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# Roundup Ready® Herbicide with PLANTSHIELD®

**ACTIVE CONSTITUENT: 690 g/kg GLYPHOSATE PRESENT AS THE MONO-AMMONIUM SALT**

| GROUP | 9 | HERBICIDE |
|---|---|---|

**Herbicide for the control of many annual and perennial weeds in Roundup Ready®, Roundup Ready Flex®, XtendFlex®, TruFlex® with Roundup Ready® Technology, Triazine Tolerant-Roundup Ready® and TruFlex®-Clearfield® crops and other situations as per the Directions for Use**.

## DIRECTIONS FOR USE

### RESTRAINTS
**ROUNDUP READY FLEX AND XTENDFLEX COTTON VARIETIES**
**DO NOT** disturb weeds by cultivation, sowing or grazing for six hours following treatment of annual weeds and seven days for perennial weeds.
**DO NOT** use as the only method of weed control.

**ROUNDUP READY CANOLA VARIETIES**
**DO NOT** use as the only method of weed control if glyphosate resistant weeds are suspected or present.

**TRUFLEX CANOLA WITH ROUNDUP READY TECHNOLOGY VARIETIES**
**DO NOT** use as the only method of weed control if glyphosate resistant weeds are suspected or present.

**CONSERVATION TILLAGE**
To ensure herbicide absorption, **DO NOT** disturb weeds by cultivation, sowing or grazing for 1 day after treatment of annual weeds and 7 days for perennial weeds, except where noted.

**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 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 TABLES**

**ROUNDUP READY FLEX AND XTENDFLEX COTTON VARIETIES**
FOR APPLICATIONS MADE IN ROUNDUP READY FLEX AND XTENDFLEX COTTON VARIETIES FROM CROP EMERGENCE TO HARVEST

| | |
|---|---|
| **No more than 4 applications[1] may be made OVER THE TOP in any one crop. Any single application MUST NOT exceed 1.5 kg/ha.**<br><br>**One (1) of the four (4) applications may be made OVER THE TOP in any one crop between 60% BOLL OPEN STAGE and HARVEST.**<br><br>**Application at this stage MUST NOT exceed 1.5 kg/ha.** | **NO MORE THAN FOUR (4) APPLICATIONS[1] MAY BE MADE IN ANY ONE CROP**<br><br>**AND**<br><br>**TOTAL OF ALL APPLICATIONS[1] IN ANY ONE CROP MUST NOT EXCEED 6.0 kg/ha.** |

**[1]Note: Total of all applications of any registered glyphosate product in any one crop must not exceed 4.14 kg/ha of active constituent.**

Tank-mixtures with other herbicides or insecticides are not recommended for over-the-top applications of this product due to the potential for reduced weed control or crop injury to result.

Tank mixtures with Dropp® may be used providing the crop is 60% open and immature bolls cannot be cut with a sharp knife, alternatively where the seed coat in bisected bolls is black in colour.

**SITUATION – ROUNDUP READY FLEX AND XTENDFLEX COTTON VARIETIES**

**IN CROP UP TO 60% BOLL OPEN STAGE**

**NO MORE than FOUR (4) applications[2] are permitted in crop up to 60% open stage.**
**Any single application in crop up to 60% boll open MUST NOT exceed 1.5 kg/ha.**
**Total of all applications[2] in crop must be no more than four (4) applications through all growth stages and MUST NOT exceed 6.0 kg/ha.**

**[2]Note: Total of all applications of any registered glyphosate product in any one crop must not exceed 4.14 kg/ha of active constituent.**

| WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|
| Annual ryegrass,<br>African turnip weed,<br>annual ground cherry,<br>barnyard grass,<br>Bathurst burr,<br>black pigweed,<br>bladder ketmia,<br>Boggabri weed,<br>button grass,<br>caltrop (yellow vine),<br>camel (Afghan) melon,<br>caustic weed,<br>Columbus grass,<br>deadnettle,<br>liverseed grass,<br>Mexican poppy,<br>milk (sow) thistle,<br>mintweed,<br>native millet,<br>New Zealand spinach,<br>Noogoora burr,<br>paradoxa grass,<br>pigweed (up to 25 cm diam.),<br>spear thistle,<br>stinkgrass (lovegrass),<br>sweet summer grass,<br>thornapple (Datura),<br>turnip weed,<br>variegated thistle,<br>volunteer cereals,<br>volunteer sorghum,<br>wild oats,<br>wild/prickly lettuce,<br>wireweed | 0.52 - 1.5 kg/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. |
| Climbing buckwheat (less than 12 leaves),<br>couch,<br>Johnson grass | 0.98 - 1.5 kg/ha | Use the higher rate on plants at the flowering/seed head 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 | 1.5 kg/ha followed by 1.5 kg/ha | Make first application to actively growing plants when the majority of nutgrass plants have reached at least the 6-8 leaf stage but preferably later. Allow for maximum re-emergence before retreating. |

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

**SITUATION – ROUNDUP READY FLEX AND XTENDFLEX COTTON VARIETIES**

**IN CROP between 60% BOLL OPEN STAGE and HARVEST**

**NO MORE than one (1) application.**

**DO NOT use on crops intended for seed production.**

**Application made between 60% open stage and harvest MUST NOT exceed 1.5 kg/ha.**
**Total of all applications[3] in crop must be no more than four (4) applications through all growth stages and MUST NOT exceed 6.0 kg/ha.**

**[3]Note: Total of all applications of any registered glyphosate product in any one crop must not exceed 4.14 kg/ha of active constituent.**

| WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|
| Bathurst burr,<br>Noogoora burr,<br>winter annual weeds including sowthistle / milk thistle | 0.71 - 1.5 kg/ha | Use the lower rate on light infestations of small weeds, where the crop canopy allows adequate spray coverage of the weeds. Increase to the higher rate when the crop canopy may limit spray coverage, when treating dense infestations, or when treating larger weeds.<br>Apply alone or in tank mixtures with Dropp. Apply when at least 60% of bolls are open and immature bolls cannot be easily cut with a sharp knife. Alternatively, where the seed coat in bisected bolls is black in colour. Where a leafy canopy limits spray coverage, reduced weed control can be expected. For best results under these conditions, delay application until canopy re-opens following initial conditioning treatment. |

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

**WARNING:** THE APPLICATIONS RECOMMENDED ABOVE ARE FOR USE ONLY WITH IMPROVED COTTON VARIETIES THAT ARE DESIGNATED AS COTTON WITH THE ROUNDUP READY FLEX OR XTENDFLEX COTTON TECHNOLOGY.

SEVERE INJURY OR DEATH OF COTTON WILL RESULT IF ANY COTTON VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY FLEX OR XTENDFLEX COTTON TECHNOLOGY ARE SPRAYED WITH THIS PRODUCT.

EXTREME CARE MUST BE TAKEN TO AVOID CONTACT WITH CROPS OR DESIRABLE PLANTS WITHOUT THE ROUNDUP READY FLEX OR XTENDFLEX COTTON TECHNOLOGY, OR WITH NATIVE VEGETATION, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

**Note:** This label applies to the use of Roundup Ready Herbicide with PLANTSHIELD on Roundup Ready Flex cotton varieties, including Bollgard® 3 with Roundup Ready Flex cotton varieties; and XtendFlex cotton varieties including Bollgard 3 with XtendFlex cotton varieties.

**DIRECTIONS FOR USE - ROUNDUP READY CANOLA VARIETIES**

**CROP SAFETY**
Applications may be made in Roundup Ready canola varieties from crop emergence to the 6-leaf stage (prior to bud formation). Sequential applications must be at least 14 days apart and canola must have incremental growth of at least 2 new leaves between applications.

**Some short-term, visual yellowing may occur when Roundup Ready Herbicide with PLANTSHIELD is applied. This effect is temporary and will not influence crop growth or yield.**

No additional surfactant is required for use in Roundup Ready canola varieties.

**Roundup Ready canola varieties**: Roundup Ready Herbicide with PLANTSHIELD may be applied alone or with a 300 g/L clopyralid aqueous solution product, a 417 g/L liquid ammonium sulfate product, Astound® Duo or Nufarm Dimethoate.

**Triazine Tolerant-Roundup Ready (TT-RR) canola varieties**: Roundup Ready Herbicide with PLANTSHIELD may be applied alone or with an atrazine 900 g/kg water dispersible granule product.

Other tank mixes are not recommended for over-the-top applications of this product due to the potential for reduced weed control or crop injury to result.

A 417 g/L liquid ammonium sulfate product may increase the performance of this product on annual and perennial weeds, particularly under hard water conditions (high levels of calcium, magnesium or bicarbonate ions) or drought conditions.

**SITUATION – ROUNDUP READY CANOLA VARIETIES**
**Before use in this situation is carried out users should consult the Roundup Ready Canola Resistance Management Plan (RMP) which has been developed to minimise the evolution of herbicide resistance in weed populations.**

| WEEDS CONTROLED | GROWTH STAGE OF CROP | GROWTH STAGE OF WEED | RATE | CRITICAL COMMENTS |
|---|---|---|---|---|
| Annual ryegrass, barley grass, brome grass, canary grass, capeweed, Patersons curse, saffron thistle, Scotch thistle, silver grass, spear thistle, variegated thistle, volunteer cereals, wild mustard, wild oats, wild radish, wild turnip, winter grass | Crop emergence to 6 leaf (prior to bud formation). | For grass weeds and volunteer cereals: 1 leaf to mid-tillering.<br><br>For volunteer plants and/or broadleaf weeds: 1 true leaf to 8 leaves. | 0.9 kg/ha | Up to 2 applications only may be made in any one crop. Each application must be 0.9 kg/ ha.<br>Repeat applications may be required if a second flush of weeds germinates but do not apply after the 6-leaf stage of the crop.<br>For sequential applications, applications must be at least 14 days apart and the canola crop must have incremental growth of two leaves between applications. The canola crop must have not advanced beyond the latest recommended growth stage (i.e. 6 leaf). Ensure broadleaf weeds have at least one true leaf, and grasses two leaves before application.<br>**Tank mixes**: Roundup Ready Herbicide with PLANTSHIELD may be tank mixed with an atrazine 900 g/kg water dispersible granule product for post-emergence application in TT-RR canola up to the 6-leaf stage.<br>For label rates of an atrazine 900 g/kg water dispersible granule product, refer to the atrazine 900 g/kg water dispersible granule product label.<br>Read and follow all label directions, restraints, plant-back and withholding periods, regional use restrictions and safety directions for the tank mix products. |

**SITUATION – ROUNDUP READY CANOLA VARIETIES**
**Before use in this situation is carried out users should consult the Roundup Ready Canola Resistance Management Plan (RMP) which has been developed to minimise the evolution of herbicide resistance in weed populations.**

| WEEDS CONTROLED | GROWTH STAGE OF CROP | GROWTH STAGE OF WEED | RATE | CRITICAL COMMENTS |
|---|---|---|---|---|
| Weeds as above plus,<br>field peas,<br>lupins,<br>sub clover,<br>annual medic,<br>lentils,<br>chickpeas | Crop emergence to 6 leaf (prior to bud formation). Two applications required | For grass weeds and volunteer cereals: 1 leaf to mid-tillering.<br><br>For volunteer plants and/or broadleaf weeds: 1 true leaf to 8 leaves. | 0.9 kg/ha | Two applications of Roundup Ready herbicide with PLANTSHIELD provide higher levels of control than a single application.<br>**Tank mixes**: Roundup Ready Herbicide with PLANTSHIELD may be tank mixed with an atrazine 900 g/kg water dispersible granule product for post-emergence application in TT-RR canola up to the 6-leaf stage.<br>For label rates of an atrazine 900 g/kg water dispersible granule product, refer to the atrazine 900 g/kg water dispersible granule product label.<br>Read and follow all label directions, restraints, plant-back and withholding periods, regional use restrictions and safety directions for the tank mix products. |
| Weeds as above plus,<br>faba beans,<br>field peas,<br>chickpeas,<br>lupins,<br>lentils,<br>sub. clover,<br>annual medic,<br>vetch | 2 to 6 leaf (prior to bud formation). One or two applications; however total rate of a 300 g/L clopyralid aqueous concentrate product should not exceed 300 mL/ha in the one season. | | 0.9 kg/ha + 150-300 mL/ha of a 300 g/L clopyralid aqueous concentrate product | Use the higher rate of a 300 g/L clopyralid aqueous concentrate product in situations of high weed population, large weed size, and/or conditions of environmental stress (dry, frost etc.). Varying levels of control can be experienced between different varieties of these species. Total application of a 300 g/L clopyralid aqueous concentrate product should not exceed 300 mL/ha in the one season. Application of this tank mix at the first spray timing is recommended. |

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

**WARNING:** THE APPLICATIONS RECOMMENDED ABOVE ARE FOR USE ONLY WITH IMPROVED CANOLA VARIETIES THAT ARE DESIGNATED AS CANOLA WITH THE ROUNDUP READY TECHNOLOGY INCLUDING TRIAZINE TOLERANT-ROUNDUP READY CANOLA VARIETIES.

SEVERE INJURY OR DEATH OF CANOLA WILL RESULT IF ANY CANOLA VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE ROUNDUP READY TECHNOLOGY ARE SPRAYED WITH THIS PRODUCT.

EXTREME CARE MUST BE TAKEN TO AVOID CONTACT WITH CROPS OR DESIRABLE PLANTS WITHOUT THE ROUNDUP READY TECHNOLOGY, OR WITH NATIVE VEGETATION, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

**DIRECTIONS FOR USE - TRUFLEX CANOLA WITH ROUNDUP READY TECHNOLOGY**

**CROP SAFETY**
Applications may be made in TruFlex canola with Roundup Ready Technology from crop emergence to the first flowering stage. Sequential applications, applications must be at least 14 days apart and the canola crop must have incremental growth of two leaves between applications. The canola crop must have not advanced beyond the latest recommended growth stage (i.e. first flowering).

**TruFlex-Clearfield (TF-CL) canola varieties:** Roundup Ready Herbicide with PLANTSHIELD may be applied alone or with Intervix® Herbicide.

| **SITUATION – TRUFLEX CANOLA WITH ROUNDUP READY TECHNOLOGY**<br>**Before use in this situation is carried out users should consult the TruFlex canola with Roundup Ready Technology Resistance Management Plan (RMP) which has been developed to minimise the evolution of herbicide resistance in weed populations.** | | | | |
|---|---|---|---|---|
| **WEEDS CONTROLED** | **GROWTH STAGE OF CROP** | **GROWTH STAGE OF WEED** | **RATE** | **CRITICAL COMMENTS** |
| Annual ryegrass, barley grass, brome grass, canary grass, capeweed, Patersons curse, saffron thistle, Scotch thistle, silvergrass, spear thistle, variegated thistle, volunteer cereals, wild mustard, wild oats, wild radish, wild turnip, winter grass | Crop emergence to first flowering (at least 50% of plants have at least one flower) | For grass weeds and volunteer cereals: 1 leaf to mid-tillering. For volunteer plants and/or broadleaf weeds: 1 true leaf to 8 leaves. | 0.9 - 1.3 kg/ha | Up to 2 applications of up to 1.3 kg/ha may be made in any one crop.<br>Up to 3 applications of 0.9 kg/ha may be made in any one crop.<br>Repeat applications may be required if a second flush of weeds germinates but do not apply after the first flowering stage of the crop.<br>For sequential applications, applications must be at least 14 days apart and the canola crop must have incremental growth of two leaves between applications.<br>The canola crop must have not advanced beyond the latest recommended growth stage (i.e. first flowering).<br>Ensure broadleaf weeds have at least one true leaf, and grasses two leaves before application.<br><br>DO NOT apply after first flowering.<br><br>**Tank mixes**: Roundup Ready Herbicide with PLANTSHIELD may be tank-mixed with Intervix Herbicide for post-emergence application in TF-CL canola up to the 6-leaf stage. Only one tank mix application may be made in any one crop. This tank-mix should be applied with Hasten at 0.5 - 1 L/100 L. For label rates of Intervix Herbicide, refer to the Intervix Herbicide product label. Read and follow all label directions, restraints, plant-back and withholding periods, regional use restrictions and safety directions for the tank mix products. |

**SITUATION – TRUFLEX CANOLA WITH ROUNDUP READY TECHNOLOGY**
**Before use in this situation is carried out users should consult the TruFlex canola with Roundup Ready Technology Resistance Management Plan (RMP) which has been developed to minimise the evolution of herbicide resistance in weed populations.**

| WEEDS CONTROLED | GROWTH STAGE OF CROP | GROWTH STAGE OF WEED | RATE | CRITICAL COMMENTS |
|---|---|---|---|---|
| Weeds as above plus,<br>annual medic,<br>chickpeas,<br>field peas,<br>lentils,<br>lupins,<br>sub clover | Crop emergence to first flowering (at least 50% of plants have at least one flower). Two applications required. | For grass weeds and volunteer cereals: 1 leaf to mid-tillering. For volunteer plants and/or broadleaf weeds: 1 true leaf to 8 leaves. | 0.9 - 1.3 kg/ha | Two applications of Roundup Ready Herbicide with Plantshield provide higher levels of control than a single application.<br><br>DO NOT apply after first flowering. |
| Weeds as above plus,<br>faba beans and vetch | Crop emergence to first flowering (at least 50% of plants have at least one flower). One or two applications; however total rate of a 300 g/L clopyralid aqueous concentrate product should not exceed 300 mL/ha in the one season | | 0.9 - 1.3 kg/ha + 150 - 300 mL/ha of a 300 g/L clopyralid aqueous concentrate product | Use the higher rate of a 300 g/L clopyralid aqueous concentrate product in situations of high weed population, large weed size, and/or conditions of environmental stress (dry, frost etc.). Varying levels of control can be experienced between different varieties of these species. Total application of a 300 g/L clopyralid aqueous concentrate product should not exceed 300 mL/ha in the one season. Application of this tank-mix at the first spray timing is recommended.<br><br>DO NOT apply after first flowering. |

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

**WARNING:** THE APPLICATIONS RECOMMENDED ABOVE ARE FOR USE ONLY WITH IMPROVED CANOLA VARIETIES THAT ARE DESIGNATED AS CANOLA WITH THE TRUFLEX WITH ROUNDUP READY TECHNOLOGY INCLUDING TRUFLEX-CLEARFIELD CANOLA VARIETIES.

SEVERE INJURY OR DEATH OF CANOLA WILL RESULT IF ANY CANOLA VARIETIES NOT PROPERLY DESIGNATED AS HAVING THE TRUFLEX WITH ROUNDUP READY TECHNOLOGY ARE SPRAYED WITH THIS PRODUCT.

EXTREME CARE MUST BE TAKEN TO AVOID CONTACT WITH CROPS OR DESIRABLE PLANTS WITHOUT THE TRUFLEX WITH ROUNDUP READY TECHNOLOGY, OR WITH NATIVE VEGETATION, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

**DIRECTIONS FOR USE - GENERAL USE SITUATIONS**
ALL STATES (EXCEPT WHERE NOTED)

| SITUATION | CRITICAL COMMENTS READ APPLICATION CHECKLIST BEFORE USING |
|---|---|
| **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.<br>**RATE: 5 grams per litre of water**<br>Apply when weeds are actively growing.<br>Apply to ensure complete and uniform wetting of foliage.<br>Visible symptoms may take from 3 to 7 days to develop. |
| **NON-AGRICULTURAL AREAS**<br>Around buildings, commercial and industrial areas, domestic and public service areas, right-of ways. | Roundup Ready Herbicide with PLANTSHIELD does not provide residual weed control. For residual control of annual weeds, Roundup Ready Herbicide with PLANTSHIELD may be tank mixed with certain residual herbicides. See Tank Mixtures/Herbicides. |
| **AGRICULTURAL AREAS** | Roundup Ready Herbicide with PLANTSHIELD may be used for control of annual and perennial 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, DRY MARGIN OF DAMS, LAKES AND STREAM SITUATION** | 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 water. DO NOT allow water to return to dry channels and drains within 4 days of application. |
| **FORESTS** | Roundup Ready Herbicide with PLANTSHIELD may be used prior to establishment of nurseries, for site preparation prior to planting and amongst established trees using a directed or shielded spray. DO NOT allow spray or spray drift to contact foliage or green bark of desirable trees, since severe injury may result. |
| **COTTON**<br>shielded sprayers, Qld & NSW only<br>For cotton with Roundup Ready technology see **Directions for Use - Roundup Ready Flex and XtendFlex Cotton** as appropriate. | **Shielded sprayers** Apply Roundup Ready Herbicide with PLANTSHIELD to weeds growing between crop rows using a shielded sprayer. Refer to the **Weeds controlled** tables for rates of application. DO NOT apply in crop less than 20 cm high. DO NOT allow spray or spray drift to contact any part of the cotton plant as severe injury or destruction may result. |
| **TREE and VINE CROPS**<br>Vineyards,<br>berries and other small fruits (excluding strawberry),<br>citrus fruits,<br>tropical and sub-tropical fruits,<br>pome fruits,<br>stone fruits,<br>tree nuts,<br>duboisia,<br>hops,<br>olives,<br>tea | Apply as a directed or shielded spray. DO NOT apply as a spray near trees or vines less than 3 years old unless they are effectively shielded from spray and spray drift.<br>**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.<br>**Tea.** Apply a maximum of 2 kg/ha by shielded boom or directed off-centre nozzle or 3 g/L by directed handgun or knapsack to avoid application to the crop.<br>**All other crops.** DO NOT allow spray or spray drift to contact any part of the plant including the trunk.<br>**CAUTION** Where split bark on kiwifruit and green stems on pawpaw occur, extreme care is required. For residual control of annual weeds, Roundup Ready Herbicide with PLANTSHIELD may be tank mixed with compatible herbicides which are labeled for use in the above crops. See **Tank mixtures/Herbicides** for directions. |

| SITUATION | CRITICAL COMMENTS READ APPLICATION CHECKLIST BEFORE USING |
|---|---|
| **PASTURE** | **Directed (spot) application:** Roundup Ready Herbicide with PLANTSHIELD 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.<br>**Boom application:** Roundup Ready Herbicide with PLANTSHIELD may be used to suppress or kill existing pasture species prior to re-seeding or establishment of other crops. Where spot application is undertaken, grazing stock need not be removed.<br>**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. |
| **ONIONS**<br>Post-plant, pre-emergence application<br>TAS only | For control of annual weeds and suppression of perennial weeds, including rope twitch, apply Roundup Ready Herbicide with PLANTSHIELD at 0.53 - 1.6 kg/ha post-sowing and at least 7 days before crop is due to emerge. DO NOT apply to emerging onion plants as severe injury will result. Use the lower rate on small, actively growing annual weeds. Increase to the higher rate for larger annual weeds (over 15 cm tall) and for suppression of perennial weeds. |

**ANNUAL WEEDS**
REGISTRATION IN ALL STATES/TERRITORIES UNLESS OTHERWISE SPECIFIED

| WEED CONTROLLED | BOOM RATE | HANDGUN/ KNAPSCK | CRITICAL COMMENTS |
|---|---|---|---|
| Annual ryegrass,<br>amaranth,<br>barley grass,<br>barnyard grass,<br>bent grass,<br>brome grass,<br>caltrop,<br>canary grass,<br>capeweed,<br>cereals,<br>chickweed,<br>cobbler's peg,<br>deadnettle,<br>doublegee,<br>fumitory,<br>ground cherry,<br>hedge mustard,<br>hoary cress,<br>lesser swinecress,<br>liverseed grass,<br>mintweed,<br>Noogoora burr,<br>paradoxa grass,<br>Paterson's Curse,<br>pigweed,<br>potato weed,<br>saffron thistle,<br>silver grass,<br>sowthistle,<br>spear thistle,<br>spiny burrgrass,<br>spurge,<br>thornapple,<br>wild oats,<br>wild turnip,<br>winter grass,<br>variegated thistle | 1.0 - 1.6 kg/ha | 3 - 5 g/L | Apply to weeds whenever they are not subject to stress due to drought or frost.<br>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 5 L spray per 100 $m^2$.<br>Roundup Ready Herbicide with PLANTSHIELD does not provide residual weed control. Repeat treatments may be necessary to control later germinating weeds.<br>For residual control of annual weeds Roundup Ready Herbicide with PLANTSHIELD may be tank-mixed with certain residual herbicides. See **Tank mixtures** in the General Instructions for directions. DO NOT use an atrazine tank mix for control of Barnyard grass of Liverseed grass. |

**PERENNIAL WEEDS**
REGISTRATION IN ALL STATES/TERRITORIES UNLESS OTHERWISE SPECIFIED

| WEED CONTROLLED | BOOM RATE | HANDGUN/ KNAPSCK | CRITICAL COMMENTS |
|---|---|---|---|
| Artichoke thistle,<br>African lovegrass,<br>bent grass,<br>carpet grass,<br>cocksfoot,<br>flatweed,<br>Johnson grass,<br>kangaroo grass,<br>kikuyu,<br>nutgrass<br>*(Cyperus rotundus),*<br>paspalum,<br>phalaris,<br>plantain,<br>prairie grass,<br>Queensland blue grass,<br>red-leg grass,<br>Rhodes grass,<br>rope twitch,<br>sorrel,<br>soursob,<br>#tall sedge,<br>Yorkshire fog | 1.5 - 3.0 kg/ha | 5 g/L | Control of established perennials is best obtained when plants are at the seedhead stage. (Early flower flatweed).<br>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.<br>For nutgrass in cultivated situations apply sequential treatments when nutgrass has a minimum of 6-8 leaves. Use the higher rate in uncultivated situations.<br>For Rhodes grass, rope twitch, prairie grass, Queensland blue grass, Johnson grass, kangaroo grass, kikuyu, red-leg grass, paspalum and sorrel, use the higher boom rate only. |
| Blady grass,<br>bracken,<br>couch,<br>#cumbungi,<br>#glyceria,<br>Guinea grass,<br>#paragrass,<br>silver nightshade,<br>#watercouch<br>**#See Dry drains and Channel Use situation** | 4.5 kg/ha | 7 g/L | For bracken add Pulse® at 200 mL/100 L spray mix.<br>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 1.5 - 3.0 kg/ha for control. |

**WOODY WEEDS**
REGISTRATION IN ALL STATES/TERRITORIES UNLESS OTHERWISE SPECIFIED

| WEED CONTROLLED | HANDGUN/ KNAPSCK | CRITICAL COMMENTS |
|---|---|---|
| Bamboo,<br>bitou bush,<br>boneseed,<br>boxthorn,<br>croftonweed,<br>gorse,<br>groundsel bush,<br>lantana,<br>mistflower | 5 g/L | Apply to actively growing plants, DO NOT apply to drought stressed plants. Further treatment may be necessary to restrict seedling re-establishment.<br>Bamboo: apply when foliage/regrowth is 1-2 m tall.<br>Bitou bush/boneseed, best results are achieved when treated at peak flowering during winter.<br>Groundsel bush: DO NOT apply in winter.<br>Gorse: Always add Pulse at 200 mL/100 L of spray mix, use higher rate only.<br>Lantana: Addition of Pulse (200 mL/100 L) may improve control.<br>Boxthorn, gorse, lantana: Removal of bushes (after complete brownout), pasture improvement or further treatments are recommended to control seedlings and/or regrowth. |
| Blackberry,<br>Chinese scrub,<br>*Eucalyptus* spp. (seedlings <2 m),<br>hawthorn,<br>pampas grass,<br>sifton bush,<br>sweet briar,<br>willow (<2 m) | 5 - 7 g/L | Apply to actively growing plants. Removal of bushes (after complete brownout), pasture improvement or further treatments are recommended to control seedlings and/or regrowth.<br>Blackberry: Apply from flowering to leaf fall. In Tasmania, DO NOT treat bushes bearing mature fruit.<br>Chinese scrub: Use higher rate on bushes greater than 1 m.<br>Eucalyptus spp: Add Pulse at 200 mL/100 L of spray mix.<br>Hawthorn: Apply from flowering to leaf fall.<br>Pampas grass: Allow regrowth to reach 1 m, best results – apply after flowering.<br>Sifton bush: Use higher rates on bushes greater than 1 m.<br>Sweet Briar: Apply from late flowering to leaf fall, use 0.78 - 1.06 kg/100 L, and 115 - 150 g/15 L, use higher rates on bushes greater than 1.5 m. |

**CONSERVATION TILLAGE**

| SITUATION | WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|---|
| **SOUTHERN AUSTRALIA** 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 | 265 - 530 g/ha pre-tillering<br>530 - 660 g/ha post-tillering | Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred, allow regrowth to 6-8 cm before spraying and use the higher rate.<br>**Rate selection** Increase to higher rates late in the season or when treating under cold/overcast conditions. Full disturbance with cultivation or sowing with a tyned implement may start one day after treatment (7 days if dock, phalaris, skeleton weed, soursob or sorrel are present) and should occur within 21 days after treatment. Where cultivation or sowing does not occur within 21 days, new weed growth may require further treatment. When treating light infestations of seedling annual grasses (pretillering) and annual broadleaved weeds (less than 8 cm dia/height), cultivation or sowing may start 6 hours after treatment and should occur within 21 days.<br>**Crop establishment** Sowing should not proceed until conditions allow the formation of a satisfactory seedbed. See **Crop establishment** for directions.<br>**Annual ryegrass, silver grass and perennial grasses**<br>Addition of Wetter TX, 200 mL/100 L spray solution, may improve control. When treating dense infestation of silver grass, use nozzles designed to give a COARSE spray quality (ASAE S572) and a spray volume of 70 mL/ha or more is recommended to improve plant spray coverage. Good coverage of silver grass is critical for control.<br>**Tank mixtures** For improved control of clover add a 500 g/L dicamba aqueous concentrate product. Read and follow all label directions, restraints, plantback periods, withholding periods, regional use restrictions and safety directions for the tank mix products. See **Tank mixtures** for directions.<br>**Perennial weeds** For perennial phalaris, soursob, skeleton weed and sorrel, Roundup Ready Herbicide with PLANTSHIELD will provide knockdown, seasonal suppression and reduction in treated plant numbers. |
| | Annual phalaris (canary grass), annual ryegrass, silver grass, winter grass | 530 - 660 g/ha pre-tillering<br>660 - 790 g/ha post-tillering | |
| | Calomba daisy, capeweed, doublegee/ spiny emex | 265 - 530 g/ha less than 8 cm diam/ height<br>530 - 790 g/ha greater than 8 cm diam/ height | |
| | Amsinckia, fumitroy, Paterson's curse, saffron thistle, Scotch thistle, spear thistle, variegated thistle, volunteer lupins, wild turnip | 530 - 660 g/ha less than 12 cm diam/ height<br>660 - 790 g/ha greater than 12 cm diam/ height | |
| | Dock (seedling) | 530 - 790 g/ha | |
| | Perennial phalaris, sorrel, soursob, sub. clover | 790 g/ha | |
| | Skeleton weed – fully emerged rosettes NSW only | | |
| | All the above weeds TAS only | 0.79 - 1.6 kg/ha | **Tasmania** Use 790 g/ha on annual weeds. Increase to 1.6 kg/ha where perennial weeds are being treated. To control white clover and improve control of sorrel and dock, add 400 mL/ha of a 500 g/L dicamba aqueous concentrate product. Observe label directions and plantback periods. |

| SITUATION | WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|---|
| **SOUTHERN AUSTRALIA**<br>To commence a fallow or prior to establishing a crop or pasture with an implement that gives minimal or no soil disturbance. | Barley grass, wild oats, volunteer cereals | 530 - 790 g/ha | Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred, allow regrowth to 6-8 cm before spraying and use the higher rate.<br>**Rate selection** Use the **lower rate** on young weeds or where cultivation is to follow within 21 days; increase to the **higher rate** where grasses reach full tillering or where broadleaf weeds commence stem elongation/ budding. Increase to higher rates in spring and under cold conditions.<br>**Aerial application** Use higher rates. See **Aerial equipment**.<br>**Annual ryegrass, silver grass and perennial grasses** Addition of Wetter TX, 200 mL/100 L spray solution, may improve control. When treating dense infestation of silver grass, use nozzles designed to give a COARSE spray quality (ASAE S572) and a spray volume of 70 mL/ha or more is recommended to improve spray coverage. Good coverage of silver grass is critical for control.<br>**Hoary cress** Treat from late rosette to early flowering.<br>**Soursob** Treat at tuber exhaustion.<br>**Couch** Use the higher rate on dense infestations. Apply sequential treatments during summer and autumn, with autumn being most effective. Repeat applications will be required for full control. For improved control, use in conjunction with cultivation<br>**Tank mixtures** For improved control of clover add a 500 g/L dicamba aqueous concentrate product. Read and follow all label directions, restraints, plantback periods, withholding periods, regional use restrictions and safety directions for the tank mix products. See **Tank mixtures** for directions. Addition of a 417 g/L liquid ammonium sulfate product, 2 L/100 L, may improve control when treating under adverse environmental conditions.<br>**Pasture or crop establishment** DO NOT sow into excessive trash. Excessive plant residues may be removed by grazing after treatment. Grazing may commence one day after treatment of annual weeds (small) and 7 days for perennial weeds. Delay grazing for three days where annual weeds are large. Sowing may proceed when excessive trash is removed, but not sooner than one day after treatment of annual weeds and 7 days for perennial weeds. See also **Crop establishment**.<br>**Aerial (or surface) seeding** Delay seeding until trash level is completely removed by grazing and/or plant decay. When establishing pasture, ensure application of fertilizer and insecticides and follow up management is undertaken as required. |
| | Brome grass, canary grass, capeweed, variegated thistle, winter grass | 0.66 - 1.0 kg/ha | |
| | Annual ryegrass, Paterson's curse, saffron thistle, Scotch thistle, spear thistle, silver grass, wild mustard, wild radish, wild turnip | 0.79 - 1.0 kg/ha | |
| | Hoary cress, soursob | 790 g/ha | |
| | Couch | 0.79 - 1.6 kg/ha | |
| | Erodium, plantain, perennial-phalaris, sorrel, sub. clover, Yorkshire fog | 0.99 - 1.3 kg/ha | |
| | Dock, flatweed | 1.3 kg/ha | |
| | All the above weeds TAS only | 0.79 - 1.6 kg/ha | **Tasmania** Use 790 g/ha on annual weeds. Increase to 1.6 kg/ha where perennial weeds are being treated. To control white clover and improve control of sorrel and dock, add 400 mL/ha of a 500 g/L dicamba aqueous concentrate product. Observe label directions and plantback periods. |

| SITUATION | WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|---|
| **SOUTHERN AUSTRALIA** Pasture topping For annual grass, capeweed and Calomba daisy seed-set reduction | Barley grass, brome grass, capeweed, silver grass | 160 - 240 g/ha | Remove stock prior to treatment to allow even regrowth. Apply to capeweed and annual ryegrass at FLOWERING. For other grasses, apply from HEAD to MILKY DOUGH stage. Use higher rate for dense infestations or where annual ryegrass is present. Apply before signs of plants "haying off". Reduction in pasture legume population may occur as a result of treatment. DO NOT apply to clover or medic crops intended for seed or hay. |
| | Annual ryegrass, calomba daisy | 240 g/ha | |
| **Seed-head suppression** of perennial grasses | Bent grass | 200 - 330 g/ha | **Timing** Treat from late October to late November. Apply before seedheads have emerged. Use the higher rate where growth is excessive, and renovation is intended the following autumn. **Follow up management** Graze hard after spraying. |
| **Poa tussock infested pasture** For reduction of ground cover allowing pasture renovation. | Most annual weeds and suppression of Poa tussock | 1.6 - 2.1 kg/ha | **Timing** Graze heavily, then remove at least 14 days before spraying to allow fresh regrowth. Apply to actively growing plants after the autumn break but before heavy frosts (March-May). **Application** Increase to the higher rate may give more effective reductions. If aerial spraying, see **Aerial equipment.** **Follow up management** Sowing may start from 14 days after spraying. It is essential that correct follow up pasture establishment and management occur after treatment. Spot treatment will limit re-infestation. |
| **Serrated tussock** For control/ suppression prior to establishing crops or improved pasture species NSW, Vic, Tas only | Serrated tussock | 2.1 - 3.2 kg/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 Wetter TX 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). |
| **Serrated tussock** For prevention of seed head emergence and seed formation | Serrated tussock | 360 - 710 g/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 Wetter TX 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. |

| SITUATION | WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|---|
| **NORTHERN AUSTRALIA**<br>In fallow or prior to planting a crop.<br>Qld, NSW only | Annual phalaris, (canary grass), barley grass, volunteer cereals, wild oats | 265 - 530 g/ha | Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred, allow regrowth to 6-8 cm before spraying and use the higher rate. Note that under summer (hot) conditions, dense infestations of barnyard grass and liverseed grass may require follow up treatment for complete control. Enhanced control of barnyard grass and liverseed grass may require follow up treatment for complete control. In winter (cold) conditions symptoms on deadnettle may be slow to develop.<br>**Rate selection** Use the lower rates on young weeds; increase to the higher rate where grasses reach full tillering or where broadleaf weeds reach stem elongation/ budding. At more advanced stages of growth certain broadleaf weeds require a higher rate range or the addition of a 680 g/L 2,4-D ethyl hexyl ester emulsifiable concentrate product.<br>**Crop establishment** Sowing should not proceed until conditions allow the formation of a satisfactory seedbed. See **Crop establishment** for directions.<br>**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. DO NOT tank mix with atrazine when spraying barnyard grass or liverseed grass.<br>**Aerial application** For instructions on aerial application under hot conditions see **Aerial equipment**. DO NOT apply by aircraft when ambient temperature is above 30°C. |
| | Barnyard grass, button grass, Columbus grass (seedling), liverseed grass, native millet, stinkgrass (lovegrass), volunteer sorghum | 0.53 - 1.0 kg/ha | |
| | Australian bluebell (Qld only), cudweed, fumitory, Mexican poppy, New Zealand spinach, saffron thistle, spear thistle, spurge, stinking goosefoot | 530 - 790 g/ha | |
| | Black (giant) pigweed, Boggabri weed, caltrop (yellow vine), Indian hedge mustard, mintweed, summer grass | 265 - 530 g/ha up to 5 true leaves or 3 cm dia/height<br>530 - 790 g/ha greater than 5 true leaves or 3 cm dia/height | |
| | African turnip weed, deadnettle, sweet summer grass, variegated thistle, volunteer sunflower | 400 - 530 g/ha up to 5 true leaves or 3 cm dia/height<br>0.53 - 1.0 kg/ha greater than 5 true leaves or 3 cm dia/height | |
| | Annual ground cherry (gooseberry), bladder ketmia, camel melon, false castor oil plant (thornapple), Noogoora burr, turnip weed, wild lettuce, wild turnip, wireweed | 530 - 790 g/ha prior to stem elongation/ budding.<br>After stem elongation/ budding use 265 - 790 g/ha plus 1.1 - 1.7 L/ha Surpass 475 or 0.79 - 1 kg/ha of Roundup Ready Herbicide with PLANTSHIELD alone. | |

| SITUATION | WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|---|
| **NORTHERN AUSTRALIA** In fallow or prior to planting a crop. Qld, NSW only *Continued* | Pigweed | 0.53 - 1.0 kg/ha | Use higher rates on larger weeds. Control of pigweed over a wide range of growth stage can be obtained with the addition of a 600 g/kg metsulfuron-methyl water dispersible granule. Observe re-cropping intervals. |
| | Sowthistle, milk thistle | 400 - 530 g/ha when rosettes up to 3 cm dia 0.53 - 1.0 kg/ha when greater than 3 cm dia. | Previously grazed plants may be difficult to control without allowing full recovery. |
| | Couch | 0.79 - 1.6 kg/ha | Use the higher rate for dense infestations. Apply sequential treatments during summer and autumn, with autumn being most effective. Repeat applications will be required for full control. For improved control use in conjunction with cultivation. |
| | Johnson grass | 1.0 - 1.6 kg/ha | Use the higher rate on plants approaching seedhead stage. Apply to plants with a minimum of 30 cm new growth. Sequential treatments will be required for long term control. |
| | Nutgrass | 1.6 + 1.6 kg/ha | Make first application to actively growing plants when at least 20% have reached the head stage (normally about Feb). After allowing maximum re-emergence to occur (normally 6-8 weeks), it is essential to make a second application. **Note:** Follow up treatments should be made as part of a nutgrass control program. |
| **SORGHUM CONTROL** (pre-harvest) QLD, NSW only | Sorghum (grain sorghum) - DO NOT apply to varieties intended for seed production or varieties prone to lodging | 0.79 - 1.0 kg/ha | DO NOT apply if crop is under stress from low moisture, frost, cold or water logging. Apply when grain moisture is less than 25%. Use the higher rate where the crop has produced significant number of late tillers or where following crops will be established without further treatment. Pre-harvest treatments may increase the likelihood of crop lodging. Apply post-harvest treatments to previously slashed/ grazed stubble when least 20 cm of new growth has occurred. Use the higher rate on standing stubble or where re-growth from slashed sorghum has advanced beyond 50 cm in height. **Caution** Sorghum may be naturally toxic to stock. |
| **SORGHUM CONTROL** (post-harvest) QLD, NSW only | Sorghum stubble (grain-sorghum) | 530 - 790 g/ha for fresh regrowth from slashed stubble. 0.79 - 1.0 kg/ha for standing stubble if sufficiently green and for fresh spring regrowth | |
| **SUGARCANE** Ratoon spray out QLD, NSW only | Sugarcane ratoon regrowth | 2.1 - 4.8 kg/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 waterlogging. Use the lower rate for suppression or where cultivation is to follow. Use the higher rate for control. |

| SITUATION | WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|---|
| **RICE**<br>Direct drilling<br>NSW only | Annual phalaris (canary grass), annual ryegrass, barley grass, burr medic, sub. clover, winter grass | 530 - 660 g/ha | Roundup Ready Herbicide with PLANTSHIELD is less effective in drought-stressed plants. In drought conditions a pre-watering prior to spraying is recommended. In grazed situations, if heavy grazing has occurred allow regrowth to 6-8 cm before spraying.<br>**Annual ryegrass** Add Wetter TX at 200 mL/100 L of spray solution and where dominant, use the higher rate.<br>**Sowing** Direct drilling may take place 1-14 days after spraying. Roundup Ready Herbicide with PLANTSHIELD does not provide residual weed control. Permanent water and approved selective herbicides should be used to provide continuing control of weeds. |
| **PRE-HARVEST APPLICATION**<br>to<br>reduce viable seed set of weeds in:<br>Field peas (*Pisum sativum*)<br>Faba beans (*Vicia faba*) | Annual ryegrass (*Lolium rigidum*) | 250 - 530 g/ha | Use lower rate if ryegrass is flowering and higher rate if ryegrass is at milky dough stage.<br>Application should be made at or after crop maturity. Application before this time may significantly reduce yields (in practice losses in excess of 25% can occur). Apply when the average seed moisture content is below 30%. For faba beans, this is indicated by the pods going black, and for field peas by the pods going yellow.<br>DO NOT harvest within 7 days after application.<br>DO NOT use on crops intended for seed or sprouting.<br>Glyphosate resistant biotypes have been detected in Australia. If glyphosate resistant weeds are known to be present, apply an additional method of control. |
| **PRE-HARVEST APPLICATION**<br>as harvest aid and weed control:<br>Wheat (*Triticum aestivum*) | Annual weeds | 0.71 - 1.4 kg/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.<br>DO NOT harvest within 7 days after application.<br>DO NOT use on crops intended for seed or sprouting.<br>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**<br>To desiccate a crop as a harvest aid and weed control<br>Adzuki beans, chickpeas, cowpea, faba beans, field peas, lentils, mungbeans, soybean | Annual weeds | 0.53 - 1.4 kg/ha | Apply with boom or by aircraft. Use higher rates where crops or weeds are dense and where faster desiccation is required. Application should be made at or after crop maturity:<br>**Chickpeas and lentils -** apply when physiologically mature and less than 15% green pods.<br>**Soybean -** apply only after seed pods have lost all green colour and 80-90% of leaves have dropped. Use only on soybean crops grown for crushing.<br>**Mungbeans/ adzuki and cowpea -** apply to mature crops when pods are brown/black.<br>**Field peas -** apply when seeds turn yellow and average seed moisture content is below 30%. |

| SITUATION | WEEDS CONTROLLED | RATE | CRITICAL COMMENTS |
|---|---|---|---|
| (Application to crops intended for seed production or for sprouting may reduce germination percentage to commercially unacceptable levels.) | Annual weeds *Continued* | 0.53 - 1.4 kg/ha | **Faba beans -** apply when pods turn black and average seed moisture content is below 30%.<br><br>**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. This use should be part of an Integrated Weed Management strategy which incorporates herbicides with different modes of action and alternative cultural weed control practices.** |

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

**WITHHOLDING PERIODS**

**Harvest (H):**

| | |
|---|---|
| **Roundup Ready Flex and XtendFlex cotton varieties:** | **NOT REQUIRED WHEN USED AS DIRECTED** |
| **Roundup Ready canola varieties only:** | **NOT REQUIRED WHEN USED AS DIRECTED** |
| **TruFlex canola with Roundup Ready Technology varieties:** | **NOT REQUIRED WHEN USED AS DIRECTED** |
| **Wheat and legumes:** | **DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION** |
| **All other uses:** | **NOT REQUIRED WHEN USED AS DIRECTED** |

**Grazing (G):**

| | |
|---|---|
| **Roundup Ready canola varieties only:** | **DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION** |
| **Triazine Tolerant-Roundup Ready canola varieties treated with tank mix of Roundup Ready Herbicide with PLANTSHIELD and an atrazine 900 g/kg water dispersible granule product:** | **DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 6 WEEKS AFTER APPLICATION** |
| **TruFlex canola with Roundup Ready Technology:** | **DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION** |
| **TruFlex-Clearfield canola varieties treated with tank mix of Roundup Ready Herbicide with PLANTSHIELD and Intervix Herbicide:** | **DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 5 WEEKS AFTER APPLICATION** |
| **All other uses:** | **NOT REQUIRED WHEN USED AS DIRECTED** |

**GENERAL INSTRUCTIONS**

**PRODUCT INFORMATION**

Roundup Ready Herbicide with PLANTSHIELD is a non-volatile, water soluble herbicide for the control of annual and perennial grasses and broadleaf weeds in Roundup Ready Flex cotton, XtendFlex cotton, Roundup Ready canola, Triazine Tolerant-Roundup Ready canola, TruFlex canola with Roundup Ready Technology, TruFlex-Clearfield canola and certain other situations. Roundup Ready Herbicide with PLANTSHIELD is absorbed by plant foliage and green stems. Roundup Ready Herbicide with PLANTSHIELD is inactivated on clay and organic matter in soil and does not provide residual weed control. Roundup Ready Herbicide with PLANTSHIELD moves throughout the weed from the point of contact to and into the root system. Initial visible effects on annual weeds take 3-7 days but may not be noticeable for 2 to 3 weeks under cool cloudy conditions or on some perennial weeds. Roundup Ready Herbicide with PLANTSHIELD will not control Roundup Ready Flex cotton, XtendFlex cotton, Roundup Ready canola, Triazine Tolerant-Roundup Ready canola, TruFlex canola with Roundup Ready Technology, or TruFlex-Clearfield canola volunteers at any leaf stage.

**MIXING**

Roundup Ready Herbicide with PLANTSHIELD 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 residue of other spray solutions prior to mixing. Good agitation is required, particularly under cold conditions, to ensure all of the Roundup Ready Herbicide with PLANTSHIELD dissolves when first added to the tank. Use spray solutions promptly as a gradual loss of activity may occur over a period of days following spray preparation.

**Mixing Roundup Ready Herbicide with PLANTSHIELD using one of the two methods below.**

*Full agitation in part-filled spray tank*

1. Fill the tank with one-half the required amount of clean water and set the pump on full agitation.
2. Add the required amount of Roundup Ready Herbicide with PLANTSHIELD slowly to ensure that it is well dispersed throughout the tank and none collects on the bottom. Suggested rate is 10 kg in 2-3 minutes.
3. Continue water addition and fully agitate until all the Roundup Ready Herbicide with PLANTSHIELD is completely dissolved.

*External pre-slurry*

1. Fill the spray tank with one-half the required amount of clean water.
2. Pre-mix the required amount of Roundup Ready Herbicide with PLANTSHIELD in a separate container until it is completely slurried by adding one-part Roundup Ready Herbicide with PLANTSHIELD to a minimum 3 parts water.
3. Add to vigorously agitating tank and continue water addition.
4. Fully agitate until all the Roundup Ready Herbicide with PLANTSHIELD is completely dissolved.

**Tank mixing procedure**

**DO NOT use for "over the top" applications in Roundup Ready Flex cotton, Xtend Flex cotton, Roundup Ready canola (except Triazine Tolerant-Roundup Ready canola), or TruFlex canola with Roundup Ready Technology (except TruFlex-Clearfield canola) crops unless specified in the Directions for Use. Consider carefully any plant back periods to cotton or other crops.**

1. Fill the spray tank 1/3 or 1/2 full of clean water and start agitation.
2. Add Roundup Ready Herbicide with PLANTSHIELD. Mix thoroughly and continue water addition.
3. Where liquid ammonium sulfate is recommended, add 2 L/100 L spray solution into the tank and mix thoroughly.
4. Add recommended herbicide/additive to the spray tank and mix thoroughly.
5. Add surfactant near the end of the filling process to minimise foaming.
6. Always maintain adequate agitation during application and use the tank-mix promptly.

Clean all equipment after use by washing thoroughly with water or recommended decontaminant.

**COMPATIBILITY**

**Tank mixtures**

NOT FOR USE OVER THE TOP OF ROUNDUP READY FLEX COTTON, XTENDFLEX COTTON, ROUNDUP READY CANOLA (excluding tank mix of an atrazine 900 g/kg water dispersible granule product in Triazine Tolerant-Roundup Ready canola) OR TRUFLEX CANOLA WITH ROUNDUP READY TECHNOLOGY (excluding tank mix of Intervix in TruFlex-Clearfield canola) UNLESS SPECIFIED IN THE DIRECTIONS FOR USE.

**Herbicides**

Ally®, Affinity®, 300 g/L clopyralid aqueous concentrate product, 600 g/kg metsulfuron-methyl water dispersible granule, Avadex® Xtra, Comet® 400, Dual Gold®, Eclipse®, 680 g/L 2,4-D ethyl hexyl ester emulsifiable concentrate, Express®, Factor® WG, Flame®, Flandor®, Garlon® 600, Glean®, Hammer®, Intervix, Invader®, 500 g/L dicamba aqueous concentrate product, Logran® 750WG, Lontrel, Nufarm L.V.E. Agritone®, Monza®, Nugran®, 600 g/L atrazine soluble concentrate, 900 g/kg atrazine water dispersible granule, Rifle®, Arvesta Select® 120, Flowable Simazine, Nufarm Simazine 900 DF, Solicam, Stomp®, Striker®, Surflan, Nufarm Surpass® 475, TriflurX®, Triflur Xcel®, Verdict® 520 and Yield*. Two-way mixes are chemically and biologically compatible, other mixes (three-way) have not been tested. Other brands have not been tested.

The addition of Striker® at 75 mL/ha to recommended rates of Roundup Ready Herbicide with PLANTSHIELD prior to planting winter cereals or cotton will improve knockdown of certain weeds.

**Insecticides**
This product is compatible with the following insecticides. Astound® Duo, Nufarm Dimethoate, Imidan®, Karate®, Le-Mat®, Perfekthion EC 400, Pirate® 300, Sumithion ULV and emulsifiable concentrates of fenitrothion. Two-way mixes are chemically and biologically compatible, other mixes (three-way) have not been tested. Other insecticides have not been tested.

**SURFACTANT ADDITION**
Additional surfactant is not required except where the rate of Roundup Ready Herbicide with PLANTSHIELD is less than 6 g/L (e.g. 600 g/100 L water) when applied by boom.

**ADDITIVES**
**A 417 g/L liquid ammonium sulfate product**
**RATE:** 2 L per 100 L spray solution.
A 417 g/L liquid ammonium sulfate product may be used as an adjuvant to alleviate the adverse effects of high levels of calcium, magnesium and bicarbonate ions in water.

**Pulse® Adjuvant**
**RATE:** 200 mL/100 L spray solution.
Add when treating bracken (boom application).

**Wetter TX Adjuvant**
**RATE:** 200 mL/100 L spray solution.
Add when treating annual ryegrass in spring (from beginning August to end October). Wetter TX is not a general-purpose surfactant and should be used only where recommended.

**APPLICATION**
**Ground boom**
For broadcast (over-the-top) application, a spray volume of 50 - 80 litres per sprayed hectare is recommended for optimum performance. Nozzles and pressure settings must be selected to deliver a minimum of COARSE spray quality (American Society of Agricultural Engineers (ASAE) S572) at the target. Depending on prevailing temperature, relative humidity, delta T, wind speed, travel speed and boom height the spray quality produced at the nozzles may need to be coarser than this. In sensitive areas avoid using nozzles and/or pressure settings that produce a VERY FINE to MEDIUM spray quality, as these droplets are more prone to drift off-target.

**Directed/shielded ground application equipment**
Equipment should be used which directs the spray plume to the base of the cotton plants minimising contact with the foliage. Total application volume of 80 L/ha should be used. Select nozzle types that produce a minimum COARSE spray quality (ASAE S572). Be aware of operational factors such as ground speed, nozzle height and row integrity. Monitor the application using water sensitive paper if uncertain. Monitor environmental conditions that may influence off target droplet movement such as temperature, relative humidity and wind speed.

**High volume application**
(e.g. knapsack/handgun equipment) The dilution rate is given as grams/litre e.g. 5 grams Roundup Ready Herbicide with PLANTSHIELD per 1 litre of water. This is equal to 75 grams Roundup Ready Herbicide with PLANTSHIELD per 15 litres of water or 500 grams per 100 litres of water. Adjust equipment to achieve an even spray pattern with a minimum of a COARSE spray quality at the target. Apply to ensure complete and uniform wetting of all foliage.

**Aerial equipment**
When applying Roundup Ready Herbicide with PLANTSHIELD by aircraft over the top (OTT) of Roundup Ready Flex cotton, XtendFlex cotton, Roundup Ready canola or TruFlex canola with Roundup Ready Technology, nozzles and pressure settings must be selected to deliver a minimum of a COARSE spray quality (ASAE S572) at the target. Depending on prevailing temperature, relative humidity, delta T, wind speed, travel speed and boom height the spray quality produced at the nozzles may need to be coarser than this. In sensitive areas avoid using nozzles and/or pressure settings that produced a VERY FINE to MEDIUM spray quality as these droplets are more prone to drift off-target. A minimum total application volume of 40 L per hectare needs to be used.

**Triazine Tolerant-Roundup Ready canola**: DO NOT apply tank mix of Roundup Ready Herbicide with PLANTSHIELD with atrazine to Triazine Tolerant-Roundup Ready canola by aircraft. Apply only with a low boom sprayer with a 60 m buffer zone downwind of treated fields to natural or impounded lakes or dams, and

a 20 m buffer zone for any well, sink hole, intermittent or perennial stream. Apply only to areas where run-off is unlikely to occur or where run-off may be captured by farm earthworks. Application can be made as an overall spray or as a band spray. Minimum band-width should be 30 cm.

**TruFlex-Clearfield canola**: DO NOT apply tank mix of Roundup Ready Herbicide with PLANTSHIELD tank with Intervix Herbicide by aircraft.

DO NOT apply Roundup Ready Herbicide with PLANTSHIELD by aircraft at temperatures above 30ºC. Avoid application when relative humidity falls below 35%.

DO NOT apply during low-level inversion conditions, when winds are gusty or under any other conditions which favour drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

PREVAILING ENVIRONMENTAL CONDITIONS MUST BE CONSIDERED.
ANY AERIAL APPLICATION TO COTTON SHOULD BE DONE IN ACCORDANCE WITH THE AUSTRALIAN COTTON INDUSTRY'S BEST MANAGEMENT PRACTICES MANUAL.

**AVOID DRIFT** - EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE APPROPRIATE ROUNDUP READY TECHNOLOGY, AND TO NATIVE VEGETATION, AND TO PREVENT CONTAMINATION OF OPEN BODIES OF WATER AND WATERWAYS.

**APPLICATION CHECK LIST**

- 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 2 hours of application which causes run-off will require re-treatment. Rainfastness is reduced if weeds are not actively growing, under stress or conditions of low light intensity/darkness.
- Delay treatment of plants wet with dew or rain, if water droplets run off when plants are disturbed.
- 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.
- Be aware of any crops that may be in the vicinity of the application that are sensitive to Roundup Ready Herbicide with PLANTSHIELD.
- When applying Roundup Ready Herbicide with PLANTSHIELD by aircraft over the top of Roundup Ready Flex or XtendFlex cotton up to the 22$^{nd}$ node, nozzles and pressure settings must be selected to deliver a minimum COARSE spray quality (ASAE S572) at the target. A minimum total volume of 40 L per hectare must be used.
- If glyphosate resistant weeds are known to be present, use an alternative method of control before these weeds set seed.
- Be aware of native and other non-target vegetation in the vicinity of application, as such vegetation may be severely affected or destroyed by Roundup Ready Herbicide with PLANTSHIELD.

**RESISTANT WEEDS WARNING**

| GROUP | 9 | HERBICIDE |
|---|---|---|

Roundup Ready Herbicide with PLANTSHIELD is a member of the Glycines group of herbicides. Roundup Ready Herbicide with PLANTSHIELD has the inhibition of EPSP synthase mode of action. For weed resistance management Roundup Ready Herbicide with PLANTSHIELD is a Group 9 herbicide. Some naturally occurring weed biotypes resistant to Roundup Ready Herbicide with PLANTSHIELD 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 Roundup Ready Herbicide with PLANTSHIELD or other Group 9 herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Bayer Crop Science accepts no liability for any losses that may result from the failure of Roundup Ready Herbicide with PLANTSHIELD to control resistant weeds.

Users of Roundup Ready Herbicide with PLANTSHIELD over Roundup Ready Flex cotton, XtendFlex cotton, Roundup Ready canola, Triazine Tolerant-Roundup Ready canola, TruFlex canola with Roundup Ready Technology and TruFlex-Clearfield canola must implement practices that minimise the development of resistance in treated weeds. Minimising this risk may best be achieved by following the integrated weed management strategy guidelines summarised below:

1. Aim to enter the Roundup Ready cropping phase of the rotation with a low weed burden.
2. Integrate as many different weed control options (chemical and cultural) as possible through all phases of

the crop rotation.
3. Make every herbicide application count – use registered rates at the correct application growth stage and assess effectiveness.
4. Rotate herbicides with different modes of action throughout the crop rotation.
5. Regularly monitor the effectiveness of resistance management practices.
6. Test weed populations for herbicide resistance status as part of ongoing integrated weed management.
7. If planting into a paddock with suspected glyphosate resistance growers must have a plan to manage such weeds.

It is advised that consultation on Integrated Weed Management be undertaken with an accredited agronomist or program prior to use of Roundup Ready Herbicide with PLANTSHIELD over Roundup Ready Flex cotton, XtendFlex cotton, Roundup Ready canola, Triazine Tolerant-Roundup Ready canola, or TruFlex canola with Roundup Ready Technology or TruFlex-Clearfield canola. More information on Integrated Weed Management can be found at: www.weedsmart.org.au.

As with conventional varieties, volunteer and ratoon Roundup Ready Flex and XtendFlex cotton plants, volunteer Roundup Ready canola, Triazine Tolerant-Roundup Ready canola, TruFlex canola with Roundup Ready Technology and TruFlex-Clearfield canola plants may occur in fallows, and non-cropping areas of a farm such as irrigation ditches, module pads, water storages, etc. These plants will not be controlled by Roundup Ready Herbicide with PLANTSHIELD or other glyphosate (Group 9) herbicides and should be controlled in both cropping and non-cropping areas. These plants are best managed with cultivation and/ or the appropriate registered herbicides (see the Integrated Weed Management Strategy Guidelines above). Growers should ensure that they have an effective weed management strategy developed for the control of these weeds.

Users of Roundup Ready Herbicide with PLANTSHIELD over Roundup Ready Flex cotton, XtendFlex cotton, Roundup Ready canola, Triazine Tolerant-Roundup Ready canola, TruFlex canola with Roundup Ready Technology and TruFlex-Clearfield canola must allow Bayer Crop Science or its agents to undertake audits or surveys as necessary to assess management by users of the development of glyphosate resistance in target weeds. Bayer Crop Science or its agents will conduct an audit or survey annually on a percentage of fields where Roundup Ready Herbicide with PLANTSHIELD has been used over Roundup Ready Flex cotton, XtendFlex cotton, Roundup Ready canola, Triazine Tolerant-Roundup Ready canola, TruFlex canola with Roundup Ready Technology or TruFlex-Clearfield canola.

**RESISTANT WEEDS REPORTING**
Users of Roundup Ready Herbicide with PLANTSHIELD and Bayer Technology Service Providers (TSPs) are required to report any adverse events, such as suspected weed resistance, to Bayer as soon as it is identified. Bayer will investigate the incident and produce a report of any incidents of confirmed resistance of weeds to Roundup Ready Herbicide with PLANTSHIELD in target weed species which are normally susceptible to this herbicide and forward the report as soon as practicable to the Australian Pesticides and Veterinary Medicines Authority. Weeds identified to have survived Roundup Ready Herbicide with PLANTSHIELD must be controlled by an alternative strategy in order to prevent seed from setting seed.

**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**
Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Single-rinse or shake remainder into spray tank. DO NOT dispose of undiluted chemicals on site. 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. Do not re-use empty container for any other purpose.

**SAFETY DIRECTIONS**
Harmful if swallowed. Will damage eyes. Will irritate the skin. Avoid contact with eyes and skin. When preparing product for use wear elbow-length PVC gloves and goggles. If product in eyes, wash it out immediately with 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 gloves, goggles and contaminated clothing.

**FIRST AID**
If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

**SAFETY DATA SHEET**
Additional information is listed in the Safety Data Sheet, which can be obtained from www.crop.bayer.com.au.

**EXCLUSION OF LIABILITY**
This product must be used strictly as directed, and in accordance with all instructions appearing on the label and in other reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.



FOR 24 HOUR SPECIALIST ADVICE
IN EMERGENCY ONLY
PHONE 1800 033 111

APVMA Approval No. 63268/129281

**GHS STATEMENTS**

**•Causes serious eye damage.**
•IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician.