Australian Pesticides & Veterinary Medicines Authority

Product Name: Titan Boonta Herbicide
APVMA Approval No: 94839/148836

Label Name:	Titan Boonta Herbicide

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

Constituent Statements:	Constituent Statements: 600 g/L GLYPHOSATE present as potassium and monomethylamine salts

Mode of Action:	GROUP 9 HERBICIDE

Statement of Claims:	A non-selective herbicide for the control of a range of annual and perennial weeds as indicated in the directions for use.

Net Contents:	1 L - 1000 L

Restraints:	RESTRAINTS: DO NOT disturb weeds by cultivation, sowing or grazing for six hours of daylight following treatment of annual weeds and seven days for perennial weeds to ensure herbicide absorption, unless specified otherwise in critical comments. SPRAY DRIFT RESTRAINTS Specific definitions for terms used in this section of the label can be found at www.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 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 one to two hours before sunset and persist until one to two hours after sunrise.

Directions for Use:	This section contains file attachment.

Other Limitations:	

Withholding Periods:	WITHHOLDING PERIODS GRAZING: WHEAT: DO NOT GRAZE OR CUT FOR STOCKFOOD FOR 5 DAYS AFTER APPLICATION FOR OTHER CROPS: NOT REQUIRED WHEN USED AS DIRECTED HARVEST: WHEAT: DO NOT HARVEST WITHIN 5 DAYS AFTER APPLICATION SORGHUM AND LEGUMES: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION ALL OTHER USES: NOT REQUIRED WHEN USED AS DIRECTED TANK MIXTURES: REFER TO TANK MIX PARTNER LABEL AND FOLLOW ACCORDINGLY

Trade Advice:	TRADE ADVICE Export of Treated Produce Growers should note that MRL's or import tolerances do not exist in all markets for produce treated with TITAN BOONTA HERBICIDE. If you are growing produce for export, please check with Titan Ag Pty Ltd for the latest information on MRL's and import tolerance before using TITAN BOONTA HERBICIDE.

General Instructions:	PRODUCT INFORMATION TITAN BOONTA HERBICIDE is a non-volatile, non-selective, water soluble liquid herbicide for the control of annual and perennial grasses and broadleaf weeds in a wide range of agricultural and non-agricultural use situations. TITAN BOONTA HERBICIDE may be used for weed control on agricultural land prior to planting any edible or non edible crop but not prior to transplanting tomatoes. When applying this product prior to transplanting crops into plastic mulch, care much be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 2cm of natural rainfall or by applying water via sprinkle irrigation system. TITAN BOONTA HERBICIDE is absorbed by plant foliage and green stems. It is inactivated on clay and organic matter in soil and does not provide residual weed control. TITAN BOONTA HERBICIDE moves throughout the plant from the point of contact to and into the root system. Initial visible effects on annual weeds take days but may not be noticeable for 2 to 3 weeds under cool cloudy conditions or on some perennial weeds. TITAN BOONTA HERBICIDE will not control roundup Ready® canola volunteers at any leaf stage. CROP ESTABLISHMENT TITAN BOONTA HERBICIDE is recommended for control of emerged weeds prior to crop establishment. Cultivation and/or planting operations which provide conditions suitable for crop emergence and establishment are required following herbicide application. Where heavy weed growth is present or soil conditions are unsuitable, planting should be delayed to allow for decay of weeds and/or development of more favourable soil conditions for the formation of a suitable seedbed. Incorporation of green or decaying vegetation may

retard crop emergence under cold, wet conditions. Vegetation may be reduced by grazing and weed decay may be assisted by cultivation to leave trash on the surface.

GRAZING
A grazing withholding period is required for wheat but for other crops a withholding period for grazing is not required. However, it is recommended that grazing of treated plants be delayed to ensure herbicide uptake. Certain plants such as Soursob, Variegated thistle, Sorghum and Johnson grass may be naturally toxic to stock when eaten in large quantities under certain conditions. Where plants are known to be toxic, grazing should be delayed until complete desiccation of treated plants has occurred.

MIXING
TITAN BOONTA HERBICIDE mixes readily with water. Reduced results may occur if water is used containing; suspended clay or organic matter e.g. from dams, streams and irrigation channels, or high levels of calcium, magnesium or bicarbonate ions. Do not mix, store or apply this product in galvanised steel or unlined steel containers or spray tanks, since a highly flammable gas mixture may be formed. Use stainless steel, aluminium, brass, copper, fibreglass, plastic or plastic lined containers or spray tanks. Spray tanks, pumps, lines and nozzles should be thoroughly cleaned with clean water following application. Ensure that the spray tank is free of any residues of other spray solutions prior to mixing. Use spray solutions promptly as a gradual loss of activity may occur over a period of days following spray preparation.

Mixing Instructions:
1. Fill the spray tank 1/3 to 1/2 full with clean water and start agitation.
2. If adding ammonium sulphate, use a 2% v/v and mix thoroughly.
3. If tank-mixing, add recommended herbicide/insecticide/additive to the spray tank and mix thoroughly.
4. Add TITAN BOONTA HERBICIDE and the remaining water. Mix thoroughly.
5. Add TITAN Organosilicone Surfactant, if required, near the end of the filling process.
6. Always maintain adequate agitation during application and use the tank mix promptly.
Clean all equipment after use by washing thoroughly with water.

TANK MIXTURES
TITAN BOONTA HERBICIDE may be tank-mixed with the following herbicides, insecticides and adjuvants. Read and follow all label directions, restrains, plantback and withholding periods, and safety directions for the tank-mix products. In multiple product tank mixes a minimum water volume of 50L/ha is recommended and local advice should be sought. Correct mixing order is important as is good in-tank agitation when application/spraying is occurring.

Tank Mixtures – Herbicides
TITAN LV ESTER 680 HERBICIDE, Titan Amine 450 Herbicide, Titan Metsulfuron 600 Wg Herbicide, TITAN CARFENTRAZONE 400EC HERBICIDE, Titan Atrazine 500 Flowable Herbicide, Titan Atrazine 900 WG Herbicide, TITAN TRI-ALLATE 500 EC HERBICIDE, TITAN SIMAZINE 500 Flowable Herbicide, Titan Simazine 900 WG Herbicide, Titan Dicamba 500 Herbicide, Titan Tribenuron 750 WG Herbicide, TITAN IMAZAPIC 240 HERBICIDE, TitanTriclopyr 600, TITAN CHLORSULFURON 750 WG HERBICIDE TITAN OXYFLUORFEN 240 EC HERBICIDE, TITAN TRIASULFURON 750 WG HERBICIDE, Titan TRIASULFURON 520 + BUTAFENACIL 200 WG HERBICIDE (ensure fully dispersed prior to addition of Titan Boonta Herbicide), Titan Clopyralid products, TITAN SULFOSULFURON 750 WG HERBICIDE, TITAN SULFOMETURON 750 WG HERBICIDE, Titan Pendimethalin 440 EC Herbicide, Titan Fluroxypyr 333 EC Herbicide, Oryzalin, TITAN TRIFLURALIN 480 SELECTIVE HERBICIDE.
The addition of TITAN OXYFLUORFEN 240 EC HERBICIDE at 75 mL/ha to recommended rates of TITAN BOONTA HERBICIDE prior to planting Winter cereals will improve knockdown of certain weeds.

Tank Mixtures – Insecticides
This product is compatible with the following insecticides. TITAN DIMETHOATE 400 SYSTEMIC INSECTICIDE, Titan Lambda Cyhalothrin 250 CS, TITAN BIFENTHRIN 100

INSECTICIDE/ MITICIDE and emulsifiable concentrates of dimethoate and fenitrothion. Other insecticides have not been tested.

TANK MIXTURES – ADJUVANTS
TITAN 700 Surfactant at rates of 300mL-500mL per 100L, TITAN 700 Surfactant may modify the droplet spectrum produced by CP and flat fan nozzles. This may reduce the proportion of FINE droplets produced by these nozzles. TITAN 700 Surfactant can be used to reduce pH in hard water situations, assisting uptake.
TITAN Organosilicone Surfactant
TITAN Organosilicone Surfactant is recommended for the control of Silvergrass and Annual Ryegrass in late winter and spring. TITAN Organosilicone Surfactant is not a general purpose surfactant and should only be used where recommended.
Rate: 200mL/100L spray solution.
TITAN 700 Surfactant
TITAN 700 Surfactant is recommended for the control of Bracken and many woody weeds.
Rate: 200-500mL/100L spray solution.
TITAN AMS Spray Grade Herbicide Adjuvant may be used as an adjuvant to alleviate the adverse effects of high levels of calcium, magnesium and bicarbonate ions in water.
Rate: 2L/100L spray solution.
DO NOT use adjuvants, surfactants or other pesticides other than those recommended on this label. DO NOT use crop oil except when tank mixing with a herbicide for which an oil adjuvant is recommended to be used. The addition of a crop oil can reduce control of some grass weeds, particularly in summer.

APPLICATION

Boom Equipment
For Broadacre boom application, a spray volume of 80L/ha or less is recommended for broadacre uses and 200L/ha or less for treeline and vineline spraying in orchards and vineyards. Glyphosate works better when it is present at a higher concentration in the spray solution provided sufficient coverage of the target is achieved. Nozzles and pressure settings should be selected to deliver a COARSE to VERY COARSE droplet size category at the target. The use of nozzles and/or pressure settings that produce VERY FINE or FINE droplet size category should be avoided as these are prone to loss or drift. In multiple product tank mixes a minimum water volume of 5OL/ha is recommended and local advice should be sought. Correct mixing order is important as is good in-tank agitation when application is occurring. For shielded applications a spray volume of 80L/sprayed ha is recommended using nozzle types and pressure settings to deliver a COARSE droplet size category at the target. Crop damage may result if spray drift occurs through incorrect nozzle and/or pressure selection, inadequate shielding and/or wind strength, high evaporation rates or excessive ground speed.

High Volume Application (e.g. Knapsack, Handgun Equipment)
The dilution rate varies depending on the use situation and weeds controlled – see Weeds Controlled tables for specific rates and use recommendation. Adjust equipment to achieve an even spray pattern with a COARSE droplet size category at the target. Apply to ensure complete and uniform wetting of all foliage.

Wiper Equipment
Wiper equipment (e.g. Ropewick, canvas, felt or carpet applicators) may be used to apply TITAN BOONTA HERBICIDE. Avoid contact with desirable vegetation. Operate wiper equipment a minimum of 10cm above the crop or pasture. Weeds should be at least 15cm above the crop or pasture at time of application. Speed of travel should be no greater than 8km/ha. Best results are achieved at lower speeds and where two applications are made in opposite directions (double pass). Where weeds are of variable height, or occur in dense infestations or clumps, some plants may not be contacted by the herbicide solution. In these cases repeat treatment may be necessary.
RATE: Mix 632 mL TITAN BOONTA HERBICIDE with 2.3 L clean water. Adjust flow rate to suit equipment.

Controlled Droplet Application Equipment (CDA)

	TITAN BOONTA HERBICIDE can be applied through hand held and machine mounted CDA sprayers. See Weeds Controlled tables for specific rates and use recommendations. Due to the range of CDA equipment available, dilution rates, flow rates and travel speeds will need to be determined for individual sprayers to ensure labelled rates are applied. Use of TITAN BOONTA HERBICIDE at concentrations recommended for TITAN BOONTA HERBICIDE can result in uneven droplet distribution. Spray units need to be cleaned thoroughly preferably after each application to ensure optimum performance. DO NOT add oils to TITAN BOONTA HERBICIDE/water mixture, otherwise difficulty in application and reduced weed control may occur. Because CDA units may deliver relatively low spray volumes per hectare, use on large weeds may result in insufficient coverage resulting in inadequate weed control. CAUTION: CDA equipment produces a fine spray pattern which is not easily visible. Ensure spray pattern or drift does not contact foliage or any other green tissue of desirable plants, since severe injury or destruction may result. Aerial Equipment TITAN BOONTA HERBICIDE may be applied by aircraft for control of weeds in forests, cropland or pasture prior to establishment of crops, new pastures or new forest plantings and for pre-harvest applications, up to maximum rate of 2.47 L/ha where specified by this label. DO NOT apply treatments by aircraft in situations where drift onto sensitive crops and pastures is likely to occur. Apply treatments using boom or Micronair equipment using a spray volume not less than 20L/ha using settings to produce a COARSE to VERY COARSE droplet size category. In multiple product tank mixes a minimum water volume of 50L/ha is recommended and local advice should be sought. Correct mixing order is important. Swath width should be set to take into account aircraft type, wind conditions and target height. Swath width will need to be reduced to avoid striping under light wind conditions and/or application to tall, dense targets e.g. pre-harvest application, treatments in heavy crop stubble. Thoroughly wash aircraft after each day of spraying to remove herbicide residues. When applying this product by helicopter in combination with Titan Metsulfuron 600WG for the control of Blackberry and Pine wildling suppression in forestry and other specific situations, the higher rate of TITAN BOONTA HERBICIDE may be applied. Refer to the Titan Metsulfuron 600WG label for specific recommendations and application recommendations. Application on hilly terrain Increase water volume to 30-80L/ha and use a COARSE droplet size category to optimise spray coverage. Air temperature and relative humidity DO NOT apply TITAN BOONTA HERBICIDE by aircraft at temperatures above 30°C. Increase spray output to at least 30L/ha when temperatures rise above 25°C. Avoid application when relative humidity falls below 35%. Application Checklist • DO NOT treat weeds under poor growing conditions due to moisture stress, waterlogging, severe frosting, insect damage etc. Reduced performance may also occur where weeds are covered with dust or silt. • Rain within 1 hour of application which causes runoff may require re-treatment. Rainfastness is reduced if weeds are not actively growing, under stress or conditions of low light intensity/darkness. The addition of TITAN Organosilicone Surfactant may improve rainfastness on Winter annual weeds. • Apply treatments to weeds which have at least one true leaf (broadleaf weeds) or two leaves (grasses) to provide an adequate surface area for herbicide uptake. • If heavy grazing has occurred, allow regrowth to 6-8cm before spraying and use the higher rates recommended.

Resistance Warning:	RESISTANT WEEDS WARNING GROUP 9 HERBICIDE

	TITAN BOONTA HERBICIDE is a member of the Glycines group of herbicides. TITAN BOONTA HERBICIDE has the inhibition of EPSP synthase mode of action. For weed resistance management TITAN BOONTA HERBICIDE is a Group 9 herbicide. Some naturally occurring weed biotypes resistant to TITAN BOONTA HERBICIDE and other Group 9 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 TITAN BOONTA HERBICIDE or other Group 9 herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, TITAN AG Pty Ltd accept no liability for any losses that may result from the failure of TITAN BOONTA HERBICIDE to control resistant weeds.

Precautions:	RE-ENTRY DO NOT enter treated areas until the spray has dried or unless wearing cotton overalls and chemical resistant gloves. Clothing must be laundered after each day's use.

Protections:	PROTECTION OF CROP, NATIVE AND OTHER NON-TARGET PLANTS Avoid contact with foliage, green bark or stems, canes, laterals, suckers, fresh wounds, exposed non-woody roots, flowers or fruit of crops, desirable plants and trees, since severe injury or destruction may result. 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. PROTECTION OF WILDLIFE, FISH CRUSTACEANS AND ENVIRONMENT DO NOT contaminate dams, rivers or streams with the product or used container. DO NOT apply to weeds growing in or over water. DO NOT spray across open bodies of water.

Storage and Disposal:	STORAGE and DISPOSAL Store in the closed original container in a well ventilated area as cool as possible. Do not store for prolonged periods in direct sunlight. 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 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.

Safety Directions:	SAFETY DIRECTIONS When using together with other products consult their label safety directions. Will irritate the eyes and skin. Avoid contact with eyes and skin. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, elbow length chemical resistant gloves and face shield or goggles. If product in eyes, wash it out immediately with water. If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day’s use, wash contaminated clothing, gloves and face shield or goggles.

First Aid Instructions:	FIRST AID If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131126), New Zealand 0800 764 766.

First Aid Warnings:	

DIRECTIONS FOR USE

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
SOUTHERN AUSTRALIA FULL SOIL DISTURBANCE Prior to sowing a crop or pasture with full soil disturbance by cultivation or sowing with a tyned implement	Barley grass, Brome grass, Volunteer cereals, Wild oats	305 – 595 mL/ha pre-tillering 595 – 755 mL/ha post-tillering	Rate Selection: Use higher rates for advanced weed growth or when treating under overcast conditions. Cultivation or planting may proceed from 1 hour of daylight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment. Bentgrass: Use a rate of 1.53 L/ha. Apply in late Spring following initiation of seed-head emergence. Follow up with full disturbance with a tyned implement 10-21 days after spraying. Silvergrass: When treating dense infestations of Silvergrass, use higher rate, add TITAN Organosilicone Surfactant and use water volumes of 70 L/ha or more to improve coverage. Perennial Weeds: Titan Boonta Herbicide will provide seasonal control and reduction in plant numbers. Control of Skeleton weed requires addition of full soil disturbance at planting.
	Annual Phalaris, Annual Ryegrass, Silvergrass, Winter Grass	595 – 755 mL/ha pre-tillering 755 – 900 mL/ha post-tillering	
	Calomba Daisy, Capeweed, Doublegee/Spiny Emex, Fumitory, Volunteer Lupins, Volunteer Peas	305 – 595 mL/ha less than 8 cm dia/height 595 – 900 mL/ha greater than 8 cm dia/height	
	Amsinckia, Dock (seedling), Paterson's Curse, Saffron Thistle, Scotch Thistle, Spear Thistle, Variegated Thistle, Wild Turnip	595 – 755 mL/ha less than 12 cm dia/height 755 – 900 mL/ha greater than 12 cm dia/height	In Tasmania, for perennial weeds use 900 mL – 1.81 L/ha.
	Bentgrass, Perennial Phalaris, Skeleton Weed, Sorrel, Sub-clover	900mL – 1.81 L/ha	
SOUTHERN AUSTRALIA MINIMAL SOIL DISTURBANCE To commence a fallow OR	Barley Grass, Canary Grass, Wild Oats, Volunteer Cereals	595 – 900 mL/ha	Rate Selection: Use the lower rate on young weeds; increase to the higher rate where grasses reach full tillering or where broadleaf weeds commence stem elongation or budding. Use higher rates in Spring and under cold conditions. In Tasmania use 900 mL – 1.81 L/ha with the higher rate for control of perennial weeds.
	Annual ryegrass, Brome grass, Capeweed, Hoary Cress, Paterson's curse, Saffron thistle, Scotch	900 mL – 1.15 L	

Prior to planting a crop or pasture with an implement that gives minimal oil disturbance or prior to surface seeding of pastures	thistle, Silvergrass, Soursob, Spear thistle Variegated thistle Wild mustard, Wild radish, Wild turnip, Winter grass		Pasture or Crop Establishment: DO NOT sow into excessive trash. Excessive plant residues may be removed by grazing after treatment. Planting may proceed from 1 hour of daylight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment. Aerial (or Surface) Seeding: Delay seeding until trash level is reduced to allow for satisfactory placement of broadcast seed on the soil surface. Bathurst Burr: For mature weeds use the higher rate. Bentgrass: Use a rate of 1.53 L/ha. Apply in late Spring following initiation of seed-head emergence. Follow up with full disturbance with a tyned implement 10-21 days after spraying. Couch, Kikuyu, Paspalum: Use the higher rate on dense infestations. Apply sequential treatments during Summer and Autumn. Repeat applications will be required for full control. For improved control, use in conjunction with cultivation. Kikuyu, Paspalum: Use the low rate for suppression, the high rate for control. Dock, Flatweed: Use the maximum rate for full control. Hoary Cress: Treat from late rosette to early flowering. Silvergrass: When treating dense infestations of Silvergrass, use higher rate, add TITAN Organosilicone Surfactant and use water volumes of 70 L/ha or more to improve coverage. Soursob: Use at a rate of 900 mL/ha. Treat at tuber exhaustion
	Bentgrass, Bathurst Burr, Couch, Dock, Erodium, Flatweed, Hoary Cress, Kikuyu, Plantain, Paspalum, Perennial Phalaris, Sorrel, Sub. Clover, Yorkshire Fog	1.14 – 1.8 L/ha	
	Poa Tussock	1.8 – 2.38 L/ha	Timing: Treat fresh regrowth (at least 14 days after heavy grazing) after Autumn break and before onset of heavy frosts. Sowing may start from 14 days after spraying.
Pasture Topping	Annual Ryegrass	270 – 610 mL/ha	Remove livestock prior to application to allow even regrowth. Use lower rate if grasses are flowering and higher rate if at the milky dough stage. Apply to Capeweed and Calomba Daisy at flowering. DO NOT add TITAN Organosilicone Surfactant. DO NOT apply to clover or medic crops intended for seed production.
	Barley Grass, Brome Grass, Capeweed, Silvergrass	180 – 270 mL/ha	
	Calomba Daisy	270 mL/ha	
Seed-head Suppression	Bentgrass	215 – 420 mL/ha	Apply treatments late October to late November, before seedheads have emerged. Add TITAN Organosilicone Surfactant. Use the higher rate where growth is excessive. Graze hard after spraying

SOUTHERN AUSTRALIA NSW, ACT, Vic, Tas only For control/suppression prior to establishing crops or improved pasture species	Serrated Tussock	2.38 – 3.6 L/ha	Apply to actively growing and stress free plants. Best results May to October. Application: Boom spray volume of 70 L/ha or more is recommended to improve plant coverage. Also see Aerial Equipment. Surfactants: Addition of 200 mL of TITAN Organosilicone Surfactant to 100 L of spraying solution may improve control of Serrated tussock. Site Preparation: Burning of Serrated Tussock 10-12 months before spraying or slashing/heavy grazing (cell grazing) 2 weeks before spraying is essential for good results (Note: Serrated Tussock is almost indigestible and prolonged exposure can lead to starvation and death of stock). Rates: Use lower rate on Serrated Tussock regrowth after burning (no residual dead foliage). Use higher rate on Serrated Tussock that has been slashed or grazed (may contain some residual dead foliage).
For prevention of seed head emergence and seed formation	Serrated Tussock	450 – 755 mL/ha	Apply to actively growing and stress free plants. Best results obtained during mid September-mid October. Apply prior to any seed head emergence. Also see Aerial Equipment. Surfactants: Addition of 200 mL of TITAN Organosilicone Surfactant to 100 L of spraying solution may improve results. Rates: The lower rates will be less damaging to desirable pasture species. If seed head emergence is imminent then higher rates will give better results.
NORTHERN AUSTRALIA In fallows or prior to planting a crop Cotton: Shielded Sprayers	Paradoxa Grass, Volunteer Cereals, Wild Oats	305 – 595 mL/ha	Rate Selection: Use the lower rates on young weeds and increase to the higher rate where weeds are dense or well developed. Dense infestations of some weeds e.g. Barnyard Grass, Liverseed (Urochloa) grass may need follow up treatments for complete control. Tank Mixtures: Read and follow all label directions, restraints, plant-back and withholding periods, regional use restrictions and safety directions for the tank-mix products. Tank mixes with atrazine may give unacceptable knockdown control of certain weeds. DO NOT apply the tank-mix for control of Barnyard Grass, Liverseed Grass or Milk Thistle. Ammonium Sulfate may enhance knockdown weed control where tank mixtures of atrazine are used Shielded Sprayers: Apply Titan Boonta Herbicide to weeds growing between Crop rows using a shielded sprayer. DO NOT apply in cotton less than
	African Turnip Weed, Black Pigweed, Boggabri Weed, Caltrop (Yellow vine), Deadnettle, Mintweed, Milk (sow) Thistle, Stinkgrass (Lovegrass), Sweet Summer Grass, Variegated Thistle, Volunteer Sorghum	405 – 595 mL/ha up to 5 true leaves or 3 cm in dia/height 595 mL – 1.22 L/ha greater than 5 true leaves or 3 cm in dia/height	

	Annual Ground Cherry, Barnyard Grass, Bathurst Burr, Bladder Ketmia, Button Grass, Camel (Afgan) Melon, Caustic Weed, Columbus Grass, Liverseed Grass, Mexican Poppy, Native Millet, New Zealand Spinach, Noogoora Burr, Pigweed (up to 25cm dia.), Spear Thistle, Stinking Goosefoot, Thornapple (Datura), Turnip Weed, Wild/Prickly Lettuce, Wireweed	595 mL – 1.22 L/ha	20 cm high. DO NOT allow spray or spray drift to contact any part of the Cotton plant as severe injury may result. Pasture or crop establishment DO NOT sow into excessive trash. Excessive plant residues may be removed by grazing after treatment. Cultivation or planting may proceed from 1 hour of sunlight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment.
	Prickly Paddy Melon	575 mL – 1.19 L/ha plus 80 mL Titan Triclopyr 600 DO NOT add crop oil.	DO NOT add crop oil.
	Climbing Buckwheat (less than 12 leaves), Couch, Johnson Grass	1.14 – 1.8 L/ha	Use the higher rate on plants at the flowering/seedhead stage. For Johnson Grass apply to plants with a minimum of 30 cm new growth. For long term control of Couch and Johnson Grass, repeat applications will be required.
	Nutgrass (Cyperus rotundus	1.8 L/ha followed by 1.8 L/ha	Make first application to actively growing plants when the majority of plants have reach at least the 6-8 leaf stage but preferably later. Allow for maximum re-emergence before retreating
Sugar cane: Inter-row Spraying	Annual and Perennial Grasses and Broadleaf Weeds	1.05 – 4.47 L/ha	Apply to weeds growing between crop rows using a ground based hooded and shielded sprayer. Apply at early growth stage of crop, before formation of the cane. Apply no more than 3 applications, to a maximum of 10.83 L/ha per crop. DO NOT allow spray or spray drift to contact any part of the crop as severe injury may result.

SUGAR CANE Ratoon spray out Qld, NSW only	Sugar Cane ratoon regrowth	3.6 – 5.4 L/ha	Apply under good growing conditions only to actively growing ratoons 60-120 cm tall. DO NOT apply if plants are under stress from low moisture or water logging. Use the lower rate for suppression or where cultivation is to follow. Use higher rate for control.
Sorghum Control	Grain-sorghum (pre-harvest)	900 mL – 1.81 L/ha	DO NOT apply if crop is under stress from low moisture, frost, cold or waterlogging. Apply when grain moisture is less than 25%. Use the higher rate where the crop has produce significant number of late tillers or where following crops will be established without further treatment. DO NOT apply to crops intended for seed production. Treatment may increase potential for crop lodging. Under any set of environmental conditions, individual varieties can vary in response to preharvest treatments. In general, varieties with a more "determinant" growth habit are more susceptible than "indeterminant" varieties.
	Grain-sorghum (postharvest)	595 mL – 1.22 L/ha	Slashed/grazed stubble: Apply when fresh regrowth is at least 20 cm high. Use the High rate on standing stubble or where re-growth from slashed sorghum has advanced beyond 50 cm in height.
Cotton pre-harvest	Bathurst Burr, Noogoora Burr, Winter Annual Weeds	755 mL – 1.53 L/ha	Treatments may be applied alone or in a tank mix with TITAN THIDIAZURON + DIURON COTTON DEFOLIANT. Apply when 60% of bolls are open. When tank mixed with conditioner/defoliant treatments, a slightly higher proportion of cotton leaf may be retained particularly where higher rates are use and conditions are unfavourable for defoliation.
PRE-HARVEST APPLICATION as harvest aid and weed control: Wheat (Triticum aestivum)	Annual Weeds	810 mL – 3.23 L/ha	Apply to mature crop from late dough stage (28% moisture) onwards. The higher rate will be required when crops are heavy and leaf shading effects may occur. DO NOT harvest within 5 days after application. DO NOT use on crops intended for seed or sprouting. Where Wheat is grown in rotation with any herbicide tolerant crop, management should be consistent with implementation of any management plan for herbicide tolerant crops
PRE-HARVEST APPLICATION to desiccate a crop as a harvest aid and weed control	Annual Weeds	610 mL – 1.62 L/ha	Apply with boom or by air. Use higher rates where crops or weeds are dense and where faster desiccation is required. Application should be made at or after crop maturity: Chickpeas and Lentils: apply when physiologically mature and less than 15% green pods.

Adzuki beans, Chickpeas, Cowpea, Faba beans, Field peas, Lentils, Mungbeans, Soybean (Application to crops intended for seed production or for sprouting may reduce germination percentage to commercially unacceptable levels.)			Faba Beans: apply when pods turn black and average seed moisture content is below 30%. Field Peas: apply when seeds tum yellow and average seed moisture content is below 30%. Mungbeans/Adzuki and Cowpea: apply to mature crops when pods are brown/black. Soybean: apply only after seed pods have lost all green colour and 80-90% of leaves have dropped. DO NOT harvest within 7 days of application. Speed of crop desiccation is dependent on crop stage, growing conditions and weather conditions during and after application.
Pastures, Forests Commercial and Industrial areas Rights-of-way Domestic and Public	Blackberry (Rubus spp.), Volunteer Pine wildlings (suppression only)	Service areas Handgun or Knapsack: 250 mL Titan Boonta plus 3 g Titan Metsulfuron 600 per 100 L of water Aerial or Boom: For Blackberry and Volunteer Pine wildlings: 4.75 L plus 60 g Titan Metsulfuron 600 WG Herbicide per ha For Bracken: 2.38 L plus 30 g TITAN METSULFURON	For Blackberries, apply from flowering until prior to leaf yellowing. Due to widespread picking of Blackberries by the public, it is not recommended that the product be applied to bushes bearing mature fruit. Application to Pine wildlings less than 50 cm in height should be controlled when actively growing. Use TITAN Organosilicone Surfactant at the rate of 200 – 500 mL per 100 L water.
	Bracken (Pteridium esculentum)		For Bracken, apply when fronds are fully unfurled but prior to first frosts. For boom application, refer to Boom application section. Use TITAN Organosilicone Surfactant at the rate of 200 – 500 mL per 100 L of water.
	Gorse (Ulex europaeus)		For Gorse, apply when actively growing at any time of year, except Spring. Use TITAN Organosilicone Surfactant at the rate of 200 – 500 mL per 100 L of water.
	Lantana (Lantana camara)		For Lantana, apply when actively growing. DO NOT apply during periods of Summer drought stress. Use TITAN Organosilicone Surfactant at the rate of 200 – 500 mL per 100 L of water
	St John's Wort (Hypericum perforarum)		For St John's Wort, apply when actively growing from Spring to Summer. Use TITAN Organosilicone Surfactant at the rate of 200 – 500 mL per 100 L of water.
	Sweet Briar (Rosa rubiginosa)		For Sweet Briar, apply when in full leaf, prior to leaf fall. Use TITAN Organosilicone Surfactant at the rate of 200 – 500 mL per 100 L of water

		600 WG HERBICIDE per ha	

SITUATION	CRITICAL COMMENTS READ APPLICATION CHECKLIST BEFORE USING. See Annual, Perennial and Woody weeds sections below for most appropriate rate.
GENERAL WEED CONTROL For General Weed Control in Domestic Areas (Home Gardens), Commercial, Industrial and Public Service Areas, Agricultural Buildings and other Farm Situations. For Specific Weeds Refer to the appropriate Weeds Controlled Table	For the control of many grasses and broadleaf weeds. RATE: 6.3 mL per litre of water Apply when weeds are actively growing. Apply to ensure complete and uniform wetting of foliage. Visible symptoms may take from 3 to 7 days to develop.
Agricultural Areas	Titan Boonta Herbicide may be used for control of annual, perennial and woody weeds as directed, in agricultural land prior to sowing of any edible or non-edible crop, but not prior to transplanting tomato seedlings.
Dry Drains and Channels only	DO NOT apply to weeds growing in or over water. DO NOT spray across open bodies of water, and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels and drains within 4 days of application.
Forests	Titan Boonta Herbicide may be used prior to establishment of nurseries, for site preparation prior to planting and amongst established trees using a directed or shielded spray, or using selective wiper equipment. DO NOT allow wiper surface to contact any part of the tree. DO NOT allow spray or spray drift to contact foliage
Non- Agricultural Areas Around Buildings, Commercial and Industrial Areas, Domestic and Public Service Areas, Right-Of Ways.	Titan Boonta Herbicide does not provide residual weed control. For residual control of annual weeds, Titan Boonta Herbicide may be tank mixed with certain residual herbicides. See Tank Mixtures/Compatibility.
Tree and Vine Crops Vineyards, Berries and other Small fruits (excluding Strawberry), Citrus fruits, Tropical and Sub Tropical fruits, Pome fruits, Stone fruits, Tree nuts, Duboisia, Hops, Tea	Apply as a directed or shielded spray or using wiper equipment. DO NOT apply as spray near trees or vine less than 3 years old unless they are effectively shielded from spray and spray drift. DO NOT allow wiper surface to contact any part of the tree, vine or plant. Citrus Fruit, Nuts, Olives, Pome Fruit & Vineyards: DO NOT allow spray or spray drift to contact green bark or stems, canes, laterals, suckers, fresh wounds, foliage or fruit. Hops: Apply in Winter, prior to crop emerging from dormancy. Tea: Apply a maximum of 2.47 L/ha by shielded boom or directed off-centre nozzle or 305 mL/100 L by direct hand-gun or knapsack to avoid application to the crop.

	All other crops: DO NOT allow spray or spray drift to contact any part of the plant including the trunk. CAUTION: Where split bark on Kiwifruit and green stems on Pawpaw occur, extreme care is required.
Pasture	DIRECTED (SPOT) APPLICATION: Titan Boonta Herbicide is non-selective and may damage or kill any plant in the sprayed area. Re-treatment and/or pasture improvement may be necessary to restrict seedling re- establishment. SELECTIVE APPLICATION: See Wiper Equipment. BOOM APPLICATION: Titan Boonta Herbicide may be used to suppress or kill existing pasture species prior to re-seeding or establishment of other crops. When spot application (spray or wiper) is undertaken, grazing stock need not be removed. CAUTION: Certain plants may be naturally toxic to stock. Where known toxic plants are present do not allow stock to graze until complete browning of treated plants has occurred.

WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
ANNUAL WEEDS Amaranth, Bathurst Burr, Barley Grass, Brome Grass, Barnyard Grass, Caltrop, Canary Grass, Capeweed, Chickweed, Cobbler's Peg, Deadnettle, Doublegee, Fumitory, Ground Cherry, Hedge Mustard, Lesser Swinecress, Liverseed Grass, Mintweed, Noogoora Burr, Paradoxa Grass, Paterson's Curse, Pigweed, Potato Weed, Ryegrass, Saffron Thistle, Silvergrass, Sow Thistle, Spear Thistle, Spiny Burrgrass, Spurge, Sub clover, Thornapple, Wild Mustard, Wild Oats, Wild Turnip, Winter Grass, Variegated Thistle, Volunteer Cereal	Boom: 1.22 – 1.8 L/ha Handgun: 295 – 430 mL per 100 L Knapsack: 45 – 65 mL per 15 L	Apply to weeds whenever they are not subject to stress due to drought or frost. Use higher rate on weeds over 15 cm in height or diameter or where dense weed cover limits spray coverage. Use higher spot spraying rate when applying less than 4.5 L spray per 100 sqm. Titan Boonta Herbicide does not provide residual weed control. Repeat treatments may be necessary to control later germinating weeds. For residual control of annual weeds Titan Boonta Herbicide may be tank mixed with certain residual herbicides. See Tank Mixtures in the General Instructions for direction DO NOT use an atrazine tank-mix for control of barnyard grass or liverseed grass.
PERENNIAL WEEDS Artichoke Thistle, African Lovegrass, Bentgrass, Carpet Grass, Cocksfoot, Flatweed, Johnson Grass, Kangaroo Grass,	Boom: 1.71 – 3.52 L/ha Handgun:	Control of established perennials is best obtained when plants are at the seedhead stage. In general, best control of Winter growing perennials is obtained with application during Winter-Spring. Best control of Summer growing perennials is obtained with application late Summer and Autumn. For Nutgrass in cultivated situations apply sequential low rate

Kikuyu, Nutgrass (Cyperus rotundus), Paspalum, Phalaris, Plantains, Poa Tussock, Prairie Grass, Qld Blue Grass, Red-leg Grass, Rhodes Grass, Rope Twitch, Sorrel, Soursob, Yorkshire Fog	425 – 595 mL per 100 L Knapsack: 62 – 91 mL per 15 L	treatments when Nutgrass has a minimum of 6-8 leaves. Use the higher rate in uncultivated situations. For Rhodes Grass, Rope Twitch, Prairie Grass, Qld Blue Grass, Johnson Grass, Kangaroo Grass, Kikuyu, Redleg Grass, Paspalum and Sorrel, use the higher rates only.
Blady Grass, Bracken, Couch, Guinea Grass, "Paragrass, Silverleaf Nightshade, Water Couch Use on Dry Drains and Channels ONLY (see Use Situations Critical Comments above)	Boom: 5.32 L/ha Handgun: 785 mL or 1.22 L per 100 L Knapsack: 45 – 90 mL per 15 L	For Bracken add TITAN Organosilicone Surfactant at 200 – 500 mL/100 L spray mix. Best control of Couch in WA and SA is obtained with Spring treatment. Most effective control of Couch in eastern states is obtained with Summer and Autumn treatments. In cultivated situations use sequential treatments of 1.71 – 3.8 L/ha for control. Only use higher rate for handgun and knapsack for Silverleaf Nightshade.
WOODY WEEDS Bamboo, Bitou Bush, Boneseed, Boxthorn, Crofton Weed, Gorse, Groundsel Bush, Lantana, Mistflower	Handgun: 295 – 595 mL per 100 L Knapsack: 45 – 90 mL per 15 L	Apply to actively growing plants. DO NOT apply to drought stressed plants. Further treatment may be necessary to restrict seedling re-establishment. Bamboo: apply when foliage/regrowth is 1-2 m tall, use higher rate only Bitou Bush/Boneseed: apply higher rate on bushes greater than 1.5 m. Best results are achieved when treated at peak flower during Winter. Boxthorn: minimum rate is 425 mL for handgun and 65 mL for knapsack. Groundsel Bush: apply higher rate on bushes greater than 2 m. DO NOT apply in Winter. Minimum rate is 425 mL for handgun and 65 mL for knapsack. Gorse, always add Pulse at 200 – 500 mL/100 L of spray mix, use higher rate only. Lantana: use higher rate only. Addition of TITAN Organosilicone Surfactant (200-500 mL/100 L) may improve control. Boxthorn, Gorse, Lantana: Removal of bushes (after complete brownout), pasture improvement or further treatment are recommended to control seedlings and/or regrowth
Blackberry, Chinese Scrub, Eucalyptus spp. (seedlings less than 2m), Hawthorn, Pampas Grass, Sifton Bush, Sweet Briar, Willow (less than 2m)	Handgun: 595 – 785 mL per 100 L Knapsack: 90 – 125 mL per 15 L	Apply to actively growing plants. Removal of bushes (after complete brownout), pasture improvement or further treatment are recommended to control seedlings and/or regrowth. Blackberry: apply from flowering to leaf fall, use higher rate on old dense infestations greater than 2 m high. In Tasmania, DO NOT treat bushes bearing mature fruit. Chinese Scrub: use higher rates on bushes greater than 1 m. Eucalyptus spp: add TITAN Organosilicone Surfactant at 200 – 500 mL/100 L of spray mix. Hawthorn: apply from flowering to leaf fall, use higher rates on bushes

		greater than 2 m. Pampas Grass: allow regrowth to reach 1 m, best results – apply after flowering. Sitton Bush: use higher rates on bushes greater than 1 m. Sweet Briar: apply from late flowering to leaf fall, use 900mL – 1.24 L/100 L, and 135 – 180 mL/15 L, use higher rates on bushes greater than 1.5 m.