

A systemic foliar applied herbicide for the control of annual and perennial grass and broadleaf weeds, including kikuyu grass, couch, and watergrass in coffee, tea and other plantation crops, under reduced or zero tillage systems in pasture and stubbles, in forest sites and for industrial and aquatic weed control.

# Roundup®

Herbicide by Monsanto

MONSANTO



KEBAY, 0611, L - 1059 3773

## USES:

Perennial and annual broadleaf and grass weed control in coffee, tea and plantation crops including kikuyu grass, couch (*Digitaria abyssinica*), watergrass (*Cyperaceae*), Blackjack (*Bidens pilosa*), *Parthenium hysterophora* and *Portulaca oleracea*.

Total weed control as a tillage aid or in zero till systems, post harvest in the fallow and preplant in stubbles before arable crops such as wheat, barley, maize, sugarcane and vegetables.

Total weed control in forestry, along roadsides, railways, around buildings, recreation areas, industrial sites and fence lines.

Control of emerged aquatic weeds in canals, ditches, drains, lakes and dams.

### Timing:

It is essential for best results that weeds have a full emergence of healthy, actively growing green leaves at the time of application. Perennial grasses can be effectively controlled during an extended period of time from tillering stage on up to postflowering, but before onset of natural or enforced senescence. Annual weeds are usually destroyed during a long period from an early stage up to flowering, provided they are actively growing and an adequate leaf mass has developed at treatment time.

### Weather conditions:

Rainfree period of at least 6 hours must follow spraying. Do not spray onto very wet weeds or weeds suffering from drought stress as reduced control may occur. Do not spray in windy conditions as drift onto desirable vegetation can cause severe injury or destruction.

### Tank Mixtures:

Do not tank mix ROUNDUP with other chemicals, such as extra wetter, adjuvants, fertilizers, oils, anti-foam agents or residual herbicides, except when directed by Monsanto, as a reduced level of weed control may result.

## RECOMMENDATIONS:

This product is a post-emergence foliar acting herbicide and for best results the weeds should have a full emergence of healthy actively growing leaves at the time of application.

### Annual and Perennial Weed Control in Coffee and Tea Plantations:

Application should be carefully directed to avoid any spray contact with green parts of the crop. Spraying should coincide with active weed growth particularly during "long" and "short" rains.

Coffee and tea plantations should be established for at least 18 months before spraying can take place, otherwise injury by accidental trunk contact with ROUNDUP may occur.

### Application Rate:

ROUNDUP	
Annual weeds	2 l/ha.
Perennial weeds	3 l/ha
Except watergrass ( <i>Cyperus rotundus</i> ):	
First application of	6 l/ha
followed by	3 l/ha
Stargrass ( <i>Cynodon dactylon</i> )	Up to 10 l/ha
Water	-70 - 300 l/ha according to weed density and nozzles used.

Note: Regrowth or fresh germination of difficult to control weeds may have to be resprayed.

Annual weeds such as Blackjack, *Parthenium* (broadleaves) and *Digitaria velutina* (annual grass) are most susceptible at an early stage of growth. Application rate 0.5 - 2.0 l/ha. 0.5 l/ha is sufficient on young weeds less than 10 cms tall. Larger weeds will be initially suppressed and will be controlled at the next round of 0.5 l/ha for subsequent germinating weeds.

### Weed Control in Reduced Tillage Systems and Stubbles:

Application should take place when weeds are actively growing either at the end of the previous rainy season or two weeks before planting.

### Application Rate:

ROUNDUP	
Kikuyu grass	2 l/ha
Water	70 - 300 l/ha

Note: Allow one week for translocation of ROUNDUP before any cultivation takes place for perennials, one day for annuals.

### Pasture Destruction:

Pasture must be treated according to susceptible growth stage of weeds, provided grasses are growing actively when treated.

### Application Rate:

ROUNDUP	
Kikuyu grass	4 l/ha
Water	70 - 300 l/ha

Note: Allow one week for translocation before any cultivation.

### Reduced Tillage in sugarcane:

To kill final ratoon, allow sufficient regeneration of sugarcane ratoon at a height of 60 cm.

### Application Rate:

ROUNDUP	10 l/ha
Water	70 - 300 l/ha

### Aquatic Weed Control

Application Rate: 6 l/ha for *Typha* spp.

## HAND HELD EQUIPMENT:

### KNAPSACK

Application volumes should be in the range of 70 - 300 l/ha of water. It is recommended for broadcast treatments that a floodjet (anvil reflex) or flat nozzle should be used due to their low drift characteristics. In exceptional cases such as in tea a cone jet can be used for spot treatment. Pressure should be set low (1 - 2 Bars, 15 - 30 psi). Using a knapsack with a red polyjet put 150 mls ROUNDUP in 10 lits water for a 3 lit/hectare rate.

### Low Volume Technology:

It is recommended to spray with low water volume 70 - 100 l/ha for improved efficacy (higher product concentration means greater uptake of glyphosate by the plant) and efficient use of labour. A larger area can be sprayed in a day due to reduced downtime due to fewer refills. A fine mesh filter (80 - 100 mesh) should be used with clean water to prevent blocking. Suitable nozzles are the Lurmark AN 1.0 (orange), Delavan D1, Hardi reflex 370742-10, Hardi fan jets 4110-10 or 4110-12.

A walking speed of 1 ms<sup>-1</sup> is suitable, this is a slow walk. Using a knapsack fitted with a Lurmark AN 1.0 put 60 mls ROUNDUP in 10 lits water for a 0.5 lit/hectare rate.

### WEED WIPER :

Mix 1 part ROUNDUP with 2 parts water (33 % solution e.g. 200 mls ROUNDUP in 600 mls water.

Thoroughly clean equipment after use:

## CAUTION

Irritating to eyes and skin. When using do not eat, drink or smoke. Handle and open container with care. Wash hands immediately after handling.

Protective clothing: wear suitable protective clothing and rubber gloves. Wear a rubber apron and safety goggles when handling the concentrate. Clothing and gloves should be washed after use, especially the inside of gloves.

## STORAGE AND DISPOSAL

**Storage:** Keep out of reach of children. Keep away from food, drink and animal feeding-stuffs. Keep a temperature of exceeding 40° C. Keep container tightly closed. Keep only in original container. Minimum shelf life 5 years.

**Spillage, leakage and disposal:** Wash away small spills with plenty of water. Absorb large quantities in earth or sand and shovel up into covered containers for disposal. Triple rinse empty containers and pour rinse water into spray tank. Do not re-use empty containers, they should be punctured and destroyed.

**Environmental hazard:** Do not contaminate waterways, ditches and ponds with waste product or container. Harmful to fish.

## FIRST AID

Remove patient to fresh air. All contaminated clothing should be removed immediately.

**Eyes:** flush immediately with plenty of water for at least 15 minutes. If irritation persists go to dispensary.

**Skin:** wash immediately with plenty of water, if irritation persists or if product has been swallowed (drink lots of milk or water) go to the dispensary.

**Note for doctor:** No specific antidote. This product is not an inhibitor cholinesterase and treatment with atropine and oximes is not indicated. Treat symptomatically.

## NOTICE TO USER:

This pest control product is to be used only in accordance with the directions on this label. It is an offence under the Pest Control Products Act to use or store a pest control product under unsafe conditions.

## CONDITIONS OF SUPPLY

All goods supplied by us are of high grade and we believe them to be suitable but as we cannot exercise control over their mixing or use all conditions and warranties statutory or otherwise as to the quality or fitness for any purpose of our goods is excluded and no responsibility will be accepted by us for any damage or injury whatsoever arising from their, storage, handling, application or use.

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