

Managing large or hard-to-control weeds



syngenta®

SPRAY.SEED® is a non-selective contact herbicide from the bipyrindyl group of herbicides.

Contact herbicides like SPRAY.SEED do not translocate and generally have very little movement within the plant. For this reason contact herbicides like paraquat (GRAMOXONE®), paraquat and diquat (SPRAY.SEED), diquat (REGLONE®), bromoxynil (Buctril®), carfentrazone (Affinity* and Hammer*), diflufenican (Brodal*) and oxyfluorfen (Goal* and Spark*) rely on good spray coverage and herbicide contact with the plant surface to provide satisfactory control of weeds.

Key contact herbicide advantages

Contact herbicides are technically more suited to controlling small to medium size, primarily annual weeds with immature root systems. The major advantages of a contact herbicide (in this case SPRAY.SEED) over systemic herbicides are:

- Rapid rainfastness
- Works very quickly on the target species
- Offers increased flexibility in application and weed growing conditions
- Is safe to use under perennial trees/vines and prior to emerging crops
- Provides rapidly desiccated rather than slowly decaying weeds
- Gives a different knockdown herbicide mode of action for resistance management
- Maximises moisture retention via rapid weed control
- Provides rapid root release for sowing ease and short time intervals to allow convenience at the time of sowing

Systemic herbicide advantages

Systemic herbicides (such as TOUCHDOWN® HITECH™) are generally more effective at control-ling larger weeds with substantial root systems and they may control a wider spectrum of perennial weeds. However, they are not as rainfast or as safe to perennial crops and tend to be slow to act compared with contact herbicides.

It is preferable to spray weeds when they are small. Spraying weeds early is good management practice and will maximise the performance of knockdown herbicides.

Advantages of spraying small weeds include:

- Improved efficacy providing total weed control
- A lower and always more economical rate of herbicide can be used providing cost effective weed control
- Less moisture is lost from the soil profile. Smaller weeds transpire and use less water. This retains valuable moisture to maximise your crop yield and financial return as opposed to spraying large weeds
- Soil applied residual herbicides work more effectively as they can cover a larger percentage of the

soil surface than if applied over large weeds or a large carpet of decaying weed matter. Weeds are not tying up valuable residual herbicide if controlled early and thus its performance is maximised

- Crop yields will increase if weeds are removed at a young stage due to less in crop competition and maximised moisture availability

Tips to control large or hard-to-control weeds with SPRAY.SEED

SPRAY.SEED does and will control large/hard-to-control weeds. The following guidelines should be used in order to maximise the efficacy of SPRAY.SEED on large weeds:

- Use higher product rates of SPRAY.SEED. This will assist in controlling large/hard-to-control weeds. Rates of SPRAY.SEED can range from 600 to 3200mL/ha. Refer to product label for specific use rates in your area
- The Double Knock strategy is an excellent tool to maximise SPRAY.SEED efficacy, also promoting alternative knockdown resistance management techniques

The traditional Double Knock strategy is where a knockdown herbicide is applied, followed by cultivation or sowing with full soil disturbance to complete the Double Knock on the weeds. This is a very effective strategy which has been steadily declining in use with the trend towards minimum/zero tillage.

Even on properties where minimum/zero tillage is practised effectively there may be a position for the strategic use of tillage to introduce another method of weed control for problem or resistant weeds as part of a diverse weed management system.

Adopt the new Double Knock strategy

Instead of the traditional Double Knock strategy, leading progressive farmers in various states are adopting the new alternative Double Knock technique.

This is one of the most effective ways of maximising herbicide efficacy on large weeds and managing knockdown herbicide resistance and is an expanded form of Double Knock.

However, instead of the second knock being cultivation it is a second knock-down herbicide. There are two proven effective strategies involving the Double Knock.

OPTION 1:

Apply glyphosate (TOUCHDOWN HITECH) first followed by SPRAY.SEED 1-7 days later. Both applications are at full label rates.

OPTION 2:

Apply SPRAY.SEED first followed by another application of SPRAY.SEED 7-15 days later.

The decision on which option to use depends on the weed spectrum, time to sowing period and paddock history. It should also be noted that if using Option 2 it is sound weed management practice to rotate this use pattern amongst paddocks and by season to help avoid the potential for knockdown resistance.

Effective target weed coverage is essential

All contact herbicides rely on excellent weed coverage for maximum performance and SPRAY.SEED is no different. Adequate water rates and appropriate spray quality are critical to achieving optimum weed control. Water rate guidelines on a label are provided to ensure that you maximise the value of the herbicide you have paid for. High water rates and medium to coarse droplet sizes are essential.

If the droplet size is constant then generally higher water rates will provide greater efficacy. Water rates in the range of 50-150L/ha are required.

Spray in low light intensity conditions

Spraying under low light conditions will maximise the performance of SPRAY.SEED. As SPRAY.SEED relies on light intensity for activity, the higher the light intensity the faster the herbicide activity.

SPRAY.SEED can work very rapidly under high light (bright and sunny) conditions, at times not allowing the remaining herbicide to control all plant tissue. By spraying under low light (overcast/dull, dark/night) conditions the activity of SPRAY.SEED will slow enough

to potentially allow some additional movement of paraquat/diquat in the plant cells where it can provide improved efficacy.

Additional surfactant can assist efficacy

The addition of extra surfactant to SPRAY.SEED may assist with the control of some hard-to-control weeds. Weeds such as Silvergrass, Fat Hen and Portulaca will benefit from the addition of extra surfactant. An additional surfactant will also be beneficial if using more than 200L/ha of water. The following rates should be used – add AGRAL® at 200mL/100L or BS1000* at 100mL/100L of water.

Combine with partner herbicides

Enhance SPRAY.SEED's activity with the addition of another partner herbicide. A major benefit of SPRAY.SEED is its partner herbicide compatibility. Many products mix extremely effectively with SPRAY.SEED without any physical incompatibility or herbicide performance antagonism. For hard-to-control weeds like Marshmallow, Stinging Nettle, Erodium and Pattersons Curse/Salvation Jane a Group G herbicide spike mixed with SPRAY.SEED is very effective.

Refer to the SPRAY.SEED Directions for Use table when using SPRAY.SEED to manage hard-to-control weeds.

The options listed in this technote will increase the efficacy of SPRAY.SEED on large weeds. Time is limited where we can just use glyphosate as a method of weed control. With glyphosate resistance detected in Australia we need to continue introducing diversity into our weed management programs from many different sources. SPRAY.SEED is the most effective knockdown herbicide alternative to glyphosate.

Used in rotation with glyphosate or in a Double Knock strategy, the use of SPRAY.SEED in a historically glyphosate use pattern will help assist in prolonging the effective life of glyphosate.

Beware of plant-back periods and application restrictions for the products in the table below.

Spikes for managing hard to control weeds with SPRAY.SEED

Spike Product	Active	Pest	Spike Rate/ha
Goal*, Striker*, Spark	240g/L Oxyfluoren	Marshmallow, Stinging Nettle, Erodium, Primrose	75-250mL/ha
Estercide* 800	800g/L 2,4-D Ester	General broadleaf weeds	200-1000mL/ha
Amicide*	500g/L 2,4-D Amine	General broadleaf weeds, Mungbeans, African Turnip Weed, Sesbania Pea, Sunflower, Hexham Scent, Amaranth	300-1000mL/ha
Ally*, Associate*, Metsulfuron	600g/kg Metsulfuron-methyl	Soursob, Sorrel, Dock, Legumes, Erodium, Three Corner Jack / Doublegee, Fleabane	3-7g/ha
Hammer*	240g/L Carfentrazone-ethyl	Marshmallow, Stinging Nettle, Erodium, Canola, Cotton Sub-Clover, Patter	25-75mL/ha
Pledge*	500g/kg Flumioxazin	Marshmallow, Wireweed, Medic, Canola	30g/ha
Lontrel*, Archer*	300g/L Clopyralid	Capeweed, Thistles, Legumes	50-300mL/ha
CADENCE®	700g/kg Dicamba	Wireweed, Legumes, Sorrel, Dock, Climbing Buckwheat / Black Bindweed, Amaranth	140-400g/ha
Diuron	500g/L Diuron	Capeweed, Erodium, Turnip, Shepherds Purse, Patersons Curse	500-1800mL/ha
Eclipse*	714g/kg Metosulam	Radish, Legumes, Turnip	5-7g/ha
REGLONE®	200g/L Diquat	Capeweed, Erodium	250-1500mL/ha



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