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WEED & PEST CONTROL IN MAIZE



CONTENTS

- 3 — prior to planting
- 5 — pre-emergent weed control in maize
- 6-8 — post-emergent weed control in maize
- 9 — maize partner products
- 10-11 — maize schematic

COMPANY OVERVIEW

Orion AgriScience is a leading supplier of crop protection products in New Zealand. Our focus is delivering practical and effective solutions to better meet the needs of the farming industry.

With an extensive global supply network Orion AgriScience searches out the best products to help New Zealand farmers and growers maintain their competitive edge.

Orion AgriScience products are designed for New Zealand and trusted to perform under local conditions.

PROVEN CONTROLS TO IMPROVE YIELDS.

Competition from weeds can have a devastating effect on crop yield. The key to success is to control weeds during the early stages of crop establishment. Orion AgriScience has the products, the experience and advice to get the best from your crop.

BACKUP & SUPPORT

With experienced field staff covering the length and breadth of the country Orion AgriScience has a support team that is committed to product backup and service. For general enquiries **0800 6746627** is a convenient free phone service. For more specialised local advice and recommendations contact your local Orion AgriScience Territory Manager. For details see back cover or visit www.orionagriscience.co.nz.



PRIOR TO PLANTING

Glyphosate use for spray out

Quality land preparation is a key factor in establishing a good maize crop.

Use one of Orion's quality Glyphosate in spring to clean up unwanted weeds and pasture prior to cultivation.

The use of Glyphosate pre-planting gives extended grazing and lessens the time interval between the previous crop and this seasons maize crop.

Glyphosate rates will depend on the strength of the Orion product being used, always refer to label.

GLYPHOSATE

Sizes: 20L, 200L, 1000L

DEAL™ 510: Premium high strength Glyphosate

Active Ingredient: 510g/litre glyphosate as the isopropylamine salt in the form of a soluble concentrate.

DEAL™ 360: Quality 360 Glyphosate product

Active Ingredient: 360 g/litre glyphosate as the isopropylamine salt in the form of a soluble concentrate.

Penetrants/surfactants to be used with Glyphosate

SILMAXX™

Contains: organosilicone penetrant / surfactant

Size: 5L, 20L

Silmaxx is a specialized organosilicon surfactant/penetrant. Its primary use is to aid Glyphosate for the control of ryegrass and increase the rain fasteness.

Use rate: 100mLs per 100ltrs.

PRE-EMERGENT WEED CONTROL IN MAIZE.

SYLON® 840 - High performance

Active Ingredient: 840 g/litre acetochlor in the form of an emulsifiable concentrate.

Sizes: 20L, 100L, 200L, 1000L

SYLON is a hydrocarbon solvent free formulation unlike any other product on the market. The high level of active ingredient (840 g/litre acetochlor) and specialised co-formulants guarantee an extremely high level of weed control and crop safety - ensuring optimum yields.

Features;

- Contains a safener for those situations where it may be preferred
- Low odour, hydrocarbon solvent free formulation
- Unique binary emulsification system gives long lasting stability in the spray tank

Use Rate: 3 L/ha

ACETM™ - Cost effective

Active Ingredient: 840 g/litre acetochlor in the form of an emulsifiable concentrate

Sizes: 20L, 200L, 1000L

ACE provides cost-effective long lasting weed control in both silage and grain maize crops.

Features;

- Cost effective
- Formulated for New Zealand conditions
- Long established with a good reputation

Use Rate: 3 L/ha

CUTTER™ SAFE/CUTTER™ - Two in one

Active Ingredient: 840 g/litre acetochlor and 6 g/litre alpha-cypermethrin in the form of an emulsifiable concentrate

Sizes: 20L, 200L, 1000L

CUTTER SAFE/CUTTER provides the best of both worlds combining a long lasting pre-emergent herbicide with an insecticide co-formulated in one product.

Features;

- Two in one pre-emerge weed control plus insecticide
- Cost effective
- Formulated for New Zealand conditions

Use Rate: 3 L/ha

DOMINATOR® - For broadleaf weed control

Active Ingredient: Contains 480g/litre mesotrione in the form of a suspension concentrate

Sizes: 4L, 10L, 20L

DOMINATOR represents a new generation of herbicides based on callistemon plant technology and developed within New Zealand for pre-emergent broadleaf weed control in grain and silage maize.

Features;

- Unprecedented broadleaf weed control
- 21st century environmental profile with exceptional crop safety and yields

Use Rate: 450mL/ha

ATRAFLOW™/ATRAGRANZ™ - General broadleaf control

Atraflow Active Ingredient: 500 g/litre atrazine in the form of a suspension concentrate.

Sizes: 20L, 200L

Atragranz Active Ingredient: 900g/kg of atrazine in the form of a water dispersible granule.

Size: 10kg

ATRAFLOW/ATRAGRANZ offers added flexibility for the control of a wide range of broadleaf weeds.

Features;

- Timing flexibility - can be used in mixture with a pre-emergent grass herbicide such as ACE or SYLON or CUTTER SAFE/CUTTER
- Low cost weed control
- Synergistic partner for post-emergent DOMINATOR

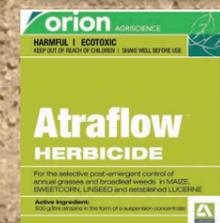
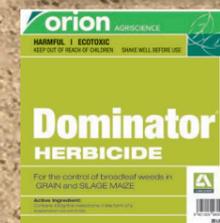
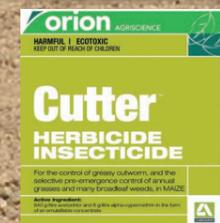
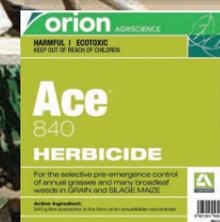
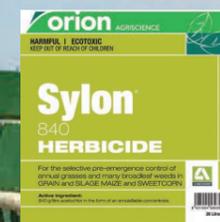
Use Rate: 3 L/ha ATRAFLOW or 1.7kg/ha ATRAGRANZ

Spraying bare ground recently planted in maize before the maize and any weeds have germinated.

TIPS

- Pre-plant spray-out and seedbed preparation both need to be done well.
- A pre-emergent spray is required in both Pasture to Maize and Maize to Maize situations.
- In most Pasture to Maize situations a post-emergent spray will not be required.
- If growing Maize for up to 4 seasons in the same paddock the standard 3 plus 3 mix is recommended.
- Where maize has been grown for more than 4 seasons Atrazine resistant weeds may be present. If this is the case ATRAFLOW/ATRAGRANZ should be removed from the pre-emergent spray programme. These weeds can be controlled at a later date with a post-emergent spray.
- In dry conditions apply in a minimum of 200 litres of water per hectare.
- A lower water rate can be used when rain is imminent as this spray mix should be washed into the profile of the soil. The mix can be applied in the rain.
- If grass weeds have germinated you can add 1-2 litres DEAL 510 to the ACE or CUTTER SAFE/CUTTER or SYLON or ATRAFLOW or ATRAGRANZ mix. Make sure NO maize emerged when applying this mix. Do not spray this mix if rain is imminent.
- Glyphosate products require a rain free period after application (refer to product label).
- Mix ATRAFLOW or ATRAGRANZ into the tank water first. ADD ACE or CUTTER SAFE/CUTTER or SYLON and any other additives afterwards.
- Where insect pressure is likely or for enhanced control, CUTTER SAFE/CUTTER should be your pre-emerge product of choice. CUTTER SAFE/CUTTER can be used on maize crops sown with either bare or treated seed.
- Add Dominator to the mix at 450 mL/ha for enhanced broadleaf weed control. (Use Synoil if weeds already germinated).

Pasture to Maize	Use 3 + 3 3 litres of Ace or Cutter Safe/Cutter or Sylon mixed with 3 litres of Atraflow or 1.7 kg Atragranz per hectare Add 450mL Dominator per hectare for increased broadleaf weed spectrum control
Maize to Maize 2-3 seasons	Use 3 + 3 3 litres of Ace or Cutter Safe/Cutter or Sylon mixed with 3 litres of Atraflow or 1.7 kg Atragranz per hectare Add 450mL Dominator per hectare for increased broadleaf weed spectrum control
Maize to Maize over 4 seasons or where difficult to control weeds have been traditionally present post-emergent.	Use 3 Litres Ace or Cutter safe/Cutter or Sylon, add 450mL Dominator per hectare for increased broadleaf weed spectrum control. Followed by post-emergent - spray after the maize has emerged and weeds are present.



POST-EMERGENT WEED CONTROL IN MAIZE.

POST-EMERGENT WEED CONTROL IN MAIZE.

Controlling weeds that have germinated after the maize has germinated.

TIPS

- The problems caused by weeds that germinate after the maize has emerged will be variable from year to year.
- There are a number of factors that contribute to the severity of post-emergence weeds such as ground temperature, weather (wet, dry, hot, cold) and pre-plant seedbed preparation.
- Generally post-emergence weed control and product choice falls into three categories depending on the weeds present.

BROADLEAF WEEDS

- It is essential that these products are applied together as a "triple mix".
- Apply in a minimum of 200 litres water per hectare.
- Generally it is better to spray weeds later (when weeds are about 150 mm high) as this allows as many broadleaf weeds as possible to germinate before application.
- Apply just before maize canopy closure if possible.
- Some hard to control weeds (like established docks, cornbind and oxalis) will need a specific DOMINATOR mix. Contact your Orion Territory Manager for details.

GRASS WEEDS

- Identify the grass weeds present (e.g. Summer grass, Couch, Mercer grass etc) and ensure the correct rate of ORION NICO ULTRA is applied.
- Spraying grass weeds early (up to 75mm high or 2 – 3 tillers) will provide better results than when applied later to large grass weeds.
- This treatment can cause some yellowing of the maize if applied into the whorl of the plant. The plants will recover.

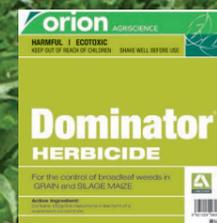
BROADLEAF AND GRASS WEEDS

- Identify the main weed problem (grass or broadleaf weeds) to determine if DOMINATOR and/or ORION NICO ULTRA based mix is best for your situation.
- Controlling a combination of broadleaf and grass weeds can be tricky. It is important to get the best advice when considering your options and take extra care when applying these treatments.
- For specific application rate and timing information contact your Orion Territory Manager.

INSECT CONTROL / CUTWORM

- Greasy cutworm – apply CYPHER at first sign of seedling damage. Apply preferably in the early evening and direct the spray to the plant base and surrounding soil.
- Army worm – apply CYPHER immediately pest appears, use high water rate to ensure penetration to base of crop.
- Corn earworm – apply CYPHER at first sign of caterpillars on silks. Repeat treatment every 10-14 days as required.

Mainly Broadleaf Weeds	200ml Dominator + 1 litre Atrflow + 1 litre Synoil per hectare.
Mainly Grass Weeds	1-2 litres Orion Nico Ultra per hectare.
Broadleaf and Grass Weeds	200ml Dominator and/or 1-2 litres Orion Nico Ultra per hectare.
Insect Control/Cutworm	200ml Cypher to be added to the above recommendations.



DOMINATOR® - For broadleaf weed control

Active Ingredient: Contains 480g/litre mesotrione in the form of a suspension concentrate
 Sizes: 4L, 10L, 20L

DOMINATOR represents a new generation of herbicides based on callistemon plant technology and developed within New Zealand for post-emergent broadleaf weed control in grain and silage maize.

Features;

- Unprecedented broadleaf weed control
- Timing flexibility
- 21st century environmental profile with exceptional crop safety and yields
- Works synergistically with ATRAFLOW/ATRAGRANZ, for increased performance
- Must be used with SYNOIL

Use Rate: 200mL/ha

SYNOIL™ - Must be used with DOMINATOR

Contains: A proprietary blend of refined white oil and polyglycol fatty acid esters.
 Sizes: 5L, 20L

SYNOIL enhances the uptake and spreading of DOMINATOR and some other herbicides, insecticides and fungicides, especially in marginal conditions where plants are hairy, waxy, dusty or weather hardened. It also acts as an anti-evaporant.

- SYNOIL must be added when using DOMINATOR

Use Rate: 1L/ha

ORION NICO ULTRA - Tackles hard to kill weeds - Suppresses Mercer grass

Active Ingredient: 60 g/litre of nicosulfuron plus 480 g/litre methylated seed oil adjuvant in the form of an oil in water dispersion

Sizes: 10L

ORION NICO ULTRA can be mixed with ATRAFLOW or ATRAGRANZ and BANVEL for greater broadleaf control. Provides suppression of Mercer grass.

Features;

- Safely applied to actively growing maize crops up to 8 leaf stage
- Control of wild oats
- Post-emergent control of summer grasses and couch
- Check label for weed activity range
- Formulation includes built-in adjuvant

Use Rate: 1 – 2L/ha

POST-EMERGENT WEED CONTROL IN MAIZE.

ATRAFLOW™ - General broadleaf control

Active Ingredient: 500 g/litre atrazine in the form of a suspension concentrate.

Sizes: 20L, 200L

ATRAFLOW offers added flexibility for the control of a wide range of broadleaf weeds.

Features;

- Synergistic partner for DOMINATOR
- Low cost weed control
- Can be mixed with BANDIT where triazine resistant weeds are present

Use Rate: 1 – 1.5L/ha (with DOMINATOR)

ATRAGRANZ® - Less packaging waste

Active Ingredient: 900g/kg of atrazine in the form of a water dispersible granule.

Sizes: 10kg

ATRAGRANZ is a high strength granular atrazine formulation.

Features;

- Less packaging
- Low cost weed control
- Synergistic partner for DOMINATOR

Use Rate: 0.5 – 0.8Kg/ha (with DOMINATOR)

VOID™ - Deals to thistles and volunteer potatoes

Active Ingredient: 300g/litre clopyralid as the amine salt in the form of a soluble concentrate.

Sizes: 1L, 5L, 20L

VOID gives good control of thistles, Bathurst burr and volunteer potatoes. Can be applied from the 3 leaf stage through until the crop closes over.

Features;

- Compatible with other broadleaf herbicides such as ATRAFLOW/ATRAGRANZ
- Safe to the crop

Use Rate: 0.5 – 1L/ha

BANDIT® Herbicide

Active Ingredient: 480 g/litre dicamba as the dimethylamine salt in the form of a soluble concentrate

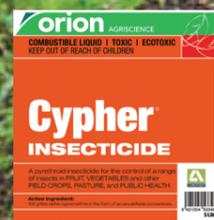
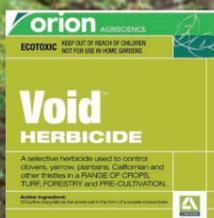
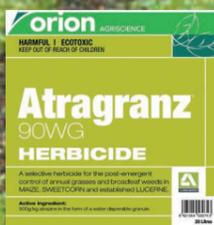
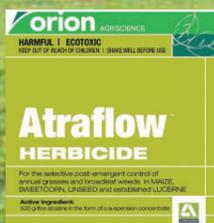
Sizes: 5L, 20L

A selective herbicide for control of certain hard to kill broadleaf weeds in conservation tillage programs and in cereals, maize, some forage brassicas, waste areas and spot treatment in pastures.

Features;

- Can be mixed with ATRAFLOW/ATRAGRANZ for residual broadleaf weed control
- Alternative mode of action
- Wide spectrum broadleaf weed control

Use Rate: 420 – 625mL/ha



MAIZE PARTNER PRODUCTS.

DUSK® – Long lasting slug and snail control

Active Ingredient: 54g/Kg of iron EDTA complex in the form of a granular bait.

Sizes: 10kg, 20kg, 125kg

Features;

- Non toxic
- Core based granule with iron complex active ingredient
- Out performs most competitors
- Fast acting with good residual activity
- Stable in adverse weather conditions - waterproof
- High coverage

Use Rate: 10 – 15kg/ha

MEGAWET™ - Specialised water rate reducer for use with partner herbicides

Active Ingredient: Polyalkoxylate siloxane.

Sizes: 20L

Features;

- Advanced adjuvant that enhances spray coverage, deposition and retention
- Allows lower water rate (100 L/ha) to be used without compromising weed control.
- Increases spraying area per tank – less down time to refill
- For post-emergent spraying only (Not pre-emergent)

Use Rate: 100mL per 100 L

CYPHER® – Highly active synthetic pyrethroid insecticide

Active Ingredient: 100 g/litre alpha-cypermethrin in the form of an emulsifiable concentrate

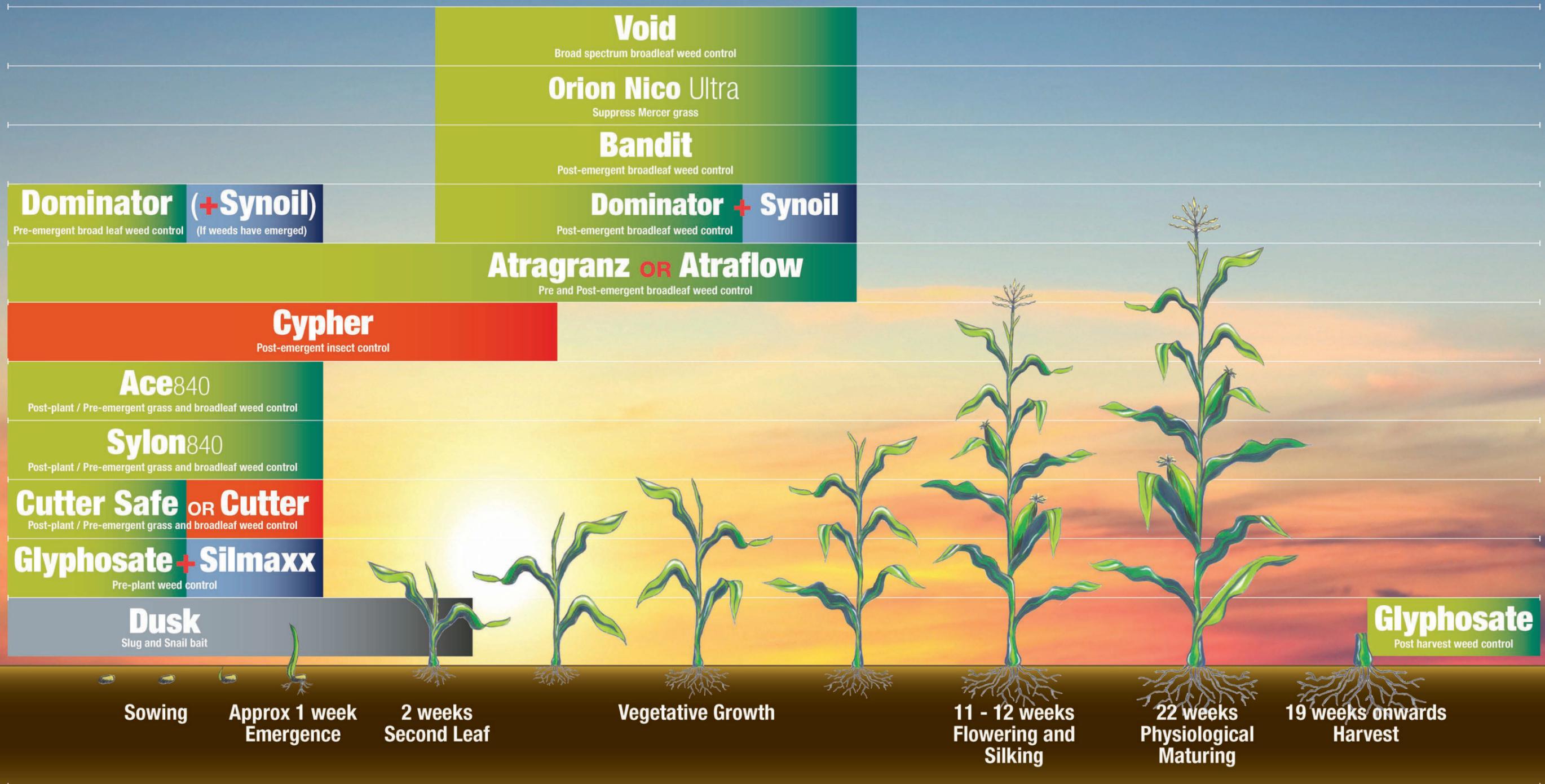
Sizes: 1L, 5L, 20L

Features;

- Fast acting with good residual activity - up to 3 weeks
- Effective against a wide spectrum of pests
- Registered for use in a wide range of situations including pasture, field crops, fruit, vegetables, brassicas, and public health
- Provides economical control of damaging insect pests

Use Rate: 150 – 200ml/ha

Protecting your Maize Crop every step of the way.



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