



ADAMA

Marathon[®]
Always a great mix.

Product Guide



HERBICIDE

[ADAMA.COM](https://www.adama.com)



Marathon® herbicide is your new 'go-to' tank-mix partner for early season post-emergent control of challenging and herbicide resistant weeds in wheat and barley.

Key points

- High-load solo pyrasulfotole formulation with the convenience and peace of mind of an in-built crop safener
- Knockdown activity against challenging and herbicide-resistant weeds, assisting with managing herbicide resistance through an alternate mode of action
- Flexibility to customise the pyrasulfotole rate with an extensive range of ADAMA tank-mix partners
- Ability to apply early (from 2-leaf crop stage, depending on the tank-mix partner)
- Unique formulation technology for robust performance under diverse environmental conditions
- Concentrated formulation for reduced handling, transport and storage

High concentration pyrasulfotole formulation

Marathon contains 230 g/L pyrasulfotole in an Emulsifiable Concentrate (EC) formulation. Pyrasulfotole is a Group 27 herbicide with the hydroxyphenyl-pyruvate dioxygenase (HPPD) inhibitor mode of action. Pyrasulfotole stops the production of pigment (carotenoid), causing chlorophyll destruction, bleaching and plant death. Marathon also contains the proven crop safener, mefenpyr-diethyl.

Controls challenging and herbicide-resistant weeds

Marathon provides knockdown activity against 28 broadleaf weeds, including many challenging or herbicide-resistant species. Marathon provides particularly robust control of *Brassicaceae* species (e.g. Wild Radish, Wild Turnip and Indian Hedge Mustard), as well as Sow Thistle, Paterson's Curse, Prickly Lettuce, Climbing Buckwheat, Bifora, Deadnettle and many others.



Effective early season weed control

Marathon can be applied to wheat and barley from the 2-leaf stage (depending on the tank-mix partner), maximising efficacy and yield potential. Marathon can be applied up to growth stage GS31. Research is continuing to examine application later in the season and registered use in oats.

Enhanced solubility and stabilisation

Marathon incorporates unique, patent-pending technology that enhances the solubility, stability and performance of high-load pyrasulfotole formulations under a broad range of environmental conditions. Pyrasulfotole has limited solubility in most organic solvents, which can lead to the formation of solid solvate (i.e. crystallisation) in certain conditions.

When solvation is optimised, the formulation remains stable across a broad temperature range and throughout storage and transport, reducing problems such as sedimentation or crystallisation of the active ingredient in addition to maximising efficacy in the field.

ADAMA has conducted extensive research involving various solvents to evaluate the Pyrasulfotole solubility profile. This enabled the development of a patent-pending novel, stable, and efficient high-concentration liquid formulation system for Marathon.

Customised tank-mixes for improved efficacy and spectrum

Marathon allows growers and their advisors to tailor the application rate of pyrasulfotole in combination with a broad range of tank-mix partners to optimise efficacy and spectrum. Marathon is compatible with many ADAMA tank-mix partners, including Bronco® 400, Quadrant®, Triathlon®, Colt®, Legacy® MA, LVE MCPA 570, Priority® and Picoflex®.

The Marathon Weed Star Rating Chart (Table 1 overleaf) rates Marathon efficacy in combination with a broad range of ADAMA tank-mix partner-herbicides compared with some alternative options.

Ratings have been devised from reference to product labels, extensive field observations gathered under a range of environmental and management conditions, and results from replicated research trials. Correct adjuvant type and rate have been applied to relevant mixes.

The star rating assists with the selection of the most appropriate tank-mix partner(s) based on the weed spectrum present, including known activity on weed species despite not being labelled.

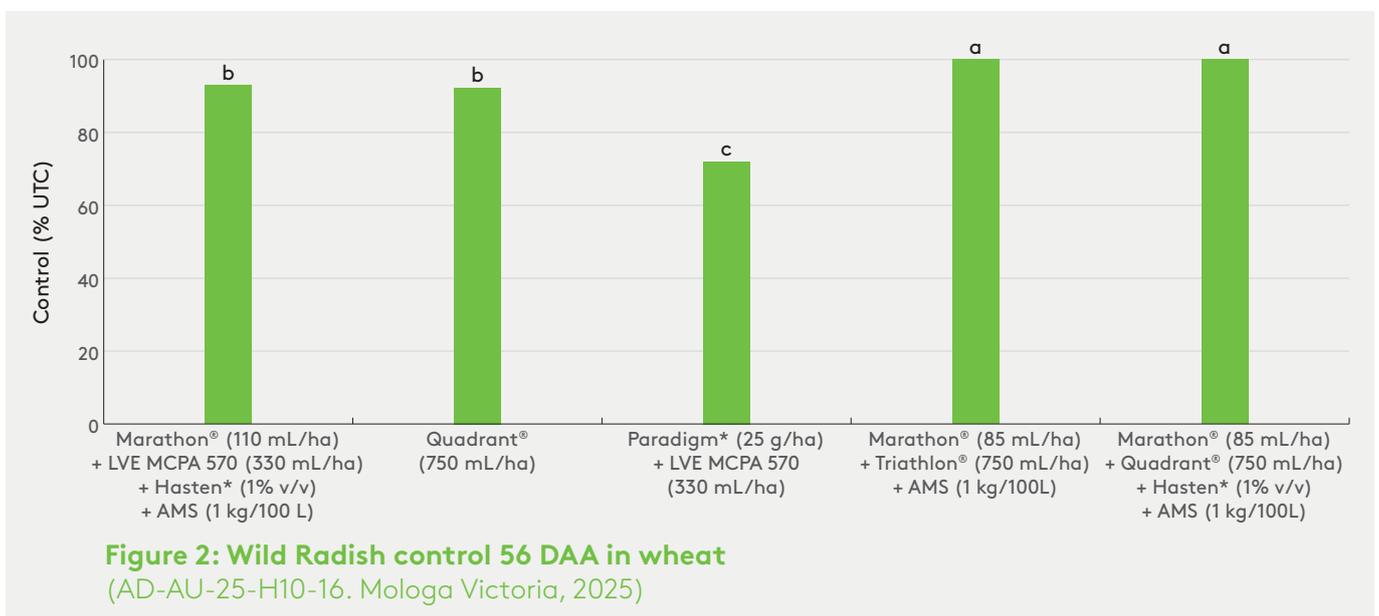
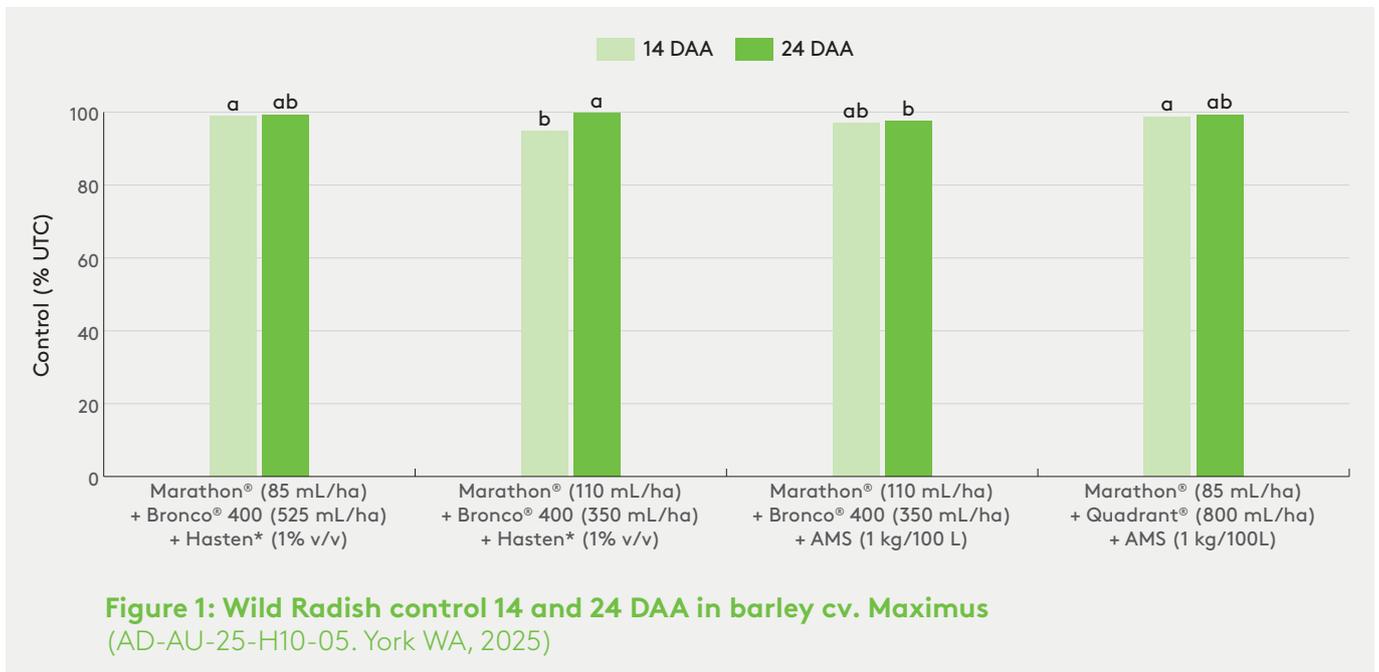
Rating	Best Choice	Good control	Control	Some activity/ suppression	Marathon® + LVE MCPA 570	Marathon® + Bronco® 400	Marathon® + Quadrant®	Marathon® + LVE MCPA 570 + Priority®	Quadrant® or Triathlon®	Priority® + Quadrant® or Triathlon®	Paradigm* + LVE MCPA 570	Talinor*
★	Fully registered	★	Known efficacy (not registered)		Pyrasulfotole 230 g/L + LVE MCPA 570 g/L	Pyrasulfotole 230 g/L + Bromoxynil 400 g/L	Pyrasulfotole 230 g/L + Bromoxynil 240 g/L + Diflufenican 20 g/L + MCPA 250 g/L + Picolinafen 10 g/L	Pyrasulfotole 230 g/L + LVE MCPA 570 g/L + Flurasulam 200 g/L	Bromoxynil 240 g/L + Diflufenican 20 g/L + MCPA 250 g/L + Picolinafen 10 g/L	Florasulam 200 g/L + Bromoxynil 240 g/L + Diflufenican 20 g/L + MCPA 250 g/L + Picolinafen 10 g/L	Halauxifen 200 g/kg + Florasulam 200 g/kg + LVE MCPA 570 g/L	Bicyclopyrone 37.5 g/L + Bromoxynil 175 g/L
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This guide aims to assist growers and their advisors to select appropriate tank-mix partner(s) based on the identified weed spectrum, including known activity against weed species not contained on the registered label. These ratings have been determined using multiple sources, including product labels, extensive field observations gathered under a range of environmental and management conditions, the results of replicated research trials and industry-available information. Correct adjuvant type and rate have been applied to relevant mixes.

Field trial results

Extensive field trials have examined the efficacy of Marathon and various tank-mix partners against challenging and herbicide-resistant weeds. These trials have confirmed Marathon allows growers and their advisors to tailor the application rate of pyrasulfotole with different tank-mix partners and adjuvants (Figure 1). Tank-mixing Marathon with multi-mode of action herbicides (e.g. Quadrant or Triathlon) improves efficacy against Wild Radish and provides residual protection due to the

inclusion of Group 12 chemistry (Figure 2) compared with tank-mixes with bromoxynil or MCPA. Tank-mixing Marathon with Bronco 400 (bromoxynil) has clear synergies compared with tank-mixes of pyrasulfotole and MCPA (Figures 3 & 4). The ability to tailor the pyrasulfotole application rate with a range of tank-mix partners helps to optimise efficacy against the identified weed spectrum and herbicide resistance management strategies (Figure 5).



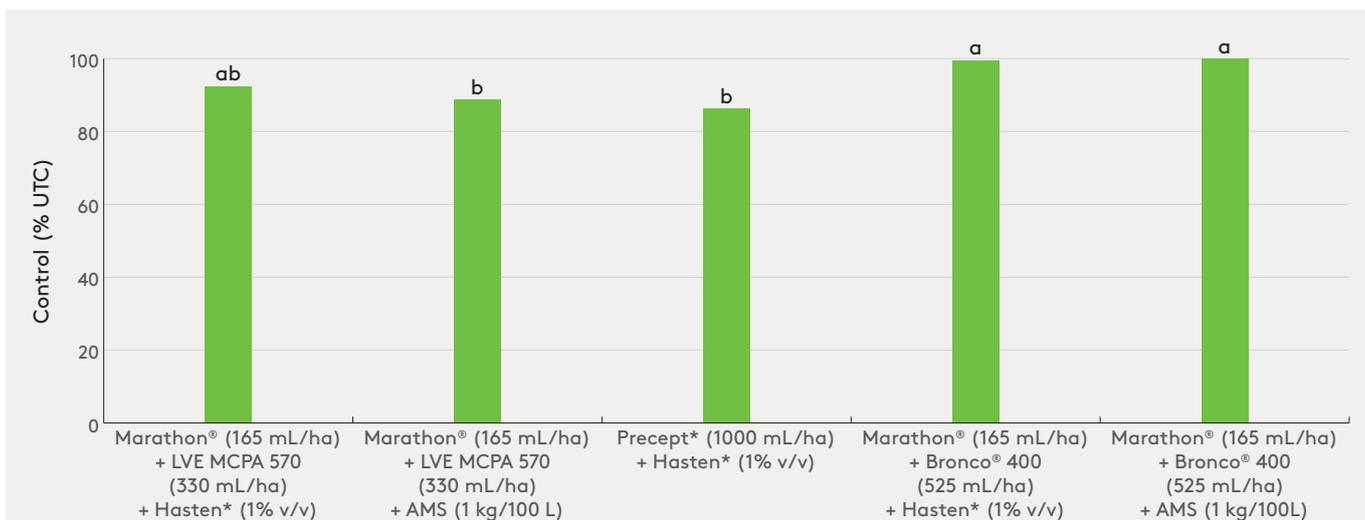


Figure 3: Sowthistle control 26 DAA in wheat cv. Sunmax
(AD-AU-25-H10-06. Oakey QLD, 2025)

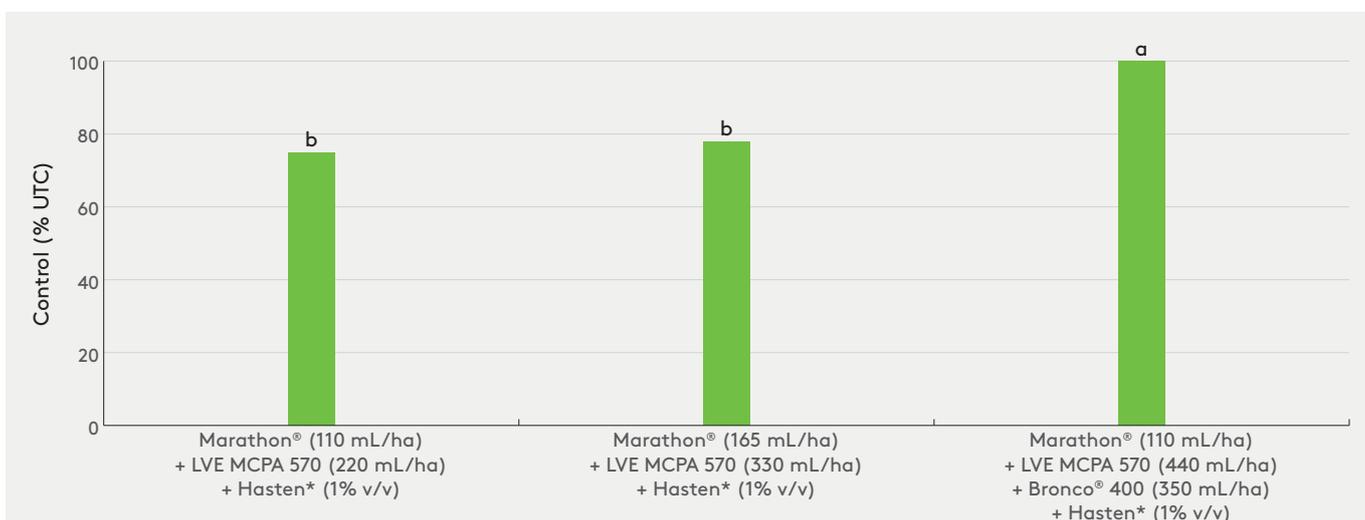


Figure 4: Prickly Lettuce control 28 DAA in barley cv. Maximus
(AD-AU-23-H06-05. Litchfield Victoria, 2023)

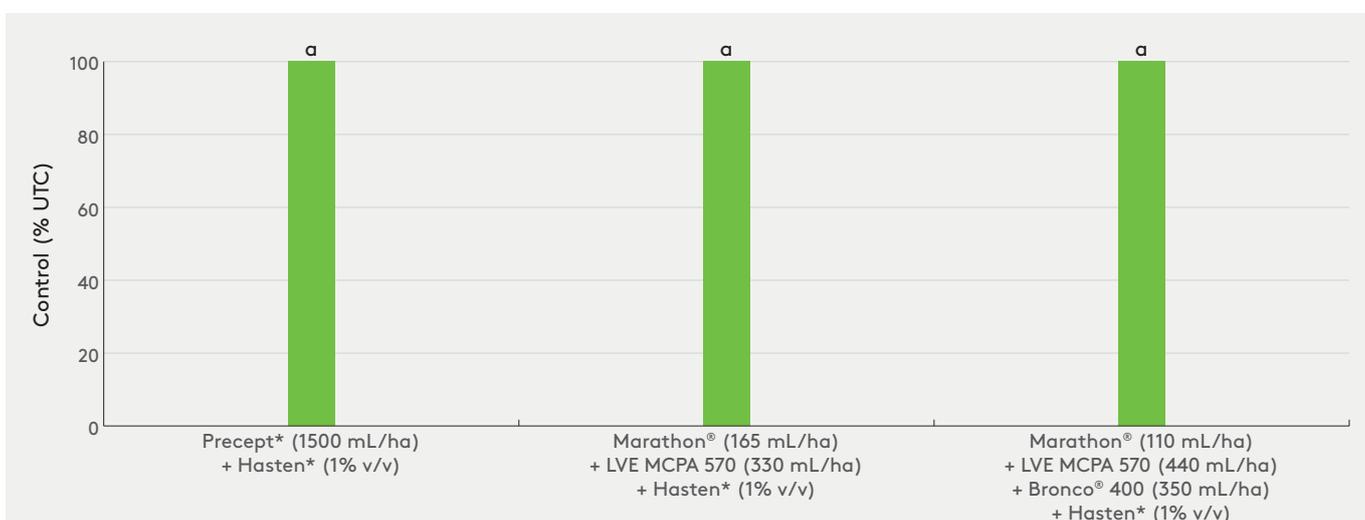


Figure 5: Indian Hedge Mustard control 28 DAA in barley cv. Maximus
(AD-AU-23-H06-05. Litchfield Victoria, 2023)

Frequently asked questions

How is Marathon different from other pyrasulfotole products?

Marathon contains the highest concentration of pyrasulfotole of any formulation currently registered for use in Australia. It enables growers and advisors to include a Group 27 herbicide at the optimal rate with an extensive range of ADAMA tank-mix partner-herbicide options for enhanced control of target broadleaf weeds in wheat and barley. It contains an in-built crop safener for enhanced crop safety.

Why use Marathon over other solo pyrasulfotole formulations?

Marathon incorporates unique, patent-pending formulation technology that overcomes crystallisation and stability issues associated with many solo pyrasulfotole formulations. This technology maintains solubility, stability and performance during transport, storage and use under a broad range of environmental conditions. ADAMA has filed for an inventions patent covering a stable and efficient formulation system containing ≥ 125 g/L pyrasulfotole and a new solid solvate form.

Can I make my own Velocity® or Precept® equivalent?

Yes. However, this may not offer the best option for your situation. Marathon allows flexibility to tailor the correct ratio of active ingredients to your paddock's needs, which is likely to deliver improved performance compared with pre-formulated fixed-ratio products.

Is Marathon only a Wild Radish herbicide?

No. Marathon controls 28 broadleaf weeds, including many challenging or herbicide-resistant species in wheat and barley. While Marathon provides particularly robust control of members of *Brassicaceae* species (e.g. Wild Radish, Wild Turnip and Mustard), it also provides effective control of Sow Thistle, Paterson's Curse, Prickly Lettuce and many other broadleaf weeds. The choice of mix-partner will also impact the number of species controlled. This is a key benefit of using Marathon, as it offers flexibility to match herbicide choice to weed spectrum.

Does Marathon provide residual weed control?

No. Marathon does not provide residual weed control. However, tank-mixing Marathon with Quadrant or Triathlon will provide residual control due to the inclusion of Group 12 active ingredients (i.e. picolinafen and diflufenican). Always follow the plant-back restrictions on the registered label of all tank-mix partners to avoid injury to following crops.

Can Marathon be tank-mixed with Quadrant or Triathlon?

Yes. Quadrant and Triathlon are excellent tank-mix partners for Marathon to enhance efficacy and spectrum. Quadrant and Triathlon contain three different modes of action, making them useful for resistance management. Always include 1% AMS. An oil adjuvant is not recommended when tank-mixing Marathon with Quadrant or Triathlon.

Why tank-mix Marathon with LVE MCPA 570 or bromoxynil?

Refer to the Marathon Weed Star Ratings Chart for detailed weed ratings. In general, bromoxynil provides more robust control when tank-mixed with Marathon due to known synergies between these actives.

Is Marathon compatible with insecticides and fungicides?

Yes. Marathon is compatible with a broad range of insecticides and fungicides. Refer to the Marathon Physical Compatibility Guide.

Do I need to use an adjuvant with Marathon?

Yes. It is strongly recommended to always include 1% ammonium sulphate (AMS), regardless of water quality. An oil adjuvant can further improve consistency, particularly on larger, older or stressed weeds. The benefit of adding an oil adjuvant is limited when targeting small, actively growing weeds with robust tank-mix partner rates. No wetter is required. Good coverage is essential. Apply ≥ 75 L/ha water for reliable performance.

When is Marathon applied?

Marathon can be applied to wheat and barley crops from the 2-leaf stage, depending on the tank-mix partner. Marathon is registered for use up to growth stage GS31. Research is continuing to determine the potential for application later in the season, in addition to developing registered use in oats.

What is the recommended spray quality and water rate for ground application?

Marathon should be applied using a COARSE spray quality. The minimum water rate is 50 L/ha. The preferred water rate is >75 L/ha. Good coverage is essential for consistent control.

Can Marathon be applied by air?

Yes. Marathon may be applied by air in a minimum water volume of 30 L/ha. NB: DO NOT apply in tank-mix with Bronco 400 by air.

How does light conditions affect efficacy?

The application of Marathon under overcast or low light conditions may slow uptake and visible symptoms. This does not affect final weed control. Symptoms typically appear in 2–7 days in warm, sunny conditions or 5–12 days in cool or overcast weather. Apply at least one hour before sunset for best results. Avoid spraying just before sunset, as dew may reduce droplet drying and uptake.

What is the rainfast period for Marathon?

Pyrasulfotole is typically rainfast within two hours of application. Rainfastness will also depend on tank-mix partner. Tank-mixes of Marathon with bromoxynil, Quadrant and Triathlon have shorter rainfast periods than tank-mixes with LVE MCPA.

Will Marathon bleach cereal crops?

Marathon has the hydroxyphenyl-pyruvate dioxygenase (HPPD) inhibitor mode of action. Temporary yellowing, bleaching or biomass reduction may occur 2–5 weeks after application, especially if crops are stressed (cold, wet, dry or nutrient deficiency). These effects are temporary and do not normally impact yield.

Have re-cropping intervals been established for Marathon?

The registered label for Marathon details crop rotation recommendations and re-cropping intervals to winter and summer crops. Always follow the plant-back restrictions on the registered label of all tank-mix partners to avoid injury to following crops.

Can Marathon be applied to Durum wheat?

Durum wheat can be more sensitive to herbicides. Limited trial results indicate good crop safety when Marathon and its tank-mix partners are applied to Durum wheat.

Can Marathon be mixed with UAN?

Marathon is physically compatible with UAN. However, there has been limited biological testing. There is potential for increased crop effects and oil adjuvants should be avoided in this mix. Always check compatibility of other tank-mix partners with UAN before use.

Can I add trace elements with Marathon?

The effect of mixing Marathon with various trace elements has not been investigated thoroughly. It is advised not to tank-mix Marathon with trace elements.

Application guidelines

Ground

Apply in 50–150 L water/ha. 75 L/ha or above is recommended for most consistent performance.

Aerial

Apply in a minimum 30 L water/ha. DO NOT apply Marathon with Bronco 400 by air.

Timing

Apply in wheat and barley from 2-leaf crop stage (GS12) to first node (GS31). Timing will be dependent on tank-mix partner.

Adjuvants

Apply with 1 L/100 L of Hasten* or other quality blended methylated/ethylated seed oils (e.g. Plantocrop* or Kwickin*). Alternatively, spray-grade ammonium sulphate (AMS) can be added for effective weed control in tank mixtures with Marathon. The use of an oil adjuvant can improve consistency, particularly on larger, older or stressed weeds. ADAMA recommends the use of AMS in all situations, even if an oil adjuvant is used.

Compatibility

Marathon is compatible with a wide range of ADAMA herbicides and other crop protection inputs. Refer to the Marathon physical compatibility guide and correct mixing order guide at adama.com before use.

Withholding periods

Harvest: Not required when used as directed.

Grazing: Do not graze or cut for stock food for four weeks after application.

When using Marathon herbicide in a tank-mix with another product(s), observe whichever harvest or grazing withholding period is the longest.

Key weeds targeted by Marathon



Wild Radish



Sowthistle



Prickly Lettuce



Indian Hedge Mustard



Climbing buckwheat

Re-cropping intervals

Marathon breaks down by microbial degradation, which is favoured by warm, moist, aerobic soil. Where less than the minimum rain has fallen between application and planting the next year, it is recommended to only plant a cereal crop.

Soil pH: Application to soils with a pH greater than 8.4 (soil in water) has not been tested and is not recommended. Recropping symptoms are reduced on acid soils (pH <6.5 soil in water, pH <6.0 in CaCl₂).

Tank-mixes with other herbicides: Observe the longer re-cropping interval of the tank mix products used for the relevant crop.

Common tank-mix partners for Marathon



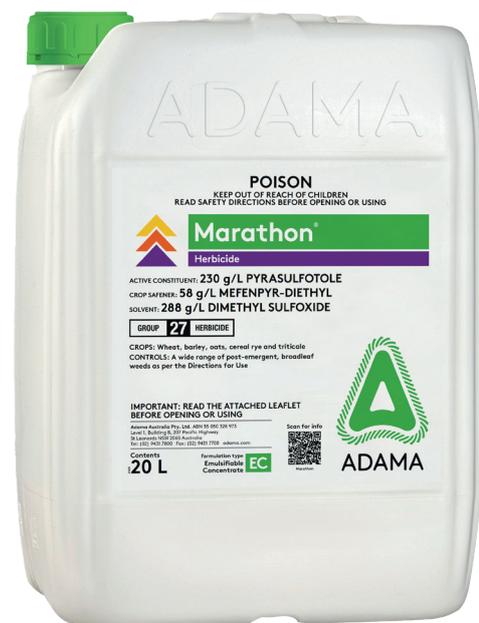
Winter sown crops	Marathon application rate	Minimum rainfall or irrigation required	Re-cropping interval
Wheat, barley, oat, triticale	Up to 220 mL/ha	-	3 weeks
Canola, clover, chickpea, faba bean, field pea, lentil, lucerne, lupin, vetch	110 mL/ha	250 mm	9 months
Alkaline or neutral soils: Canola, chickpea, field pea, lucerne, lupin, vetch	220 mL/ha		
Acid soils (pH <6.5 in water, pH <6.0 in CaCl₂): Canola, chickpea, clover, faba bean, field pea, lentil, lucerne, lupin, medic, vetch	220 mL/ha		
Alkaline or neutral soils: Lentil, medic.	220 mL/ha	500 mm	21 months

Summer sown crops	Marathon application rate	Minimum rainfall or irrigation required	Re-cropping interval
Maize, sorghum	Up to 220 mL/ha	-	8 weeks
Cotton, soybean, sunflower	Up to 110 mL/ha	300 mm	14 months
Mung bean	Up to 220 mL/ha		
Cotton, soybean, sunflower	Up to 220 mL/ha	500 mm	

At a glance

Marathon herbicide is your new 'go-to' tank-mix partner for early season post-emergent control of challenging and herbicide resistant weeds in wheat and barley.

- High-load solo pyrasulfotole formulation with the convenience and peace of mind of an in-built crop safener
- Knockdown activity against challenging and herbicide-resistant weeds, including Wild Radish, Sow Thistle, Indian Hedge Mustard, Climbing Buckwheat, Bifora, Deadnettle and Prickly Lettuce
- Flexibility to customise the pyrasulfotole rate with an extensive range of ADAMA tank-mix partners, including Bronco 400, Quadrant, Triathlon, Colt, Legacy MA, LVE MCPA 570, Priority and Picoflex
- Ability to apply early (from 2-leaf crop stage, depending on the tank-mix partner), maximising efficacy and yield potential
- Unique formulation technology for robust performance under diverse environmental conditions
- As an alternate mode of action (Group 27) herbicide, the application of Marathon with ADAMA tank-mix partner-herbicides greatly assists with herbicide resistance management.
- Concentrated formulation for reduced handling, transport and storage



Scan here for more information

Refer to label for specific application recommendations.

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*Registered trademarks. Please note: This information is not intended to replace the product label.

Always read the complete product label appearing on the container before opening or using products. ADA26095.



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