/m <sup>2</sup>  | 2.25                                  | 80-250 l/ha*                |               |  |                    |               |     |              |
|  |  | Over 75 shoots/m <sup>2</sup>   | 3.0                                   |                             |               |  |                    |               |     |              |
|  | LINSEED  | Up to 75 shoots/m <sup>2</sup>  | 2.25                                  | 80-250 l/ha*                |               |  |                    |               |     |              |
|  |  | Over 75 shoots/m <sup>2</sup>   | 3.0                                   |                             |               |  |                    |               |     |              |
|  | Perennial Broad-leaved Weeds and Other Perennial Grasses | WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS | All levels/species                    | 3.0                         | 80-250 l/ha*  |  |                    |               |     |              |
|  |  |   | OILSEED RAPE, MUSTARDS                | All levels/species          |               |  | 3.0                | 100-250 l/ha# |     |              |
|  |  |   |                                       | COMBINING PEAS, FIELD BEANS |               |  | All levels/species |               | 3.0 | 80-250 l/ha* |
|  |  |   |                                       | LINSEED                     |               |  | All levels/species |               | 3.0 |              |
|  | Harvest Management                                       | WINTER and SPRING WHEAT, DURUM WHEAT, WINTER and SPRING BARLEY and WINTER and SPRING OATS | Annual grasses, crop stems and leaves | 0.75                        | 80-250 l/ha*  |  |                    |               |     |              |
| Annual broad-leaved weeds                                    |  |   | 1.0                                   |                             |               |  |                    |               |     |              |
| Crop desiccation and annual weeds, prior to direct combining | OILSEED RAPE, MUSTARDS                                   | All levels/species  | 2.25                                  | 100-250 l/ha#               |               |  |                    |               |     |              |
|  |  | LINSEED   | All levels/species                    |                             | 2.25          | 80-250 l/ha  |                    |               |     |              |



| AREA OF USE   | CROP/SITUATION  | TARGET WEEDS/USAGE  | WEED INFESTATION  | APPLICATION RATE l/ha | WATER VOLUME                               | APPLICATION TIMING AND GUIDANCE  |
|---|---|---|---|-----------------------|--|--|
| STUBBLES, PRE-SOWING and PRE-PLANTING.                                | BEFORE ALL CROPS EXCEPT ORCHARDS  | Common Couch  | Up to 75 shoots/m <sup>2</sup><br>Over 75 shoots/m <sup>2</sup>   | 2.25<br>3.0           | 80-250 l/ha*                               | Do not cultivate immediately before spraying.<br>For PERENNIAL weed control, allow:<br>- 21+ days growth before spraying in spring<br>- VOLUNTEER POTATOES to make ample top growth<br>- 5 days before cultivating or drilling<br>For ANNUAL weed control, allow:<br>- 24 hours before cultivating<br>- 48 hours before direct drilling<br>Allow 7 days before planting trees<br><br>* Rotary atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns. |
|   |   | Other perennial grasses; volunteer potatoes (autumn only) | All levels/species  | 3.0                   |  |  |
|   |   | Volunteer cereals and annual weeds                        | All levels/species  | 1.0                   |  |  |
|   |   | Perennial broad leaved weeds                              | All levels/species  | 3.75                  |  |  |
|   | BEFORE ORCHARD PLANTING   | Perennial grasses and broad-leaved weeds                  | Arable weeds<br>Pasture weeds                                     | 3.0<br>3.75           |  |  |
| POST SOWING/PLANTING, PRE-EMERGENCE OF THE CROP                       | LISTED CEREALS, OILSEED RAPE, POTATOES, MUSTARD, LINSEED, PEAS, FIELD BEANS, SUGAR BEET, SWEDE, TURNIP, BULB ONION and LEEK | Volunteer cereals and annual weeds                        | All levels/species  | 1.0                   | 80-250 l/ha*                               | CAUTION - Ensure that spraying precedes ANY crop emergence.<br><br>*Rotary atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns.<br><br>CAUTION - Ensure that spraying precedes ANY new spear emergence   |
|   | ASPARAGUS   | Annual weeds  | All levels/species  | 1.0                   |  |  |
|   |   | Perennial grasses<br>Perennial broad-leafed weeds         |   | 3.0<br>3.75           |  |  |
| ALL EDIBLE AND NON-EDIBLE CROPS (DESTRUCTION, BEFORE SOWING/PLANTING) | Vegetation management   | -   | Annual weeds<br>Perennial grasses<br>Perennial broad-leaved weeds | 1.0<br>3.0<br>3.75    | 80-250 l/ha* or hand-held equipment (p.XX) | *Rotary atomisers may be used at a water volume of 10-40 l/ha. Ensure droplet diameter falls within the range 200-300 microns<br>Do not use in or alongside hedgerows  |

| AREA OF USE   | CROP/<br>SITUATION   | TARGET WEEDS/<br>USAGE   | WEED<br>INFESTATION   | APPLICATION RATE<br>l/ha | WATER<br>VOLUME   | APPLICATION TIMING AND GUIDANCE  |
|---|--|--|---|--------------------------|---|--|
| GREEN COVER ON<br>LAND NOT BEING USED<br>FOR CROP<br>PRODUCTION<br>EG "SET ASIDE" | BEFORE or DURING<br>REMOVAL FROM<br>PRODUCTION<br><br>e.g. prior to growing a set<br>aside mixture | Common Couch   | Up to 75 shoots/m <sup>2</sup><br>Over 75 shoots/m <sup>2</sup> | 2.25<br>3.0              | 80-250 l/ha*<br><br>or<br>Hand-held<br>equipment<br>(p.8) | Before using on land taken out of production as<br>part of a grant aided scheme, ensure<br>compliance with the management rules of that<br>scheme.<br>Do not 'top' or cultivate immediately before<br>application.<br><br>For PERENNIAL weed control, allow:-<br>- 21+ days growth before spraying in spring<br>- 5 days before cultivating or drilling.<br>For ANNUAL weed control, allow:<br>- 24 hours before cultivating.<br>Do not direct drill after set-aside.<br>Avoid applications during stem elongation as<br>reduced control and re-spray is likely<br><br>*Rotary atomisers may be used at a water volume<br>of 10-40 l/ha. Ensure droplet diameter falls within<br>the range 200-300 microns.<br><br>Best control of annual grasses is achieved<br>between full ear emergence and senescence.<br><br>+ Only for weeds listed as per grassland<br>destruction application rate table below. |
|   |  | Perennial broad-leaved<br>weeds and other<br>perennial grasses | All levels/species  | 3.0                      | or<br>Tractor<br>mounted<br>weed wiper<br>(p.16)          |  |
|   |  | Annual weeds<br>- Early autumn/spring<br>- Late spring/summer  | All levels/species<br>All levels/species                        | 1.0<br>2.25              |   |  |
|   | AFTER SHORT ROTATION<br>or LONG TERM REMOVAL<br>FROM PRODUCTION                                    | Natural regeneration and<br>cover crop destruction             | Annual weeds only   | 2.25                     | 150-250 l/ha*   |  |
|   |  |  | Perennial grasses   | 3.00                     |   |  |
|   |  |  | Perennial broad-<br>leaved weeds                                | 3.75                     |   |  |
|   | Perennial broad-<br>leaved weeds as<br>listed below.   | 4.5+   |   |                          |   |  |

|                         |       |  |   |      |               |   |
|-------------------------|-------|--|---|------|---------------|---|
| GRASSLAND - DESTRUCTION | GRASS | Short rotation Ryegrass, longer leys and permanent pasture | Short rotation Ryegrass with annual weeds                 | 2.25 | 150-250 l/ha* | Treat EITHER before grazing/mowing in June-Oct, when growth is 30-60 cm, not dense and lacking mature seeds, OR regrowth after grazing/mowing.<br><br>Select the application rate which controls/destroys the least susceptible weed and grass species present in the sward.<br><br>Grass may be conserved or grazed by cattle, dairy cows or sheep 5+ days after spraying. REMOVE POISONOUS PLANTS BEFORE GRAZING/MOWING. If Ragwort is present, the guidance in the DIRECTIONS FOR USE must be followed.<br><br>ONLY direct drill grass and clover EITHER into 1-2 year leys without mat, 5+ days after spraying. OR long leys with some mat, in the spring following autumn application. |
|                         |       |  | Leys 2-4 years old with perennial grass weeds             | 3.0  |               |   |
|                         |       |  | Long leys 4-7 years old with perennial broad-leaved weeds | 3.75 |               |   |
|                         |       |  | Permanent pasture   | 4.5  |               |   |
|                         |       |  | See Weed Table below                                      |      |               |   |

| APPLICATION RATE FOR GRASSLAND DESTRUCTION |                    |                   |                     |                       |                   |                             |                    |
|--|--------------------|-------------------|---------------------|-----------------------|-------------------|-----------------------------|--------------------|
| 2.25 l/ha                                  |                    | 3.0 l/ha          |                     | 3.75 l/ha             |                   | 4.5 l/ha                    |                    |
| Annual Meadow-grass                        | Meadow Fescue      | Black-bent        | Creeping Soft-grass | Bracken**             | Red Clover        | Common Ragwort              | Nardus (Mat grass) |
| Common Chickweed                           | Meadow Foxtail     | Broad-leaved Dock | Curled Dock         | Common Sorrel         | Sedges            | Hard Rush                   | Red Fescue         |
| Common Mouse-ear                           | Rough Meadow-grass | Cock's-foot       | Perennial Rye-grass | Common Nettle         | Sheep's Sorrel    | Heath Rush                  | White Clover*      |
| Dock Seedlings                             | Speedwell species  | Common Bent       | Plantains           | Creeping Buttercup*   | Soft Rush         | Jointed Rush                | Yellow Rattle      |
| Italian Rye-grass                          | Timothy            | Common Couch      | Soft Brome          | Creeping Thistle      | Spear Thistle     | Molinia (Purple Moor-grass) | Sheep's Fescue     |
| Mayweed species                            |                    | Creeping Bent     | Yorkshire Fog       | Daisy                 | Tufted Hair-grass |                             |                    |
|  |                    |                   |                     | Dwarf Thistle         | Yarrow            |                             |                    |
|  |                    |                   |                     | Perennial Sow-thistle |                   |                             |                    |

\* White clover is best cut in June and sprayed one month later

\*\* At full frond expansion

| AREA OF USE  | CROP/<br>SITUATION    | TARGET WEEDS/<br>USAGE  | WEED<br>INFESTATION                            | APPLICATION<br>RATE<br>l/ha | WATER<br>VOLUME  | APPLICATION TIMING AND GUIDANCE  |
|--|-----------------------|---|--|-----------------------------|--|--|
| NATURAL SURFACES<br>NOT INTENDED TO BEAR<br>VEGETATION,<br>PERMEABLE SURFACES<br>OVERLYING SOIL, ALL<br>SITUATIONS<br>(DESTRUCTION, BEFORE<br>PLANTING). | Vegetation management | Including farm yards and<br>roadsides, paths and<br>along fences      | Annual weeds                                   | 1.0                         | Hydraulic sprayers<br>(boom and knapsack) at<br>water volumes 80-400<br>l/ha or<br>rotary atomisers*at water<br>volumes 10-40 l/ha or<br>hand-held equipment.<br>See Mixing & Spraying<br>section. | Where rotary atomisers are used their droplet<br>diameter must fall within the range 200-300µm.<br><br>Do not use under polythene or glass.  |
|  |                       |   | Perennial grasses<br>and broad-leaved<br>weeds | 3.75                        |  |  |
| HARD SURFACES  | Vegetation management | Including non-porous farm<br>yards, roads, paths &<br>alongside walls | Annual weeds                                   | 1.0                         | Hydraulic sprayers<br>(boom and knapsack) at<br>water volumes 80-400<br>l/ha or<br>rotary atomisers*at water<br>volumes 10-40 l/ha or<br>hand-held equipment.<br>See Mixing & Spraying<br>section. | Apply this product carefully. Ensure spraying takes<br>place only when weeds are actively growing<br>(normally March to October) and is confined only<br>to visible weeds including those in the 30cm swath<br>covering the kerb edge and road gulley – do not<br>overspray drains |
|  |                       |   | Perennial grasses<br>and broad-leaved<br>weeds | 3.75                        |  |  |

| AREA OF USE | CROP                                 | TARGET WEEDS/<br>USAGE                    | WEED<br>INFESTATION           | APPLICATION RATE<br>l/ha | WATER<br>VOLUME | APPLICATION TIMING AND GUIDANCE   |
|-------------|--------------------------------------|---|-------------------------------|--------------------------|-----------------|---|
| ORCHARDS    | APPLE, PEAR, PLUM,<br>CHERRY, DAMSON | Perennial grasses, broad-<br>leaved weeds | All levels of most<br>species | 3.75                     | 200-400 l/ha    | Spray AFTER autumn leaf-fall and BEFORE:<br>Apples, pears - green cluster stage<br>Stone fruit - white bud stage<br><br>Treat root suckers in late spring only.<br><br>Trees must have been established 2+ years.<br>Avoid contact with tree 30+ cm above ground. |
|             |                                      | Root suckers                              | -                             | 3.75                     |                 |   |

| AREA OF USE  | CROP                                  | TARGET WEEDS/<br>USAGE  | WEED<br>INFESTATION | APPLICATION RATE<br>l/ha  | WATER<br>VOLUME  | APPLICATION TIMING AND GUIDANCE  |
|--|---------------------------------------|---|---------------------|---|--|--|
| ENCLOSED WATERS,<br>OPEN WATERS, LAND<br>IMMEDIATELY<br>ADJACENT TO AQUATIC<br>AREAS | -                                     | Emerged Weeds<br>- Reeds, Rushes, Sedges,<br>Grasses and Watercress | All levels/species  | 3.75  | 200-400 l/ha<br>or hand-held<br>equipment<br>(p.8)   | Consult appropriate Environment Agency regional<br>office before use.<br><br>On water-lilies it is preferable to use a tractor or<br>boat-mounted sprayer. During spraying do not<br>exceed a pressure of 2.0 bars (30 p.s.i.). When using<br>a tractor mounted sprayer do not exceed 8 kph<br>(5mph).<br><br>Use boat-mounted sprayers at slowest practical<br>speed. Always apply against direction of any<br>current. When disturbed by wash, WATER-LILIES may<br>require re-treatment. |
|  |                                       | Floating Weeds<br>- White water-lily<br>- Yellow water-lily         | All levels          | 4.5   | 100-200 l/ha<br>or hand-held<br>equipment<br>(p.8)   |  |
| IN-CROP (TRACTOR-<br>MOUNTED WEED WIPER<br>APPLICATION)                              | ARABLE CROPS,<br>GRASSLAND, SET ASIDE | Bolters, weed beet, other<br>weeds                                  | All levels          | 1:2 dilution with water for wick-type<br>weed wipers<br><br>OR<br><br>1:3 dilution with water in hot, dry<br>conditions.<br><br>For 'new generation' wipers consult the<br>manufacturer for guidance. | Weeds must be 10+ cm taller, and wiper 5+ cm<br>higher, than desired vegetation.<br><br>Wipe dense populations twice, in opposite<br>directions. BOLTING BEET requires three<br>applications, 2 weeks apart, from early July to early<br>August.<br><br>Contact Monsanto or your distributor for specific<br>recommended weed wiper applicators.<br><br>Treated POISONOUS WEEDS must be removed or<br>allowed to completely degenerate before grazing<br>or conserving. If Ragwort is present, the guidance in<br>the DIRECTIONS FOR USE must be followed. |  |

## Mixing and spraying

ROUNDUP FLEX mixes readily with water and can be applied in spray volumes ranging from 80-400 l/ha using tractor mounted, knapsack, rotary atomisers and hand-held sprayers. Specialised application equipment such as weed wipers and spot gun applicators may be used where indicated.

Correctly calibrate all sprayers under field or use conditions prior to application.

### a) Tractor mounted and powered hydraulic sprayers

These should be capable of applying accurately 80-400 l/ha within a pressure range of 1.5-2.5 bars (20-35 psi).

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

#### *Medium Volume application (150-300 l/ha)*

Avoid high water volumes (>300 l/ha) which may lead to run-off from the treated vegetation, resulting in reduced control. Low drift nozzles such as air induction and pre-orifice types producing a medium or coarse spray (BCPC definition) should be used to minimise the risk of drift.

#### *Low Volume Application (minimum 80 l/ha)*

Low volume application can be achieved by reducing pressure and the appropriate nozzle selection. Low drift nozzles which produce a medium spray quality (BCPC definition) should be used to minimise the risk of drift.

### b) Knapsack sprayers

Recommended delivery range is 80 - 300 l/ha. Half fill the spray tank with clean water, add the correct amount of ROUNDUP FLEX and top up with water. Fill according to best practice as given on the CPA's Voluntary Initiative website ([www.vuntaryinitiative.org.uk](http://www.vuntaryinitiative.org.uk))

When used at a walking speed of 1 metre/second to apply a swath of 1 metre width, most knapsack sprayers fitted with a Lurmark AN 2.0 or similar nozzle deliver approximately 200 l/ha spray volume (or 10 l per 500 m<sup>2</sup>). To apply 3.0 l/ha of ROUNDUP FLEX, therefore, use a 1.5% solution, i.e. 150ml ROUNDUP FLEX made up to 10 litres. Similarly, knapsack sprayers fitted with low volume nozzles such as Lurmark AN 1.0 typically deliver approximately 100 l/ha spray volume. To apply 3.0 l/ha ROUNDUP FLEX in this case use 3.0% solution.

### c) Rotary Atomisers

Hand-held machines can be used to apply a spray volume of 10-40 l/ha, e.g. Herbi and Herbaflex.

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

Stir the correct amount of ROUNDUP FLEX to control the particular target species into the sprayer bottle half filled with clean water. Top up with water, close the top and shake gently to ensure good mixing

### d) Weed Wipers

For ropewick applicators use a concentration of 1 part ROUNDUP FLEX to 3 parts of water and add a water-soluble dye if required. Care should be taken to avoid dripping onto wanted vegetation.

For new generation weed wipers, use 1 part ROUNDUP FLEX to 10 or 20 parts of water or as directed by manufacturer's instructions. A list of machines is included in the Company Advisory section at the end of this label.

### e) Spot Gun Applicators

Spot gun applicators are for the treatment of individual weeds. Apply 5ml of spray to target weed, using a narrow cone TG-3 or TG-5 nozzle.

| Spot Diameter (metres) | Amount of ROUNDUP FLEX (ml) per 5 litres spray solution for targeted dosages of: |          |           |
|------------------------|--|----------|-----------|
|                        | 2.25 l/ha  | 3.0 l/ha | 3.75 l/ha |
| 0.3                    | 16   | 21       | 27        |
| 0.6                    | 64   | 85       | 107       |

### Boat mounted sprayers

For use in aquatic situations. Prepare sprayer as for knapsack sprayers (Section b above). Calibrate and spray at the lowest speed possible. Always apply against the direction of any current.

### **Compatibility**

Do not tank mix ROUNDUP FLEX with adjuvants, pesticides or fertilisers except as advised by Monsanto. For up to date information on compatible products contact Monsanto UK Limited (tel: 01954 717575).

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

For hydraulic sprayers: maintain continuous agitation when using ROUNDUP FLEX in tank mixture.

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

## **COMPANY ADVISORY INFORMATION**

This section is not part of the Product Label under the Plant Protection Products Regulations 1995 and provides additional advice on the product.

### **General Information**

ROUNDUP FLEX herbicide is an advanced formulation containing glyphosate. ROUNDUP FLEX is taken up by foliage and translocated to underground roots, rhizomes and stolons, providing control of both annual and perennial grasses and broad-leaved weeds. ROUNDUP FLEX is rapidly adsorbed onto particulate matter in soils and water and is quickly degraded by the micro-organisms present in soil and aquatic bottom sediments. Until degraded, the active ingredient in ROUNDUP FLEX, glyphosate, is practically immobile in soils and is, therefore, unlikely to contaminate groundwater.

ROUNDUP FLEX is a glyphosate formulation which, having no hazard classification, offers a high standard of operator safety. To maximise the intrinsic safety of ROUNDUP FLEX to operator, consumer and environment, the label recommendations and the DEFRA/HSE/DETR publication "Code of Practice for Using Plant Protection Products" of January 2006, should be adhered to.

### **Symptoms on the weeds**

Symptoms of treatment are generally first seen 7-14 days, or longer, if growth is slow after spraying. Leaf symptoms take the form of a reddening then yellowing of the foliage and are first seen on the grass weeds but take longer to appear on broad-leaved weeds. Reaction of nettle is slow.

For aquatic weed control, on reeds and grasses leaf symptoms usually appear within 14-21 days of spraying in the early autumn. Complete foliage desiccation usually occurs 30-40 days after spraying. At this stage the reeds can be cut and removed. During cold conditions leaf symptoms may not appear before natural dieback but no growth will occur in the season following spraying.



## **Effects of weather**

See Directions for Use (Restrictions).

ROUNDUP FLEX will remain efficacious at low but not freezing temperatures however the onset of symptoms will be delayed.

A covering of dew may reduce efficacy where run-off occurs. Reduced control is likely where weed growth is impaired by natural senescence, drought, high temperature, a covering of dust, flooding or severe/prolonged frost at, or immediately after application.

## **Weed resistance strategy**

There is low risk for the development of weed resistance to ROUNDUP FLEX. There are no known cases of weed resistance to glyphosate in UK.

Strains of some annual weeds (e.g. Black-grass, Wild oats and Italian Ryegrass) have developed resistance to some 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, crop adviser or product manufacturer (Monsanto).

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 UK Ltd (Tel: 01954 717575)

## **General Cautions**

Take extreme care to avoid drift, particularly when using near or alongside hedgerows. The use of low drift nozzles such as 'air induction' and 'pre-orifice' nozzles are recommended.

## **New generation weedwipers** (NB this list is not exhaustive)

Logic Contact 2000, Carrier Rollmaster, Allman Ecowipe  
Rotowiper (UK) Ltd, C-Dax™ Eliminator, Weedswiper™

### **Disposal**

Follow the guidance on the disposal of surplus spray solution, tank washings, concentrate and containers as given in Section 5 of the DEFRA/HSC/NAWPCD publication "Code of Practice for Using Plant Protection Products", January 2006.

### **Sprayer hygiene**

It is essential to thoroughly clean-out spray tanks, pumps and pipelines and nozzle or disc assemblies, with a recommended detergent cleaner, between applying this product and other pesticides to avoid contamination from pesticide residues.

### **Environmental Information Sheet**

An Environmental Information Sheet for this product is available from the CPA's Voluntary Initiative website ([www.voluntaryinitiative.org.uk](http://www.voluntaryinitiative.org.uk))

### **Trademark References**

ROUNDUP FLEX® is a Registered Trademark of Monsanto Technology LLC. Monsanto® and the Vine symbol are registered trademarks of Monsanto Technology LLC.

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

Monsanto does not warrant that the purchase or use of equipment mentioned in this document will not infringe any patent or trademark registration.

## **MATERIAL SAFETY DATA SHEET**

The Safety Data Sheet does not form part of the label approved under the Control of Pesticides Regulations 1986.

Following the instructions on this Product Label for the specified uses should ensure that the product is used safely and efficaciously for those uses. Up to date Safety Data Sheets are available on request (telephone Monsanto Technical Helpline 01954 717575) or can be downloaded from the Monsanto website: [www.monsanto-ag.co.uk](http://www.monsanto-ag.co.uk)