



ADAMA

**Quinstar<sup>®</sup>**

A powerful systemic, quinclorac based grass and broadleaf weed herbicide in a high strength, easy to use liquid form.

Simply. Grow. Together.





# Quinstar® Herbicide

## What is Quinstar® Herbicide?

Quinstar is a unique grass and broadleaf weed control herbicide formulation containing 200 g/L of the active ingredient quinclorac in a suspension concentrate (liquid) format. Quinstar Herbicide is registered for the control of key weeds including Summegrass, kikuyu and white clover in most turf management situations.

## Mode of action

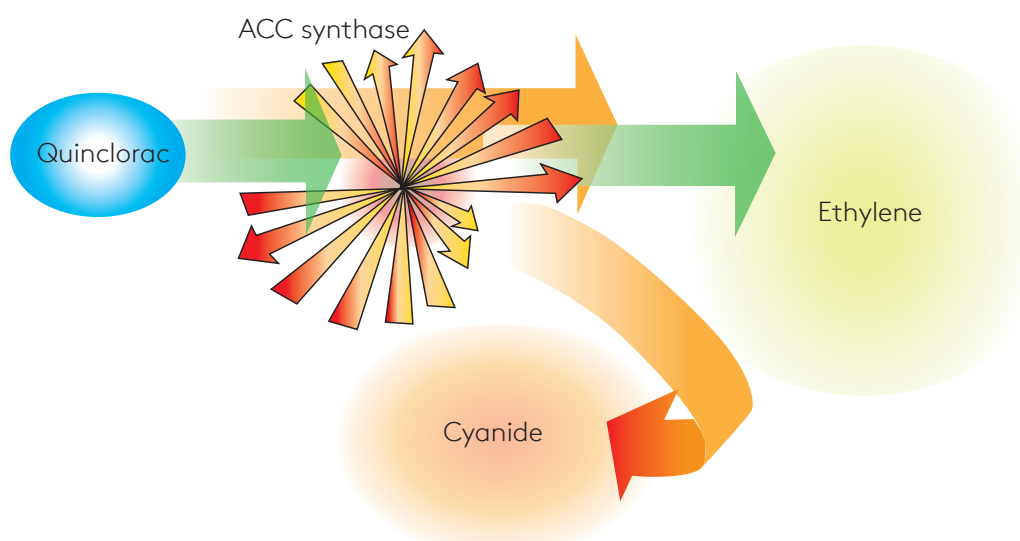
GROUP	HERBICIDE
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The active ingredient in Quinstar, quinclorac, is a group I herbicide. Quinclorac in broadleaf weeds induces auxin-type responses in susceptible annual and perennial broadleaf weeds (auxin being a type of plant hormone). Once absorbed into the plant, it accumulates in growing tissues to higher concentrations than the native auxin does, and degrades more slowly. Plant growth is disrupted by the regulation of cellular growth process following binding of quinclorac to plant auxin receptor sites. When a plant's strict growth regulation is disrupted in this fashion, plant growth becomes disorganised, disrupting key metabolic process and results in plant death.

In grass weeds, quinclorac stimulates cell wall synthesis, resulting in accumulations of ethylene and cyanide production within the plant.

## Key features and benefits

- Unique and high loaded, 200 g/L suspension concentrate formulation. Comes in a convenient, easy to handle 5 L pack size
- Effective and efficient control of key grass weeds including Kikuyu and summergrass
- Safe across a broad range of warm season and cool season turf species
- Schedule 5 and non-arsenate based chemistry. Safer to use than many other grass herbicide options
- Unique mode of action on grasses – Group I
- Both root and shoot absorbed – works regardless of rainfall
- No tracking issues – unlike most sulfonyl-urea (SU) chemistry used in the market
- Works faster than sulfonyl-urea (SU) chemistry
- Safety around seeding / stolonising operations
- Improved tank mix flexibility with other herbicide formulations to extend spectrum of control
- Reduced active ingredient output versus arsenate based products used for summergrass and kikuyu control.



## Registered for use on a broad range of both warm and cool season turf species

Turf Variety	Safety
Common couch	Yes
Hybrid couch*	Caution
Queensland Blue Couch	No
Seeded couch Varieties	Yes
Zoysia	Yes
Buffalo*	No
Kikuyu	No
Kentucky Bluegrass	Yes
Perennial ryegrass	Yes
Bentgrass	Yes*


\*Not recommended for use on.

## Low chemical scheduling, non-arsenate based and significantly reduced active ingredient output

Product	Active Ingredient	Scheduling	Chemistry Family	Label Rate per ha	Active applied per ha
DSMA Clear	DSMA	S7	Organo-arsenicals	28.7 - 66 L	6.31 - 14.52 kg
MSMA (720g/L)	MSMA	S7	Organo-arsenicals	3.3 - 6.6 L	2.37 - 4.75 kg
Quinstar Herbicide	Quinclorac	S5	Quinoline carboxylic acid	4.1 L	0.82 kg

## Strength on Summergrass. Timing of application/s for optimum control of Summergrass & Crabgrass (*Digitaria* spp)

When to apply Quinstar to Summergrass

Single application				Repeat		Single Application	
							
Emergence				1 Tiller	2 Tillers	3-4 Tillers	MATURE

## Key Application Timing Points

- A single application is required at label rate from emergence prior to the second tiller and from 4 tiller onwards
- A double application strategy is required from 2 to 4 tillers for adequate control (3 to 4 weeks apart).



## Weeds controlled, label rates and application notes

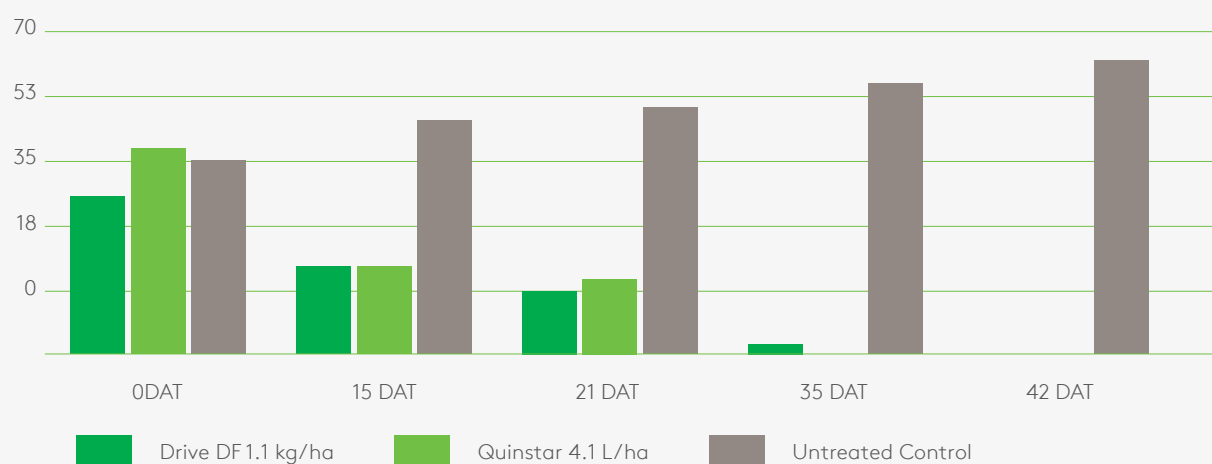
Situation	Weeds Controlled	Rate	Critical Comments
<b>Established turf of:</b> Green Couch <i>(Cynodon dactylon)</i> Hybrid Couch <i>(Cynodon dactylon</i> <i>x Cynodon</i> <i>transvaalensis)</i> Japanese Lawngrass <i>(Zoysia japonica)</i> Marine Couch <i>(Sporobolus virginicus)</i> Perennial Ryegrass <i>(Lolium perenne)</i> Bentgrass <i>(Agrostis stolonifera)</i> Kentucky Bluegrass <i>(Poa pratensis)</i>	Summer Grass <i>(Digitaria spp.)</i>	4.1 L in 400 Litres of water per hectare	<b>One application:</b> Weeds at cotyledon stage up to and prior to second tiller OR weeds at 5 tillers and greater. <b>Two applications: 21 to 28            days apart:</b> Weeds from 2 to 4 tillers. The addition of a crop oil adjuvant (preferably a methylated seed oil) may improve weed control in un-favourable weather conditions.
	Kikuyu Grass <i>(Pennisetum</i> <i>clandestinum)</i> [Suppression only]		For kikuyu suppression, apply twice 14 to 21 days apart. Best results are gained from Autumn applications. The addition of a crop oil adjuvant (preferably a methylated seed oil) may improve weed control in unfavourable weather conditions.
	White Clover <i>(Trifolium repens)</i>		Apply to actively growing weeds.

## Tips in Maximising Performance

- Clippings from the first three mowings should be returned and not collected from the treated surface
- Apply the product to actively growing weeds only
- If rain is expected within 48 hours of application, or irrigation within 8 hours of application, avoid application where possible
- It is recommended not to mow 2 days before or after Quinstar herbicide application.
- Quinstar is compatible with DSMA and can be used in combination to extend weed control spectrum
- The use of a crop oil adjuvant can improve weed control in unfavourable weather conditions
- Autumn applications will maximise Kikuyu suppression achieved.

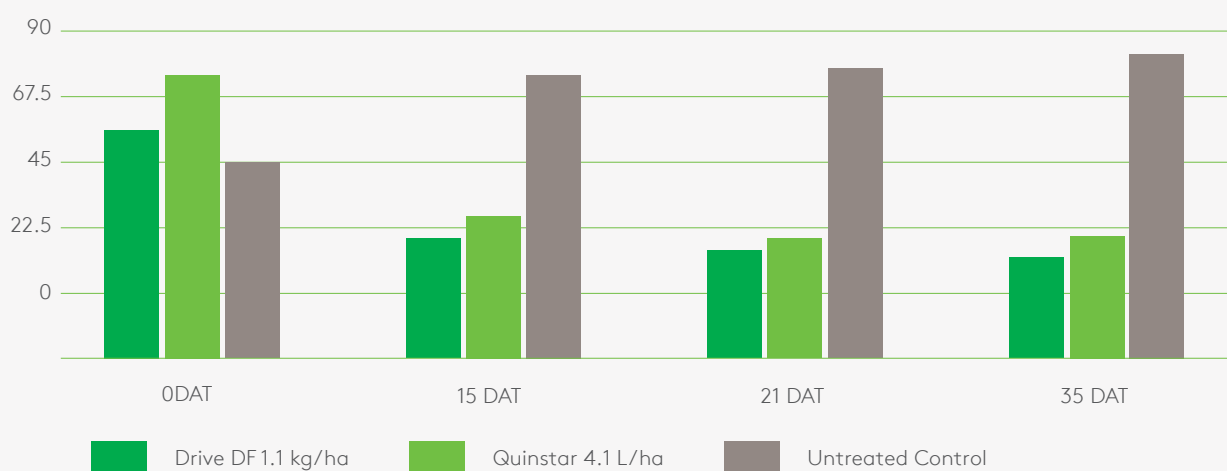
## Field trial performance

White Clover pre and post treatment following application of Quinstar Herbicide and Drive 750DF Herbicides



Field Trial Report: A. Leggett, 2012. Full report can be supplied upon request.

Summergrass Weed Presence pre and post application of Quinstar Herbicide & Drive 750DF



Field Trial Report: A. Leggett, 2012. Full report can be supplied upon request.





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