

CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Rygel

Oxyfluorfen Herbicide

Active Constituent: 240 g/L OXYFLUORFEN
Solvents: 606 g/L LIQUID HYDROCARBON
108 g/L N-METHYL PYRROLIDONE

For the selective control of certain broadleaf and grass weeds.

GROUP	G	HERBICIDE
-------	----------	-----------

APVMA Approval No: 64219/47846

Pack Size: 10L, 20L, 110L, 200L

GENERAL INSTRUCTIONS

Rygel Oxyfluorfen Herbicide is a selective herbicide for the control of certain annual grasses and broadleaf weeds in dormant apples, grapes, peaches, pears, plums, apricots, almonds, macadamia, Duboisia, tobacco, coffee, pyrethrum, winter cereals, tropical/sub tropical crops, brassicas, onions, *Eucalyptus* and *Pinus* spp and other forestry trees used in forestry applied either to a weed free soil or to seedling weeds at the 4 to 6 true leaf stage.

Rygel Oxyfluorfen Herbicide applied to well prepared, weed free soil should not be disturbed or incorporated after application. Weed control for up to 6 months can be expected with high label rates, but spot treatment of escape weeds or perennial grasses may be necessary with knockdown herbicides.

Rygel Oxyfluorfen Herbicide is applied to seedling weeds at the 4 to 6 leaf stage, a non-ionic surfactant such as Rygel CropWett 1000 should be added at recommended rates to improve activity.

Rygel Oxyfluorfen Herbicide can also be used at low rates as a 'spike' to improve the weed spectrum of knockdown herbicides such as glyphosate and paraquat or diquat/paraquat mixtures.

Duboisia seedlings and mature plants will tolerate 'over-the-top' applications. Eucalypt and pine transplants and established trees can tolerate "over-the-top" applications.

When using Rygel Oxyfluorfen Herbicide in combination with other herbicides, refer to the appropriate label and read and follow all label directions.

RESISTANT WEEDS WARNING

Rygel Oxyfluorfen Herbicide is a member of the diphenyl ether group of herbicides. Rygel Oxyfluorfen has the inhibitor of protoporphyrinogen oxidase mode of action. For weed resistance management Rygel Oxyfluorfen is a Group G herbicide.

Some naturally occurring weed biotypes resistant to Rygel Oxyfluorfen Herbicide and other Group G herbicides may exist through normal genetic variability in any weed population. The resistant

individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by Rygel Oxyfluorfen or other Group G herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Rygel Australia Limited accepts no liability for any losses that may result from the failure of Rygel Oxyfluorfen to control resistant weeds.

TIMING

Residual Control

For optimum residual weed control, Rygel Oxyfluorfen Herbicide should be applied to the soil surface prior to weed emergence after all other agricultural operations have been completed, such as mechanical cultivation and reshaping of irrigation furrows, have been completed. The area should be left undisturbed during the period of desired weed control. When applied to seedling weeds, they should be young and actively growing. Weed control for up to 6 months is expected but spot treatment, with knockdown herbicides, for escape weeds and perennial grasses may be necessary.

Post-emergence weed control

For optimum post-emergence weed control, Rygel Oxyfluorfen herbicide + glyphosate tank mixes should be applied to small seedling weeds up to 4 - 6 true-leaf stage. Use of a non-ionic surfactant such as Rygel CropWett 1000 is recommended to improve activity. Weeds should be actively growing and free from environmental stress (drought, cold, insect attack, nutrient deficiency). Cultivation after treatment and prior to or at planting is beneficial for final fallow weed control.

MIXING

Shake well before use. When using Rygel Oxyfluorfen alone, fill the spray tank, at least one-third full with clean water, add the recommended amount of Rygel Oxyfluorfen while the pump and agitator are running, then complete filling the spray tank.

A non-ionic surfactant, if required by label directions, should be added near the end of the filling process to minimise foaming.

When tank mixing with oryzalin, add to one-third filled tank, then the Rygel Oxyfluorfen during the filling operation. Maintain agitation during mixing and until spraying is completed.

When tank mixing with glyphosate products, paraquat/diquat or diquat, add these after Rygel Oxyfluorfen during the filling operation.

When using Rygel Oxyfluorfen in mixtures always refer to the appropriate label and read and follow all label directions.

Rygel Oxyfluorfen Herbicide + Glyphosate tankmixes

Ensure thorough agitation when mixing, filling the spray tank and during application, irrespective of glyphosate formulation used. Follow recommended order and directions for tank mixing Rygel Oxyfluorfen and glyphosate. Use all spray mix immediately after preparation.

- DO NOT tank mix Rygel Oxyfluorfen Herbicide and glyphosate without agitation.
- DO NOT allow mix to stand unagitated.
- DO NOT store Rygel Oxyfluorfen Herbicide and glyphosate tank mixes.
- DO NOT mix other agrochemical products with Rygel Oxyfluorfen and glyphosate tank mixtures.

APPLICATION

Spray equipment should be calibrated carefully before use.

Rygel Oxyfluorfen Herbicide should be applied uniformly with an accurately calibrated, low pressure herbicide sprayer, as a directed treatment to the base of tree and vine crops using flat fan or hollow cone nozzles. Complete coverage of seedling weeds is required for maximum knockdown effect. Ensure both weed foliage and the soil surface are sprayed.

Apply using a vehicle mounted boom, calibrate to deliver a droplet spectrum classification defined as medium by the American Society of Agricultural Engineers (ASAE) Standard S572, using water volume of 250 to 500 litres per hectare for bare soil or 100 to 1350 litres per hectare when seedling weeds (4 to 6 leaf stage) are treated. Use the higher volumes where weed density is high.

Tank mixtures of 75 mL/ha of Rygel Oxyfluorfen Herbicide with glyphosate herbicides should be applied in 30 to 200 litres spray volume per hectare. For maximum residual control, Rygel Oxyfluorfen Herbicide should NOT be incorporated or disturbed after application.

CROP SAFETY

Rygel Oxyfluorfen may be applied as directed around dormant peach, plum, apricot, almond, apple and pear trees and grape vines of all ages when applied at rates of less than 1.0 L/ha. When applied at 3.0 L/ha and above, the trees and grape vines should be at least 3 years of age. Do NOT apply Rygel Oxyfluorfen once bud swell has occurred when using rates greater than 1.0 L/ha.

Duboisia seedlings and mature plants will tolerate 'over-the-top' applications of Rygel Oxyfluorfen. When using the 75 mL/ha rate, Rygel Oxyfluorfen

may be applied as directed prior to sowing winter cereals.

COMPATIBILITY

Rygel Oxyfluorfen is compatible with glyphosate products (with agitation), oryzalin, paraquat/diquat, diquat and glufosinate products.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions, or from spraying equipment, that may cause spray to drift onto nearby water bodies, susceptible plants/crops, cropping lands or pastures.

PROTECTION OF LIVESTOCK

Use with care when applying in areas frequented by stock.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

This product is highly toxic to wildlife and fish. DO NOT contaminate lakes, ponds, streams, rivers or waterways with the chemical or used containers. Use care when applying in areas frequented by wildlife or adjacent to any body of water. DO NOT apply when weather conditions favour drift from target areas.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and roots. Empty containers and product should not be burnt.

SAFETY DIRECTIONS

Will damage eyes and will irritate the skin. Avoid contact with eyes and skin. When opening the container and preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length butyl rubber gloves and goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Wash hand after use. After each day's use, wash gloves, goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If swallowed, do NOT induce vomiting. Give a glass of water.

MATERIAL SAFETY DATA SHEET

For further information refer to the Material Safety Data Sheet (MSDS).

CONDITIONS OF SALE

The use of Rygel Oxyfluorfen Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Rygel Australia Pty Ltd regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Rygel Australia Pty Ltd accepts with no responsibility for any consequences whatsoever resulting from the use of this product.

In an Emergency Dial 000 Police or Fire Brigade

DIRECTIONS FOR USE

Rygel Oxyfluorfen Herbicide can be used on weed-free soil to prevent germination of a wide variety of weeds or it can be applied to existing weeds at seedling stage especially with a tank mix partner to increase the variety of weeds controlled and/or the length of residual control. Rygel Oxyfluorfen Herbicide can also be added at a low rate as a 'spike' to glyphosate or paraquat and diquat/paraquat herbicides to improve knockdown.

1. Rygel Oxyfluorfen Herbicide applied as a 'spike' with glyphosate OR with either paraquat or a diquat/paraquat mixture.

RESTRAINT: DO NOT disturb weeds by cultivation or sowing for 1 day following application to annual weeds and 7 days for perennial weeds to ensure herbicide absorption, unless specified in the CRITICAL COMMENTS.

SITUATON	FOR WEEDS CONTROLLED & TIME OF APPLICATION	RATE of Rygel Oxyfluorfen Herbicide	CRITICAL COMMENTS
Fruit & nut trees, vines including: Grapevines, Olive trees, Pome fruit (eg. apple, pear, nashi, quince), Stone fruit (eg. apricot, cherry, nectarine, peach, plum) Tree nuts (eg. almond, macadamia, pecan, walnut)	Refer to label of the glyphosate product (such as Rygel ClearUp)	75 mL/ha plus a glyphosate product at its recommended label rate	Addition of Rygel Oxyfluorfen Herbicide to glyphosate products will improve knockdown and increase the speed at which treated weeds develop visible symptoms of phytotoxicity (compared to results achieved with glyphosate applied alone) and give control of annual nettles, (<i>Urtica</i> spp.), barley grass, Paterson's curse, smallflowered mallow and storksbill. For rates of glyphosate, refer to the appropriate label. Read and follow all label directions. DO NOT apply the tank mix of glyphosate and Rygel Oxyfluorfen near trees or vines less than 3 years old unless they are effectively shielded from spray and spray drift.
	Refer to label of the paraquat or diquat/paraquat products (such as Rygel Paraquat or Rygel PreSeed)	250 mL/ha plus a paraquat or diquat/paraquat product at its recommended label rate	Addition of Rygel Oxyfluorfen Herbicide in a tank mix with a paraquat or diquat/paraquat product will improve control of small flowered mallow, evening primrose and other weeds sensitive to Rygel Oxyfluorfen Herbicide. For the rate of the paraquat or diquat/paraquat product, refer to the appropriate label. Read and follow all label directions.

2. Rygel Oxyfluorfen Herbicide applied to weed-free soil or weeds at seedling stage.

RESTRAINT: If applying to weed seedlings, DO NOT disturb weeds by cultivation or sowing for 1 day following application to annual weeds and 7 days for perennial weeds to ensure herbicide absorption, unless specified in the CRITICAL COMMENTS.

CROP	WEEDS CONTROLLED	TIME OF APPLICATION	RATE	CRITICAL COMMENTS
Brassica Crops Broccoli, Cabbages, Cauliflower	Refer to Weeds Controlled list	Weed free soil (prior to crop transplanting)	1.5 to 2 L/ha	Apply Rygel Oxyfluorfen to prepared ground 4 to 7 days prior to transplanting . If soil is dry irrigation or rainfall is required prior to transplanting for activation of Rygel Oxyfluorfen. Utilise transplanting techniques, which cause minimal soil disturbance. Excessive soil disturbance will lessen herbicide activity. Use the higher rate in situations where weed pressure is known to be heavy.
Coffee	Refer to Weeds Controlled list	Weed free soil	2 or 4 L/ha	Use the higher rate where longer residual activity (up to 4 months) is required.
		Weeds at 2 to 4 true leaf stage		When seedlings are present, apply as a tank mix with paraquat to produce both knockdown and residual control. Addition of a non-ionic surfactant such as Cropwett 1000 at 150 mL/100L should be used in the spray mixture. Apply as a directed spray to avoid contact with coffee plants. Mature established weeds must be eliminated by mechanical or chemical means prior to application.
Duboisia	Refer to	Weed free soil	4 or 8	Use higher dosage where longer residual control

CROP	WEEDS CONTROLLED	TIME OF APPLICATION	RATE	CRITICAL COMMENTS
Duboisia	Weeds Controlled list (best results are achieved when applied to moist soil free of weeds)	Weed free soil	L/ha	(up to 6 months) is required. 'Over-the-top' application will be tolerated.
		Weeds at 4 to 6 true leaf stage		Recently germinated small seedling grasses and broadleaf weeds (4 to 6 true leaves) will be controlled at these rates. Established larger weeds must be eliminated by mechanical means prior to the application of Rygel Oxyfluorfen. Add a non-ionic surfactant such as CropWett 1000 (250mL/100L) to enhance activity.
Forestry Plantations: <i>Eucalyptus spp.</i> <i>Pinus spp.</i> (either before or preferably within 4 weeks of transplanting)	Refer to Weeds Controlled list	Weed free soil (either before or preferably within 4 weeks of transplanting)	3 or 4 L/ha	Under weed-free conditions, apply as a directed or 'over-the-top' spray. Disturbance of the herbicidal barrier on the soil surface at transplantation may reduce the length of weed control. If weed seedlings are present, apply as an 'over-the-top' spray. In either situation, use the higher rate for longer residual control. Oxyfluorfen Herbicide can be applied in a tank mix with simazine to extend the spectrum and length of weed control. DO NOT use this tank mix in Eucalyptus plantations grown on sands, with no clay or organic matter. The likelihood of foliar damage to trees (especially eucalypts) will increase if applied to foliage that has not hardened off and/or if the temperature exceeds 20°C. However Oxyfluorfen Herbicide is generally regarded as safe to commonly planted forestry species but the sensitivity of less common species should be tested on small areas before a large-scale application is made.
		Weeds at 4 to 6 true leaf stage		
Forestry Trees	Broadleaf weeds and grasses	Weeds at 4 to 6 true leaf stage	4 L/ha Or 4mL/10m ²	For the establishment of trees for approved farm practices such as wind breaks, erosion control, woodlots and forestry plantings. When applying as a post-plant spray, ensure spray is directed to the base of seedlings, or that seedlings are protected. Do not apply under hot or windy conditions.
Onions (seeded)	Blackberry Nightshade (<i>Solanum nigrum</i>)	Hook leaf stage	50 – 100 mL/ha	Do not exceed 100 mL/ha at the hook leaf stage as excessive crop damage may occur.
	Common Cotula (<i>Cotula australis</i>), Crowsfoot/ Storksbill (<i>Erodium spp.</i>), Deadnettle (<i>Lamium amplexicaule</i>), Docks (<i>Rumex spp.</i>), Fumitory (Pink and white flowered) (<i>Fumaria spp.</i>), Groundsel (<i>Senecio vulgaris</i>), Hogweed/ Wireweed	1.5 to 2.5 leaf stage	350 – 500 mL/ha	Best results are obtained when the hook leaf stage treatment is followed by a further application of Rygel Oxyfluorfen when onions are at the 1.5 to 2.5 leaf stage. Apply Rygel Oxyfluorfen in at least 100 L/ha water at pressures below 150 kPa. DO NOT exceed 150 kPa because excessive crop damage could result. Multiple treatments may be applied provided the total dose does not exceed 2 L/ha in one season. For control of other weeds, use in a program with other registered herbicides. NOTE: Can cause flecking, twisting or stunting of onion plants although such symptoms are normally short-lived. DO NOT apply in conditions of very high humidity. DO NOT apply to weeds or crops, which are stressed by prevailing weather conditions,

CROP	WEEDS CONTROLLED	TIME OF APPLICATION	RATE	CRITICAL COMMENTS
	<i>(Polygonum aviculare)</i> , Milk Thistle <i>(Sonchus oleraceus)</i> , Plantain <i>(Plantago spp.)</i> , Sorrel <i>(Rumex acetosella)</i> , Potato weed <i>(Galinsoga parviflora)</i> , Volunteer potato <i>(Solanum tuberosum)</i>			disease or mechanical damage. DO NOT use wetting agents or other adjuvants.
Pyrethrum - as bare rooted transplants or seedlings	Refer to Weeds Controlled list (except chickweed)	Pre=plant incorporated into weed free soil worked to a fine tilth	4 or 6 L/ha	Apply prior to final soil preparation. The preferred implements for final soil preparation would be either a multiple tyne cultivator or rotary harrows. Use the 6 L/ha rate for heavy black clay soils only (as found in the Derwent and Coal River Valleys, Tasmania). Rygel Oxyfluorfen Herbicide will not provide consistent control of chickweed.
Pyrethrum - more than 4 leaves	Blackberry nightshade, Cleavers, Field bindweed, Fumitory, Groundsel, Sorrel, Volunteer potato, Wireweed	Emerged weeds present	100 to 150 mL/ha	Apply when pyrethrum growth stage is greater than 4 true leaf.
Pyrethrum - established crops, > 1 year old	As above plus Sow Thistle, Spear Thistle		200 mL to 4 L/ha	Apply when pyrethrum is > 10 cm rosettes. Apply rates of more than 1.0 L/ha ONLY between 1st of February and 31st of March. DO NOT apply later than 25 weeks before harvest.
Tobacco	Refer to Weeds Controlled list	Weed free soil	4 L/ha	Use to control weeds along spray lines only. DO NOT apply to tobacco crop. Apply to soil after solid-set irrigation system has been laid out in the field. Rygel Oxyfluorfen should be applied to moist soil. Where very small weeds (2 to 3 leaf) emerge prior to spraying, the addition of a wetting agent to the spray mixture is necessary for effective control. Should the weeds be more advanced, the addition of 2 L/ha diquat (200g/L) is required. Avoid spray drift.
Trees (Fruit & Nuts) and Vines at least 3 years old as a dormant application, including: Grapevines, Olive trees, Pome fruit (eg. apple, pear, nashi, quince), Stone fruit (eg. apricot, cherry, nectarine, peach, plum),	Refer to Weeds Controlled list	Weed free soil	3 or 4 L/ha	DO NOT apply once bud swell has occurred. Apply to freshly cultivated weed free soil. Use higher rate for longer residual control (up to 4 months). Where grass weeds are expected to be the major problem, or when control of a wider weed spectrum is needed, mix the lower rate with 4.5L oryzalin (500g/L) per treated hectare. Read and follow all label directions.
		Weeds at 4-6 leaf stage		DO NOT once bud swell has occurred. Use higher rate for longer residual control (up to 4 months). When light infestations of weeds are present, apply as a tank mix with glyphosate or paraquat/diquat to produce both knockdown and residual control. Read and follow all label directions. Where weed growth is large and

CROP	WEEDS CONTROLLED	TIME OF APPLICATION	RATE	CRITICAL COMMENTS
Tree nuts (eg. almond, macadamia, pecan, walnut)				dense, weeds must be eliminated prior to application of Rygel Oxyfluorfen, using glyphosate or by mechanical or chemical means. Macadamias: Apply in 250 to 500 L water/ha. Apply after harvest to prevent spray contacting nuts. Avoid spray contact with the foliage and stem. DO NOT apply to nuts on the ground.
Tropical and sub-tropical fruit crops (inedible peel), including; Avocado, Cherimoya, Custard apple, Durian, Feijoa, Guava, Jackfruit, Kiwifruit, Longan, Lychee, Mango, Mangosteen, Papaya, Passionfruit, Persimmon, Rambutan, Star apple	Refer to Weeds Controlled List	Weed free soil	4 L/ha	Best results are achieved when applied to moist soil, free of weeds.
		Emerged weeds present		If weeds are present, Rygel Oxyfluorfen Herbicide should be applied as a tank mix with recommended rates of glyphosate or paraquat or diquat/paraquat. Read and follow all label directions.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION

THIS PRODUCT IS TOO HAZARDOUS FOR USE IN THE HOME GARDEN

WITHHOLDING PERIODS:

GRAZING – DO NOT GRAZE TREATED WEEDS

HARVEST – NOT REQUIRED WHEN USED AS DIRECTED

WEEDS CONTROLLED BEFORE GERMINATION

Amsinckia (<i>Amsinckia</i> spp.)	Prickly lettuce (<i>Lactuca</i> spp.)
Barley grass (<i>Hordeum leporinum</i>)	Red natal grass (<i>Rhynchelytrum repens</i>)
Barnyard grass (<i>Echinochloa</i> spp.)	Redshank (<i>Amaranthus cruentus</i>)
Blackberry nightshade (<i>Solanum nigrum</i>)	Ryegrass (<i>Lolium</i> spp.)
Bladder Ketmia (<i>Hibiscus trionum</i>)	Sesbania pea (<i>Sesbania cannabina</i>)
Burrgrass (<i>Cenchrus australis</i>)	Shepherd's purse (<i>Capsella bursa-pastoris</i>)
Caltrop (<i>Tribulus terrestris</i>)	Smallflower mallow (<i>Malva parviflora</i>)
Capeweed (<i>Arctotheca calendula</i>)	Soursob (<i>Oxalis pes-caprae</i>)
Chickweed (<i>Stellaria media</i>)	Sowthistle (<i>Sonchus oleraceus</i>)
Crowsfoot grass (<i>Eleusine indica</i>)	Starburr (<i>Acanthospermum hispidum</i>)
Deadnettle (<i>Lamium amplexicaule</i>)	Stinkgrass (<i>Eragrostis cilianensis</i>)
Fat hen (<i>Chenopodium album</i>)	Summer grass (<i>Digitaria</i> spp.)
Giant pigweed (<i>Trianthema portulacastrum</i>)	Thornapple (<i>Datura stramonium</i>)
Liverseed grass (<i>Urochloa panicoides</i>)	White eye (<i>Richardia brasiliensis</i>)
Lovegrass (<i>Eragrostis</i> spp.)	Wild mustard (<i>Sisymbrium</i> spp.)
Pigeon grass (<i>Setaria</i> spp.)	Wild radish (<i>Raphanus raphanistrum</i>)
Pigweed (<i>Portulaca oleracea</i>)	Wireweed (<i>Polygonum aviculare</i>)

SEEDLINGS

Amsinckia (<i>Amsinckia</i> spp.)	Pigweed (<i>Portulaca oleracea</i>)
Bellvine (<i>Ipomoea</i> spp.)	Potato weed (<i>Galinsoga parviflora</i>)
Capeweed (<i>Arctotheca calendula</i>)	Redshank (<i>Amaranthus cruentus</i>)

Common cotula (<i>Cotula australis</i>) Crowsfoot grass (<i>Eleusine indica</i>) Deadnettle (<i>Lamium amplexicaule</i>) Groundsel (<i>Senecio vulgaris</i>) Liverseed grass (<i>Urochloa panicoides</i>) Marshmallow (<i>Malva parviflora</i>)	Shepherd's purse (<i>Capsella bursa-pastoris</i>) Sowthistle (<i>Sonchus oleraceus</i>) Stinging nettle (<i>Urtica urens</i>) Stinkgrass (<i>Eragrostis cilianensis</i>) Wild radish (<i>Raphanus raphanistrum</i>)
--	---