

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

Dual Gold®

HERBICIDE

Active Constituent: 960 g/L S-METOLACHLOR

Controls certain annual grasses and broadleaf weeds in certain crops as specified in the Directions for Use table.

GROUP	K	HERBICIDE
-------	----------	-----------

NRA Approval No: 50477/1003

Pack size: 5 L, 20 L, 100 L

GENERAL INSTRUCTIONS

Resistant Weeds Warning

DUAL GOLD Herbicide is a member of the amide group of herbicides. The product has the herbicides with diverse sites of action mode of action. For weed resistance management, the product is a Group K herbicide.

Some naturally-occurring weed biotypes resistant to the product and other Group K herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by this product or other Group K herbicides.

Since the occurrence of resistant weeds is difficult to detect prior to use, Syngenta Crop Protection Pty Limited accepts no liability for any losses that may result from the failure of this product to control the resistant weeds.

Advice as to strategies and alternative treatments that can be used should be obtained from your local supplier, consultant, local Department of Agriculture, Primary Industries Department or a Syngenta representative.

Uses

The product is a short residual, pre-emergent herbicide for the control of many important annual grasses and broadleaf weeds in the crops nominated. The product does not control the important broadleaf weeds in maize, sweet corn and Concep II treated sorghum but, when mixed with Flowable Gesaprim®, control of many important annual weeds and grasses is obtained without the problem of carryover of herbicides affecting succeeding crops. The product acts mainly through shoot (coleoptile) absorption. Its effectiveness depends on the occurrence of rainfall or irrigation to move it down into the top 3 to 4 cm of soil, where it must be present at the time of weed germination.

Application

Ground Application: Apply in a minimum of 60 L/ha of water.

DO NOT apply by aircraft.

Mixing

Fill the spray tank to one quarter full. Then add DUAL GOLD while adding water to make up the final spray volume. Pour DUAL GOLD into the stream of incoming water. Good agitation at the time DUAL GOLD is added to the tank will ensure good mixing.

When tank mixing: Wettable powder or water dispersible granule formulations should be added to the tank first, followed by suspension concentrates (flowables), water soluble salts then DUAL GOLD or other emulsifiable concentrate formulations. Maintain thorough agitation during mixing and application. Agitate tank-mixes vigorously if allowed to stand.

NB: Tank-mix spray solution should NOT be left standing in the vat overnight.

Compatibility

DUAL GOLD is compatible with Flowable Cotogard®, Flowable Cotoran®, Flowable Gesagard®, Flowable Gesaprim®, Gesaprim Granules 900 WG®, Logran®, Basagran*, Spray.Seed 200® and Roundup*.

WARNING - Cotton: DO NOT use when planting into dry soil or soil with marginal moisture. Under dry planting conditions heavy rain or flood irrigation soon after planting, together with below average soil temperatures, can result in crop injury due to the inability of the germinating seedling to metabolise above normal amounts of the herbicide that may accumulate in the root zone as a result of accelerated capillary movement. DUAL GOLD should not be used in situations where these conditions are likely to occur.

WARNING - Brassica Crops: Crop retardation may occur where DUAL GOLD is used on soils that have a low organic matter content and which contain more than 60% of fine sand and silt. On these soil types, use rates of DUAL GOLD towards the lower end of the rate range and apply onto moist soil. Irrigation after application should be limited to no more than 25 mm. DO NOT use more than once per year.

Zero-tillage (Canola, Barley, Oats, Wheat, Triticale): When sowing using knife points and zero-tillage, and leaving a seeding slot, do not apply post-seeding unless harrows (or similar) have filled-in the seeding slot before application. Alternatively, apply DUAL GOLD immediately before seeding.

PRECAUTION

Re-entry Period

DO NOT enter treated areas without protective clothing until spray has dried.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

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

DO NOT plant crops other than maize, sweet corn, tobacco, cotton, soybeans, sunflowers, peanuts, broccoli, Brussels sprouts, cabbages, cauliflowers or Concep II treated sorghum within 6 months of application of DUAL GOLD.

PROTECTION OF LIVESTOCK

DO NOT graze or cut sweet potato leaves for stock food.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

TOXIC TO FISH. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

DO NOT apply under meteorological conditions or from spraying equipment which could be expected to cause spray to drift onto adjacent areas, particularly wetlands, waterbodies or watercourses.

(continued)

Dual Gold

GENERAL INSTRUCTIONS – *continued*

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well ventilated area out of direct sunlight.

Refillable containers

Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

Other containers

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SAFETY DIRECTIONS

Will damage the eyes. Avoid contact with eyes and skin. Repeated exposure may cause allergic disorders. Sensitive workers should use protective clothing.

When opening the container and preparing spray wear:

- cotton overalls buttoned to the neck and wrist (or equivalent clothing);
- a washable hat;
- elbow-length PVC gloves; and
- goggles.

When using the prepared spray, wear:

- cotton overalls buttoned to the neck and wrist (or equivalent clothing);
- a washable hat;
- elbow-length PVC gloves; and
- face shield or 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, faceshield or goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone 131 126.

MATERIAL SAFETY DATA SHEET

If additional hazard information is required, refer to Material Safety Data Sheet. For a copy phone 1800 067 108 or visit our website at www.syngenta.com.au

MANUFACTURER'S WARRANTY AND EXCLUSION OF LIABILITY

Syngenta has no control over storage, handling and manner of use of this product. Where this material is not stored, handled or used correctly and in accordance with directions, no express or implied representations or warranties concerning this product (other than non-excludable statutory warranties) will apply. Syngenta accepts no liability for any loss or damage arising from incorrect storage, handling or use.

® Registered trademark of a Syngenta Group Company.

* Registered trademark.

DIRECTIONS FOR USE

Restrains: DO NOT apply to waterlogged soils.
DO NOT apply if heavy rains or storms that are likely to cause run-off are forecast within 2 days of application.
DO NOT irrigate to the point of run-off for at least 2 days after application.

Crop	Weeds Controlled	State	Rate	Critical Comments
Broccoli, Brussels Sprouts, Cabbages, Cauliflowers	Barnyard Grass, Blackberry Nightshade, Chickweed (suppression), Deadnettle, Fat Hen, Love Grass, Pigeon Grass, Pigweed (suppression), Potato Weed, Shepherd's Purse, Stinging Nettle, Summer Grass, Wireweed (suppression)	Qld, NSW, Vic, Tas, NT only	1.5 to 2 L per ha	Apply immediately after transplanting. Sufficient irrigation to wet the top 3 to 4 cm of soil should be applied within 24 hours. Use rates towards the higher end of the range where Blackberry Nightshade, Chickweed, Fat Hen, Love Grass, Pigeon Grass, Pigweed, Potato Weed and Wireweed are the major problem. See General Instructions for Warning - Brassica Crops.
	Crowsfoot Grass, Fierce Thornapple (suppression), Liverseed Grass, Winter Grass	NSW only		Apply immediately after transplanting. Sufficient irrigation to wet the top 3 to 4 cm of soil should be applied within 24 hours. Use rates towards the higher end of the range where Apple of Peru, Common Sowthistle, Fierce Thornapple, Liverseed Grass, Redroot Amaranth, Twigg Turnip and Nettleleaf Goosefoot are the major problems.
	Apple of Peru, Awnless Barnyard Grass, Fierce Thornapple (suppression), Liverseed Grass, Yellow Weed, Redroot Amaranth (suppression)	Qld only		WARNING: Qld only. Stunting and reduced yield may occur in broccoli in red soils and light alluvial soils.
	Annual Ryegrass, Common Cotula, Common Sowthistle (suppression) Crowsfoot Grass, Fiddle Dock, Italian Ryegrass, Liverseed Grass, Nettleleaf Goosefoot (suppression), Twigg Turnip (suppression), Winter Grass	Vic, Tas only		See General Instructions for Warning - Brassica Crops.
Canola	Toad Rush	All States	0.15 to 0.25 L per ha	Apply at or immediately after planting and before crops and weeds emerge. Apply to moist soil. Use rates toward the higher end of the range where longer residual control is required. See General Instructions for use in zero-tillage systems.
Cotton	Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Love Grass, Pigeon Grass, Summer Grass, Wandering Jew	Qld, NSW, WA only	1 L per ha	Pre-emergent: Apply before, at or immediately after planting and before crops and weeds have germinated using a low volume boom sprayer applying 60 to 120 L of mixture per ha. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. Use rates towards the higher end of the range on heavy soils or where a heavy grass population is expected. DO NOT throw untreated soil onto treated areas as this will reduce weed control. DO NOT use on soils where the sand content exceeds 70%. Use lower rate where the sand content of the soil is within the range 50% to 70%. See General Instructions for Warning - Cotton.

(continued)

Dual Gold

DIRECTIONS FOR USE – *continued*

Crop	Weeds Controlled	State	Rate	Critical Comments
Green Beans, Navy Beans	Blackberry Nightshade, Common Sowthistle, Fat Hen, Potato Weed, Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Love Grass, Pigeon Grass, Summer Grass and suppression of Pigweed	Qld, NSW, Vic, SA only	1.5 to 2 L per ha	Pre-emergent: Apply before, at or immediately after planting and before crops and weeds have germinated. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. DO NOT throw untreated soil onto treated areas as this will reduce weed control.
	Powell's Amaranth	Tas only	2 L per ha	Pre-emergent: Apply before, at or immediately after planting and before crops and weeds have germinated. For sufficient Amaranth control, the DUAL GOLD application should be followed by 1 L/ha Basagran (2 leaf Amaranth) plus 2 L/ha Basagran (4 leaf Amaranth). Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. DO NOT throw untreated soil onto treated areas as this will reduce weed control.
Maize, Sweet Corn	Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Love Grass, Pigeon Grass, Summer Grass, Wandering Jew	All States	1 to 2 L per ha	Pre-emergent: Apply before, at or immediately after planting and before crops and weeds have germinated using a low volume boom sprayer applying 60 to 120 L of mixture per ha. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. Use rates towards the higher end of the range on heavy soils or where a heavy grass population is expected. DO NOT throw untreated soil onto treated areas as this will reduce weed control. DO NOT use on soils where the sand content exceeds 70%. Use lower rate where the sand content of the soil is within the range 50% to 70%.
	Blackberry Nightshade, Caltrop, Common Thornapple, Mintweed, Needle Burr, Noogoora Burr, Pigweed, Redroot Amaranth, Slim Amaranth.		1 to 2 L plus 2.5 L of Flowable Gesaprim (500 g/L) per ha	
Pastures – Trikkala Sub Clover, Haifa White Clover, Maral Persian Clover, Paradana Balansa Clover, Redquin Red Clover, Phalaris and Cocksfoot	Toad Rush	NSW, Vic, SA, WA, Tas, NT only	200 to 250 mL per ha	Apply at or immediately after planting and before pasture species and weeds emerge. Application should be made to a moist seed bed. Sufficient rain to thoroughly wet the top 3 to 4 cm of soil should occur within 10 days after spraying. Use rates towards the higher end of the range in wet areas or when longer residual control is required. DO NOT use in soils where prolonged waterlogging is anticipated otherwise unacceptable crop retardation will occur. Avoid damage to pasture species by avoiding overlaps and double spraying in headlands where White, Persian and Balansa Clovers are sown and if the 250 mL rate is being used.
Peanuts	Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Love Grass, Pigeon Grass, Summer Grass, Wandering Jew	Qld, NSW, WA, NT only	1 to 2 L per ha	Apply before pre-irrigation where soil crusting is likely. Apply before, at or immediately after planting and before weeds germinate. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable incorporate chemical to a depth of 3 to 4 cm. DO NOT throw untreated soil onto treated areas as this will reduce weed control. Use rates toward the higher end of the range on heavy soils or where a heavy grass population is expected.
Soybeans, Sunflowers		All States		

DIRECTIONS FOR USE – *continued*

Crop	Weeds Controlled	State	Rate	Critical Comments
Sorghum treated with Concep II Sorghum Seed Safener	Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Love Grass, Pigeon Grass, Summer Grass, Wandering Jew	Qld, NSW, WA, NT only	1 to 2 L per ha	Pre-emergent: Apply before, at or immediately after planting and before crops and weeds have germinated using a low volume boom sprayer applying 60 to 120 L of mixture per ha. DO NOT apply to sorghum seed not previously treated with Concep II Sorghum Seed Safener. Rain or irrigation is necessary within 10 days of spraying to thoroughly wet the top 3 to 4 cm of soil. If rain does not occur or irrigation is unavailable, incorporate chemical to a depth of 3 to 4 cm. Use rates toward the higher end of the range on heavy soils or where a heavy grass population is expected. DO NOT throw untreated soil onto treated areas as this will reduce weed control. Use the lower rate on sandy soils.
	Blackberry Nightshade, Caltrop, Common Thornapple, Mintweed, Needle Burr, Noogoora Burr, Pigweed, Redroot Amaranth, Slim Amaranth		1 to 2 L plus 2.5 L of Flowable Gesaprim (500 g/L) per ha	
Sugar Cane (plant and ratoon)	Awnless Barnyard Grass, Barnyard Grass, Bellvine, Billygoat Weed (Blue Top), Blackberry Nightshade, Caltrop, Common Sowthistle (Milk Thistle), Common Thornapple, Crowsfoot Grass, Green Summer Grass, Guinea Grass, Liverseed Grass, Mexican Clover, Mintweed, Needle Burr, Passionfruit vines, Pigeon Grass, Pigweed, Redroot Amaranth, Square Weed, Star of Bethlehem, Summer Grass, Wild Rose.	Southern Qld only (Bundaberg South)	1.1 to 1.45 L plus 2.7 to 3.6 L Flowable Gesaprim 500 SC or 1.5 to 2 kg of Gesaprim WG 900	Apply as a pre- or post emergent application to crop. Apply once per year only. Application should be made to a moist soil before weeds and grasses have germinated. If conditions remain dry for a period of 10 days after spraying, irrigation or a shallow cultivation (2.5 cm) may assist results. DO NOT throw untreated soil onto treated areas as this will reduce weed control. In Southern Queensland, use rates toward the higher end of the range on heavy soils where a high grass population is expected. In Northern Queensland, application must be made to moist soil and rainfall or irrigation should occur within 24 hours of application. Use rates toward the higher end of the range where high Green Summer Grass population is expected. Where broadleaf weeds and grasses have emerged and are in the 2 to 4 true leaf stage, knockdown herbicides such as Primatol® Z (2 L/ha), a flowable diuron (500 g/L) at 1 L/ha or Gramoxone® W (1 L/ha), applied as a post directed spray, can be added.
		Northern Qld only (Mackay North)	1.45 to 1.8 L plus 3.6 to 4.5 L Flowable Gesaprim 500 SC or 2 to 2.5 kg of Gesaprim WG 900	Where broadleaf weeds only have emerged and are at the 2 to 4 true leaf stage then a 500 g/L 2,4-D amine at 2 L/ha should be added. In all cases add a non-ionic surfactant. Follow all instructions and restrictions on the Gesaprim labels.
Sweet Potatoes	Black Pigweed, Red Shank, Potato Weed, Barnyard Grass, Crowsfoot Grass, Liverseed Grass, Love Grass, Pigeon Grass, Summer Grass, suppression of Evening Primrose	Qld, NSW, Vic, SA, NT only	1.5 L per ha	Pre-emergent: Apply immediately after transplanting before weeds have germinated. Sufficient irrigation to wet the soil through the weed zone should be applied within 24 hours. Further weed germination may occur following rehillng due to exposure of untreated soil.

(continued)

Dual Gold

DIRECTIONS FOR USE – *continued*

Crop	Weeds Controlled	State	Rate	Critical Comments
Tobacco (transplanted in field)	Barnyard Grass, Love Grass, Pigeon Grass, Summer Grass and suppression of Common Thornapple (<i>Datura stramonium</i>) and Nightshades (<i>Solanum sarrachoides</i> and <i>S. gigrum</i>)	NSW, Vic only	1.5 L per ha	Apply by low volume boom spray prior to transplanting and before weeds and grasses germinate. The seed bed should be fine and free of large clods. Thoroughly incorporate within 7 days of spraying using a rotary hoe or similar equipment set to work to a depth of 7.5 cm. DO NOT use disc cultivating implements. An even coverage of the herbicide is essential. The herbicide needs to be activated by moisture through to the top 3 to 4 cm of soil at the time of application or within 4 days of incorporation. This can be achieved by applying to moist soil, irrigating soon after incorporation or irrigating immediately after transplanting. Avoid boom overlaps as double treatment may cause growth suppression. Temporary crop retardation may be observed when soil conditions remain dry after application or where Black Root Rot may occur.
Barley, Oats	Suppression of Annual Ryegrass	NSW, ACT, Vic, Tas, SA, WA only	375 to 500 mL per ha	Apply to moist soils immediately after planting and before crop and weeds emerge. Use the lower rate on light soils. Application should be made to a moist seed bed and sufficient rain to thoroughly wet the top 3 to 4 cm of soil should occur within 10 days after spraying. Damage may occur if crop is sown too shallow (less than 4 cm). Damage can occur on light sandy soil types after heavy rain. See General Instructions for use in zero-tillage systems.
Wheat, Barley, Oats, Triticale	Toad Rush	NSW, ACT, Vic, Tas, SA, WA only	150 to 250 mL per ha	Apply at or immediately after planting and before crop and weeds emerge. Application should be made to a moist seed bed and sufficient rain to thoroughly wet the top 3 to 4 cm of soil should occur within 10 days after spraying. Use rates toward the higher end of the range in wet areas or when longer residual control is required or in situations where crop competition is minimal. When mixed with Logran 750 apply pre-sowing and incorporate by sowing operation (for wheat only). See General Instructions for use in zero-tillage systems.

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

WITHHOLDING PERIOD:

Canola:

Green beans:

Pastures:

Sweet Potatoes:

Wheat, Barley, Oats, Triticale:

DO NOT GRAZE TREATED FIELDS FOR 10 WEEKS AFTER APPLICATION.

DO NOT HARVEST BEANS FOR 8 WEEKS AFTER APPLICATION.

DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 10 WEEKS AFTER APPLICATION.

DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 13 WEEKS AFTER APPLICATION.

DO NOT HARVEST GRAZE OR CUT FOR STOCK FOOD FOR 23 WEEKS AFTER APPLICATION.

DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 8 WEEKS AFTER APPLICATION.

HARVEST with-hold for all other crops: NOT REQUIRED WHEN USED AS DIRECTED

FORAGE with-hold for all other crops (except Sweet Potatoes): DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 13 WEEKS AFTER APPLICATION.