

Best practice sorghum weed control with DUAL GOLD[®]



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DUAL GOLD Key Facts

Formulation

Formulated as an Emulsifiable Concentrate (EC), DUAL GOLD contains 960g/L S-metolachlor.

Application

DUAL GOLD can be safely applied to sorghum treated with Concept II seed safener.

DUAL GOLD should be applied at 1 to 2L/ha before, at or immediately after planting and before the crop and weeds have emerged using a low volume boom sprayer in a minimum of 60L/ha water. Use rates towards the higher end of the rate range on heavy soils or where a large grass population is expected. Use the lower application rate (1L/ha) on sandy soils.

Weed Control

On grass weeds such as Barnyard, Crowsfoot and Liverseed, DUAL GOLD is imbibed through the coleoptiles as the weeds germinate. In broadleaf weeds (Blackberry Nightshade, Caltrop and Amaranth) DUAL GOLD is imbibed through the shoot and roots of germinating weeds. For some broadleaf weeds the addition of Gesaprim is required. For a complete list of weeds, rates and recommended tank mixes refer to the product label.

Key Application Considerations

Incorporation

DUAL GOLD should be incorporated by 10 to 15mm of rain or irrigation within 10 days of spraying to thoroughly wet the top 3 to 4cm of soil.

Too little rainfall or irrigation will reduce the incorporation band providing a smaller window of uptake by germinating weeds. Too much rainfall or irrigation (>20mm within 2 to 10 days after application) may move the herbicide band below surface germinating weeds, resulting in poor control. Too much rainfall soon after planting may, in some situations, also move DUAL GOLD further down the soil profile concentrating the active ingredient around the germinating sorghum

seedling. Avoid applications where heavy rainfall is expected within 2 to 10 days of planting.

If rainfall or irrigation does not occur, consider mechanical incorporation. If using mechanical incorporation, DO NOT throw untreated soil onto treated areas as this will reduce weed control.

Moisture

DUAL GOLD requires good soil moisture in order to control the weeds. DUAL GOLD is twice as active in a soil at 90% field capacity as a soil at 65% field capacity. As the soil dries out DUAL GOLD adheres more strongly to soil and is less available to control weeds. Conversely, in saturated soil, larger amounts of DUAL GOLD will be available to plants in the soil moisture. This will generally mean more product is available to be taken up by weeds and the crop.



Figure 1: DUAL GOLD applied post-sowing pre-emergent (PSPE) at 2L/ha

Crop Effects

When DUAL GOLD is applied prior to planting, the crop also takes up the product as it germinates. Some crops like maize are able to detoxify the DUAL GOLD without any adverse crop effects. Sorghum is not as efficient at detoxifying DUAL GOLD, therefore the seed should be treated with CONCEP II to help the seedling detoxify the DUAL GOLD.

Should the emerging crop be under stress (e.g. water logging, cold conditions, etc.) plant metabolism can slow down, and this can in turn reduce the crops ability to detoxify the DUAL GOLD. In this situation herbicidal effects may be observed in the germinating crop. The extent of these effects will depend on the crop in question, the use of CONCEP II seed safener and the degree and duration of the stress event.

Seedbed

To provide the best results the seedbed should be a fine tilth, free of clods and left flat. Furrows provide trenches which allow DUAL GOLD to concentrate around the planted seed. Ridges on the other hand can dry out quickly and this can reduce weed control.

If applying DUAL GOLD pre-seeding, planting application equipment needs to be minimum disturbance to minimise disturbance of the herbicide band and to prevent throwing untreated soil onto treated soil.

CONCEP II Seed Safener



CONCEP II is translocated into the plant from the soil solution (off the seed) where it stimulates the enzyme system that breaks down DUAL GOLD. The enzyme system then has increased capacity to break down s-metalochlor at a faster rate.

CONCEP II is supplied on seed at a rate that can adequately breakdown DUAL GOLD at rates of up to 2L/ha under optimum conditions. Most seed companies applying CONCEP II seed safener follow strict guidelines of seed quality and application.



Figure 2: DUAL GOLD reduces weed competition allowing the crop to reach its yield potential.

DUAL GOLD Best Practice

To give the crop and weed control the best chance of success, consider the following practices:

- Always use CONCEP II on sorghum seed
- Apply DUAL GOLD at 1 to 2L/ha in minimum of 60L/ha water
- Ensure minimal disturbance if applying pre-plant
- Incorporate DUAL GOLD with 10 to 15mm rainfall or irrigation within 10 days of application
- If rainfall or irrigation is not available, consider mechanical incorporation
- Avoid applications where heavy rainfall is expected within 2 to 10 days of planting.

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