



Product Name: NOVAGUARD FLUPROPANATE 745 HERBICIDE
APVMA Approval No: 68732/141264

Label Name:	NOVAGUARD FLUPROPANATE 745 HERBICIDE
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Signal Headings:	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
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Constituent Statements:	ACTIVE CONSTITUENT: 745 g/L FLUPROPANATE present as the sodium salt
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Mode of Action:	GROUP 0 HERBICIDE
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Statement of Claims:	A Component of Integrated Management of Serrated Tussock, Giant Parramatta Grass, Giant Rat's Tail Grass, Chilean Needle Grass, African Lovegrass and Certain Grasses as per the Directions for Use.
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Net Contents:	1 L - 20 L
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Restraints:	<p>RESTRAINTS DO NOT apply this product to steeply sloping sites when applying high rates recommended for perennial grass control. DO NOT allow spray drift onto susceptible crops and ornamentals. DO NOT spray near desirable trees.</p> <p>SPRAY DRIFT RESTRAINTS Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift DO NOT allow bystanders to come into contact with the spray cloud. DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination</p>
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of plant or livestock commodities, outside the application site from spray drift. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.
DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.
DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings 1 to 2 hours before sunset and persist until 1 to 2 hours after sunrise”.

Directions for Use:

Other Limitations:

Withholding periods:

WITHHOLDING PERIODS

There are two withholding periods (WHP's), which apply one after the other for this chemical, and both must be observed. The first, the grazing and cutting WHP, depends on the type of spraying used.

Stock which have been grazed in treated areas after the grazing and cutting WHP has passed must then be moved to untreated areas or fed on clean feed for at least 14 days before slaughter. The requirement for moving animals from treated to untreated areas, or feeding them with clean feed for at least 14 days before animals are sent to slaughter, applies permanently to treated areas, whether spot sprayed or sprayed in some other way. Spot Spraying: Spot spray treatment is the direct hand spraying of individual plants in an area with no spraying of any surrounding areas. Do NOT graze or cut for stock feed, areas which have received spot treatment, for at least 14 days after spraying: Do not graze stock in treated areas for at least 14 days prior to slaughter.

Blanket treatment (treatment other than spot-spraying): DO NOT graze treated areas or cut for stockfeed for 4 months after application. Do not graze stock in treated areas for at least 14 days prior to slaughter.

Lactating animals producing milk for human consumption MUST NOT be grazed in treated areas.

Trade Advice:

General Instructions:

GENERAL INSTRUCTIONS

IMPORTANT

This product is very slow-acting, and control of existing growth will take 3-12 months depending on weather conditions and senescence of plant foliage.

The actual length of satisfactory residual control will depend on soil type and rainfall until regeneration occurs from grass seed or surviving rhizomes.

Novaguard Flupropanate 745 Herbicide is liable to leaching and movement in the soil under heavy rainfall or irrigation, and dry conditions favour its persistence in the soil. In light sandy soils with little or no clay content leaching will be more pronounced.

Avoid use in channels and drains and where roots of desirable plants may extend; and in other situations where desirable plants grow close to the treated area.

Control of grasses growing in shaded conditions may be reduced.

Some desirable grasses, such as native species and perennial improved species, subterranean clover and other annual legumes may be damaged by this product if exposed to the spray or if they germinate before product residues have dissipated from the soil. DO NOT treat pastureland with this product more than once per year. Obtain advice from your district agricultural officer.

	<p>Mixing This product is highly soluble in water and the required amount can be added direct to the spray tank while stirring or with agitator running. Maintain good agitation during the spraying operation.</p> <p>Wetting Agent No wetting agent/surfactant needs to be added unless specifically stated in the direction for use table, as the predominant mode of action is via root absorption of the herbicide and not by contact with the leaf surface.</p> <p>Compatibility It is not recommended to mix this product with chemicals other than glyphosate. For more rapid knockdown glyphosate may be added in accordance with the direction for use table. Note a reduction in efficacy of 5-15% may occur in respect of kill and a reduction in the period of residual control may also occur when used with glyphosate.</p> <p>Application</p> <ul style="list-style-type: none"> • Boom spray equipment needs to be accurately calibrated to deliver the required spray volume and nozzles checked to ensure a uniform spray pattern. • Spot spray equipment should be calibrated. • For aerial application in more difficult country, for example where slopes and/or large trees are present, use higher water volumes, anti-drift additives and coarser droplets. <p>Paddock Preparation Graze desirable species prior to spraying to prevent them covering weeds.</p> <p>Re-seeding Desirable pasture species such as Phalaris, Cocksfoot, Ryegrass, Red and White Clovers, Subterranean Clovers and Lucerne may be sown after at least 100 mm of leaching rain has fallen.</p> <p>Clean Up Equipment should be cleaned after use.</p>
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Resistance Warning:	<p>RESISTANT WEEDS WARNING GROUP 0 HERBICIDE Novaguard Flupropanate 745 Herbicide is a member of the chlorocarbonic acids group of herbicides. The product has an unknown mode of action. For weed resistance management, the product is a Group 0 herbicide. Some naturally occurring weed biotypes resistant to the product and other Group 0 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 this product or other Group 0 herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Novaguard Pty Ltd accepts no liability for any losses that may result from the failure of this product to control resistant weeds.</p>
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Precautions:	
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Protections:	<p>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 susceptible plants/crops, cropping lands or pastures.</p> <p>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT DO NOT contaminate streams, rivers or watercourses with the chemicals or used containers.</p>
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Storage and Disposal:	<p>STORAGE AND DISPOSAL</p> <p>Store in the closed original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight.</p> <p>Triple-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 deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.</p>
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Safety Directions:	<p>SAFETY DIRECTIONS</p> <p>Avoid contact with eyes and skin. DO NOT inhale spray mist. When preparing the spray wear elbow-length chemical resistant gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. Always use in an open or well-ventilated area. After use and before eating, drinking or smoking, wash hands arms and face thoroughly with soap and water. After each day's use, wash gloves and face shield or goggles and contaminated clothing.</p>
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First Aid Instructions:	<p>FIRST AID INSTRUCTIONS</p> <p>If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If skin contact occurs, remove contaminated clothing and wash skin thoroughly.</p>
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First Aid Warnings:	
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DIRECTIONS FOR USE

Crop/Situation	Weeds Controlled	States	Rate			Critical Comments
			Ground per ha	Air per ha	Spot Spraying per 100 L	
Industrial use	Paspalum (<i>Paspalum dilatatum</i>), Kikuyu grass (<i>Pennisetum clandestinum</i>), Couch (<i>Cynodon dactylon</i>)	Tas, WA, SA and Vic only	9 L	-	500 mL	Apply to existing growth during November to February inclusive. Apply the recommended rate of 'Tussock Herbicide' in 800 – 2000 L of water per ha. Ensure that the spray completely wets all leaf surfaces. Spot spraying: spray thoroughly to ensure run-off.
	African Feathergrass (<i>Pennisetum macrourum</i>)	Tas, WA only			-	
Pastures and non-crop situations	Parramatta grass (<i>Sporobolus</i> spp.)	Qld, NSW, WA only	2 L	2 L	200 mL	Apply December to February inclusive Application Volumes: Pastures Aerial: 40 – 80 L water per ha Ground Boom Spray: 150 L water per ha Spot Spraying: NSW & Qld: 1000 L/ha or for a 15 L knapsack treat 150 m ²
	Sporobolus spp. such as: Giant Parramatta Grass (<i>S. fertilis</i>), Giant Rat's Tail Fescue (<i>S. pyramidalis</i>), and <i>S. natalensis</i>	NSW only	1.5 – 2 L	-	200 ml	In Northern NSW apply from July to December inclusive, during the drier time of year. Use the higher rate for heavy infestations. To obtain better herbicide selectivity and less damage to desirable pasture species, apply when the pasture is dormant, semi-dormant. For example in NSW, the optimum application time is late winter and early spring. DO NOT apply in severe droughts or to weeds retarded by burning.
	African Love Grass (<i>Eragrostis curvula</i>)	NSW, WA, Qld only	3 L	-	300 mL	Apply July to December
		Vic only				Apply July to December inclusive. All other Critical Comments as for Serrated Tussock (Vic).
Rat's Tail grasses	Qld, WA only	2 L	-	200 mL	Spray to run-off.	

Crop/Situation	Weeds Controlled	States	Rate			Critical Comments
			Ground per ha	Air per ha	Spot Spraying per 100 L	
Urban open space, woodlands, roadsides, nature reserves and pastures	Chilean needle grasses (<i>Nassella neesiana</i>)	NSW, ACT, Vic, Qld, SA, WA only	1.5 – 3 L	-	200 mL + 150 mL Glyphosate (360 g/L)	Apply tank mix to actively growing plants from Spring to autumn. Apply once per year.
					100 – 300 mL	Calibrate spray equipment to apply 1000 L water per hectare. Apply to actively growing and stress free plants. Control will take 3-12 months depending on weather conditions and senescence of plant foliage. High rates will kill native grasses. Apply once per year. Avoid use in channels or drains. DO NOT re-seed treated areas until at least 100 mm of leaching rain has fallen.
Perennial Pastures	Coolatai Grass (small patchy infestations) (<i>Hyparrhenia</i> spp)	NSW only	-	-	300 mL/100 L water	Apply in winter and spring between the months of July and October. Apply using high volume spot spray applicators. Apply herbicide solution to Coolatai grass to the point of run-off from leaf surfaces.

Crop/Situation	Weeds Controlled	State	Rate				Critical Comments	
			Ground per ha	Air	Wiper	Spot Spraying per 100 L		
Pastures and non-crop situations	Serrated Tussock (<i>Nassella trichotoma</i>)	Vic, Tas, WA only	2 L	2 L	-	200 mL	<p>Apply during November to February inclusive. Graze to reduce cover of desirable species before spraying.</p> <p>Re-seeding: Desirable pasture species such as phalaris, cocksfoot, ryegrass, red and white clovers, subterranean clovers and lucerne must not be sown until at least 100mm of leaching rain has fallen. If drought conditions prevail defer sowing until next season.</p> <p>Spot Spraying: Spray to run-off at any time from spring through to autumn but observe above precautions on re-seeding.</p>	<p>Application volumes: Pastures Aerial: 40 – 80 L water per ha Ground Boom Spray: 150 L water per ha Spot Spraying: NSW & Qld: 1000 L/ha or for a 15 L knapsack treat 150 m².</p>
		Qld only						

Crop/Situation	Weeds Controlled	State	Rate				Critical Comments
			Ground per ha	Air	Wiper	Spot Spraying per 100 L	
Pasture – broadacre treatment	Serrated Tussock (<i>Nassella trichotoma</i>)	NSW, ACT, Vic, WA only	1.5 – 2 L	1.5 – 2 L	1:20 via a rotating wiper		<p>Apply September to March and June to August inclusive. Novaguard Flupropanate 745 Herbicide will kill serrated tussock at any time of year, but application timing should take into regard other desirable pasture species such as clover/sub clovers. Use the higher rate on heavy basalt and alluvial soils. The lower rate can be used on lighter granite and shale derived soils.</p> <p>Aerial application: apply in a volume of 35 – 80 L of water. In more difficult country, use higher rates of water, anti-drift additives and larger droplets. Ground application: apply in a volume of 80 - 150 L. Use the lower rate on slate, shale and granite soils, use the higher rate on basalt soils. Rotating Wiper: graze heavily prior to treatment to ensure height differential between pasture and serrated tussock. In dense serrated tussock, stock may not graze heavily, and some pasture damage may result. Apply as single or double pass. Winter application: avoid application in very dry winters.</p>
Pasture – broadacre treatment -to remove seedlings from improved pasture			0.5 – 2 L	-	-		<p>Apply September to February inclusive.</p> <p>Seedlings of serrated tussock are susceptible to shading and low rates of flupropanate. In all situations, use conservative stocking rates and fertilise to maintain a vigorous pasture after spraying. Use the lower rate for slate and granite soils. Serrated Tussock plants must be less than 10cm high and have less than 80 leaves. Apply September to November before pastures 'bolt' in the spring flush, or December to February when improved species are dormant.</p>

Crop/Situation	Weeds Controlled	State	Rate				Critical Comments	
			Ground per ha	Air	Wiper	Spot Spraying per 100 L		
Pasture – broadacre treatment - spray topping	Serrated Tussock (<i>Nassella trichotoma</i>)	NSW, ACT, Vic, WA only	1.5 – 2 L + 0.6 – 1.25 L Novaguard Glyphosate 360 Herbicide + wetting agent	1.5 – 2 L + 0.6 – 1.25 L Novaguard Glyphosate 360 Herbicide + wetting agent	1:20 via a rotating wiper	-	Apply September to November inclusive.	Novaguard Flupropanate 745 Herbicide alone needs to be applied prior August in most years to stop serrated tussock setting seed. After August the mixture with glyphosate will prevent seeding if applied by November in most years. The added glyphosate will cause damage to other pasture species and will reduce the efficacy of Novaguard Flupropanate 745 Herbicide and may reduce the period of residual control. Rotating wiper – Apply as a double pass 2 to 8 weeks before seed heads begin to emerge. Add a wetting agent at the recommended label rates. Graze heavily prior to treatment to ensure height differential between pasture and serrated tussock. In dense serrated tussock, stock may not graze heavily, and some pasture damage will occur.
Pasture – spot treatment - to destroy serrated tussock			-	-	-	150 – 200 mL	Can be applied all year round.	Calibrate spray equipment to apply to 1000 L water per hectare. Lower rates may be used on slate and granite soils. Use a dye marker. Area may need re-treatment in subsequent years. Novaguard Flupropanate 745 Herbicide may take several months to affect plants. Seed set may be prevented by the addition of a knockdown herbicide, such as Glyphosate, at a rate of 400 mL per 100 L.
Pasture – spot treatment - to destroy serrated tussock and prevent seeding			-	-	-	150 - 200 mL + 120 mL Novaguard Glyphosate 360 g/L Herbicide	Apply September to November inclusive.	To prevent seed set, spray before stem elongation begins. See critical comments for Pasture, 'spot treatment to destroy serrated tussock' above.

Crop/Situation	Weeds Controlled	State	Rate			Critical Comments
			Per ha	Per 100 L	Knapsack (15 L)	
Non-crop situations	Paspalum	Qld, NSW, WA only	9 L	500 mL	75 mL	For optimum results apply during active growth, preferably from November to April. Apply in 800 – 2000 L water per ha. Spray must completely wet all surfaces. The addition of wetting agent is recommended. Johnson grass: Spray when actively growing and not less than 30 - 50 cm high. Use 12 L in winter rainfall areas when rainfall is below 80 cm per annum. Use 18 – 22 L in summer rainfall areas or where rainfall exceeds 80 cm per annum. Follow up spraying may be required in following season. Spot Spraying: Spray thoroughly to run-off with the recommended dilution rates.
	Couch					
	Johnson Grass		12 – 22 L	1 L	200 mL	
	Kikuyu Grass	Qld, WA only	9 L	500 mL	75 mL	
	Columbus Grass	NSW, WA only	12 – 22 L	1 L	200 mL	

Note: The optimum timing of Novaguard Flupropanate 745 Herbicide application to avoid damage to desirable pasture species and/or to allow Novaguard Flupropanate 745 Herbicide residues to be leached from the soil prior to autumn re-seeding is the period November to February inclusive.

Precautions on re-seeding and protection of pasture legumes must be observed.

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