



Betanal[®]
quattro

User guide

4 in 1 for huge convenience.



Fodder beet is now established as a key management tool for many New Zealand farmers as it provides an energy rich food source which can be utilised during the difficult winter months.

Fodder beet with its slow growth rate takes some time to become fully established. It is very susceptible to weed competition, being readily smothered by fast growing weeds during crop establishment. It is vital to control and eliminate weed competition to maximise crop yields and dry matter production.

To ensure maximum yield – it is important to eliminate and control weeds during crop establishment. Once the fodder beet has established and reached canopy closure it can outcompete and suppress most weeds. Weed control programmes in fodder beet crops involve a stale seed bed strategy prior to sowing, followed by a pre-emergence and post-emergence herbicide programme. Typically post-emergence applications have used up to three individual products tank mixed together (often referred to as the “triple mix”). With Betanal quattro, beet growers have a convenient “four-in-one” herbicide solution for post-emergence weed control.

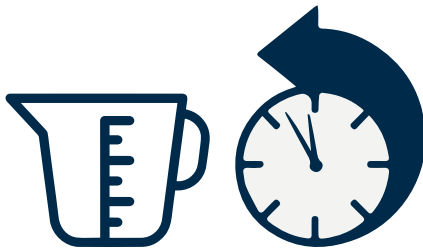


convenient weed control for fodder beet



CONVENIENCE: ONE INSTEAD OF THREE

- Betanal quattro has the four commonly used active ingredients in one easy to use formulation replacing the complexity of the “triple mix” herbicide approach



EASIER TO USE

- Reduces tank filling time
- Less chance of measuring and tank mixing errors
- Less packaging to dispose of



CROP SAFETY

- The optimised suspo-emulsion formulation of Betanal quattro is effective on weeds while being safe to the crop
- This assists in minimising product incompatibility risks and mixture related crop injury risks
- At the recommended rates Betanal quattro is safe to apply from the cotyledon stage onwards



FLEXIBILITY

- Label rate range (2-5 L/ha) provides flexibility to target a range of weed sizes
- Betanal quattro can be used at the beet cotyledon stage to target small weeds that are easily controlled

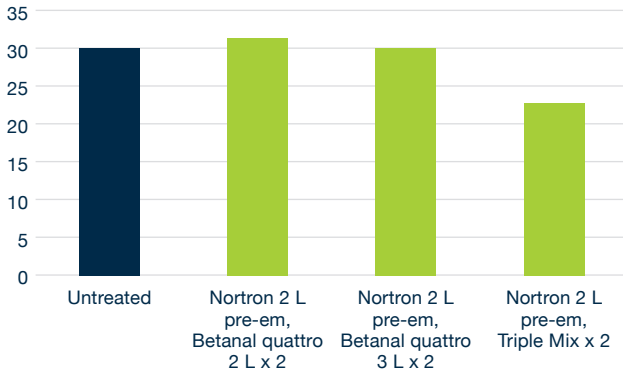


With weeds under control, from canopy closure onwards, control foliar diseases and maximise yields with Escolta. See hardtobeet.co.nz for more information.

Fodder Beet Trials

Fodder Beet Plant Safety Trial Hawke's Bay 2011-12

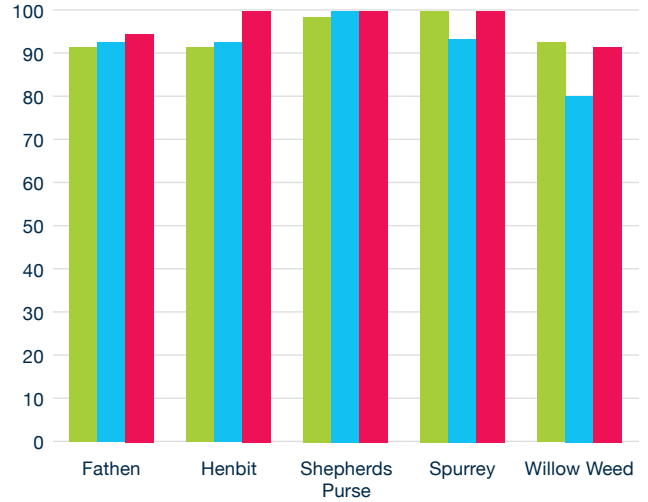
Plants per 10 metres of row. 26 days after 3rd treatment



Triple Mix: Norton 2 L + Betanal Forte 1.5 L + metamilon 1 kg

Fodder Beet Herbicide Efficacy Trial Canterbury 2013/14

% Control

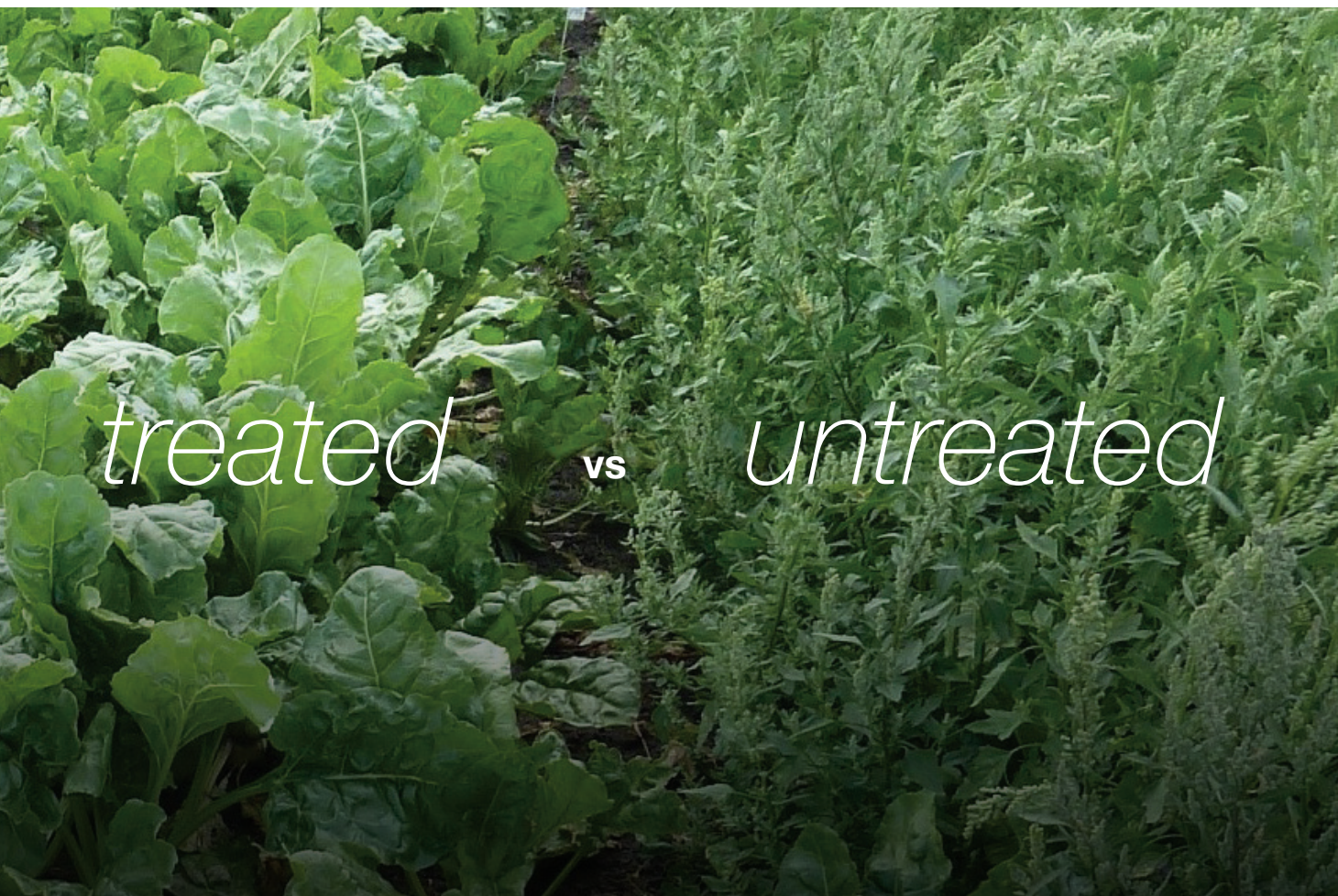
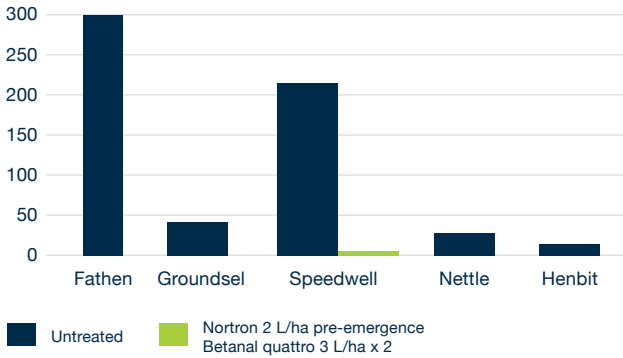


Legend: Triple Mix x 2 (green), Betanal quattro 3 L x 2 (blue), Betanal quattro 5 L x 2 (red)

No pre-emergent applied. 2 post emergent applications: 1st at beet 2 leaf stage, 2nd - 12 days later. Triple mix - Betanal forte 1.5 L, Norton 2 L + metamilon 1 kg

Fodder Beet Herbicide Efficacy Trial Canterbury 2013-14

Weeds per m². Assessed 53 days after Norton application



getting the best from *Betanal quattro*

- Apply from the cotyledon stage onwards of the beet crop
- Apply to small actively growing weeds
- Use well-calibrated spray equipment to provide good coverage of target weeds
- Use an appropriate rate for weed size
- Use the higher rate when the majority of the weeds are at the 4 true leaf stage
- Use the higher rate if henbit, nettle, spurrey or prostate amaranthus are the dominant weed species present
- Avoid applying immediately after rain when the beet wax layer is reduced
- Where weed pressure is high, two applications at 7 - 14 day intervals will be required
- Do not apply when the beet crop is stressed or damaged
- Avoid applying to weeds that are stressed or not actively growing (e.g. drought conditions)
- Do not apply to weeds that are too large
- Do not apply in temperatures above 29°C
- Avoid applying in early morning conditions when there is a heavy dew

Spray timing is critical

START OF THE SPRAY WINDOW



COTYLEDON STAGE

2 TRUE LEAF STAGE

3rd & 4th TRUE
LEAVES DEVELOPING

The timing of Betanal quattro applications is critical. Ideally start post-emergence Betanal quattro spray programmes early. Small actively growing weeds (e.g. cotyledon to 2 true leaves) are more easily controlled at lower rates. Delaying application, allowing weeds to become too large may result in only partial control.

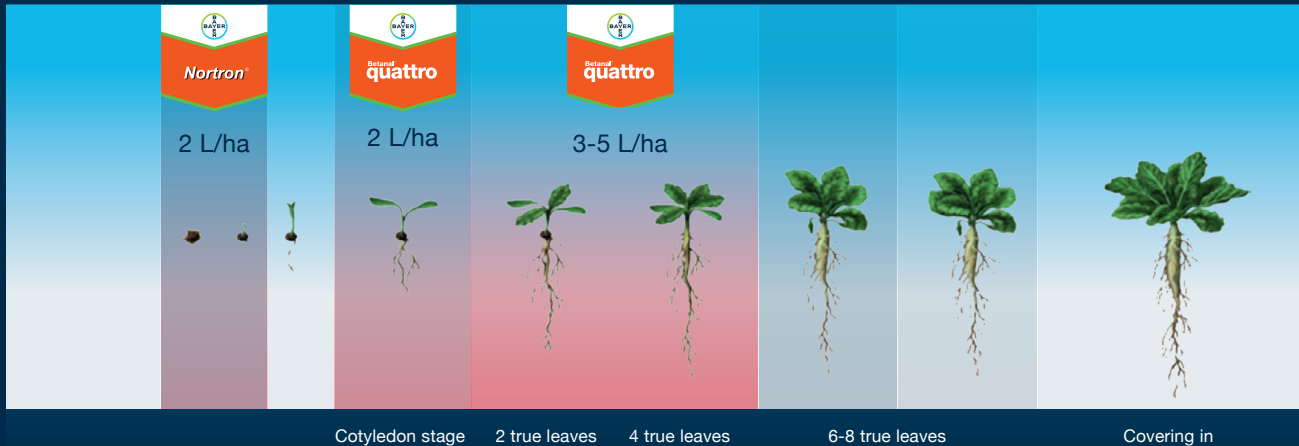
Betanal quattro is a suspo-emulsion formulation that is optimised to deliver maximum performance while minimising crop damage. Some crop leaf scorching and yellowing may be seen after Betanal quattro applications. However, this is temporary and in good growth conditions the crop recovers and is not checked.

Weed Control Programmes in Fodder Beet

For a successful weed-free fodder beet crop, a programmed approach with attention to detail is a must. Once a paddock is selected start with an application of a non-selective knockdown herbicide (e.g. Roundup Ultra[®]MAX) to remove any pasture and perennial weeds. Prepare and sow into a fine, firm seedbed, free from clods and with adequate moisture to ensure rapid, even germination. Immediately after sowing apply Nortron as a pre-emergence residual herbicide. Following emergence of the beet crop and as weed flushes germinate apply a programme of Betanal quattro applications as required. Do not use more than 10 litres of Betanal quattro in one season.

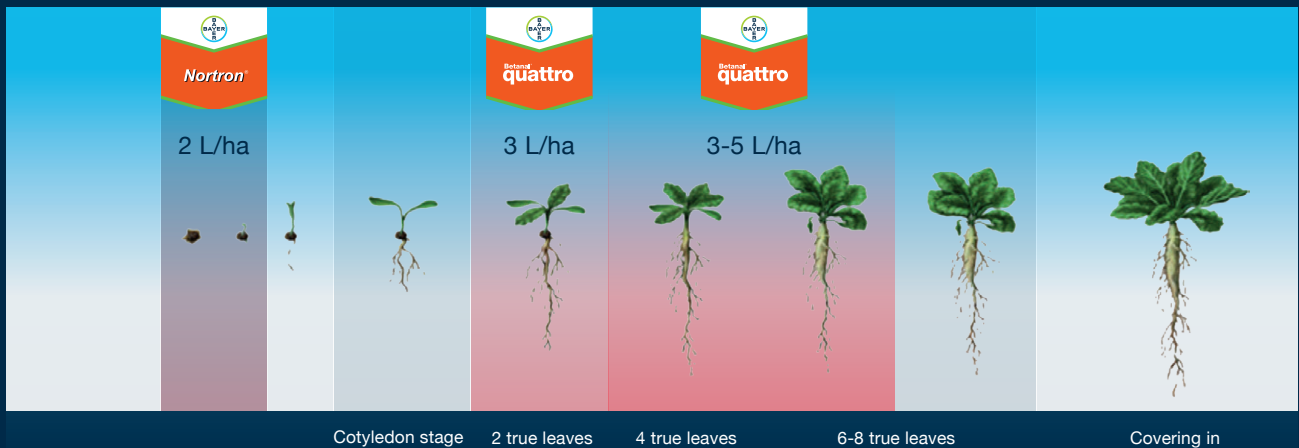
EARLY WEED EMERGENCE

If weeds appear early follow this programme starting with cotyledon application



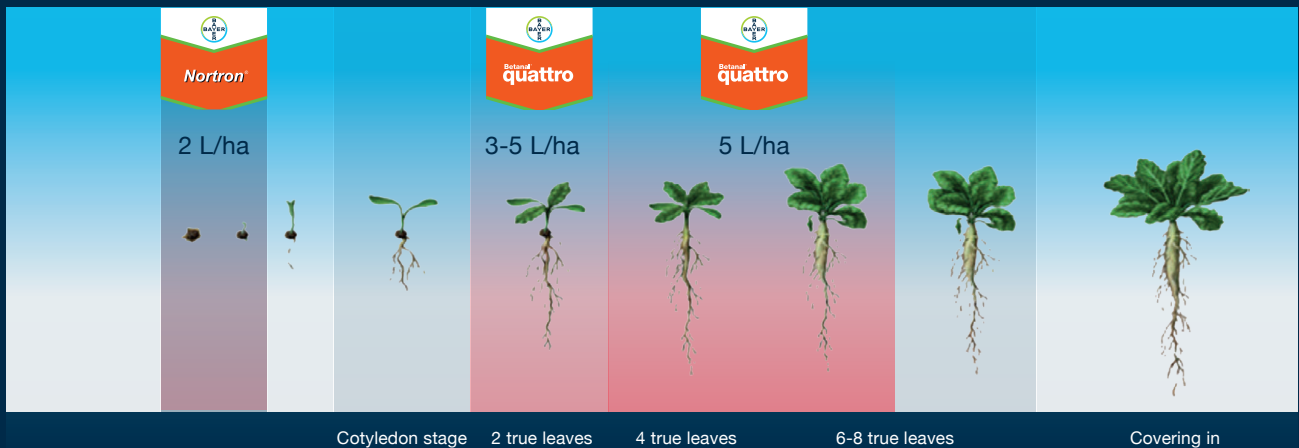
LATE WEED EMERGENCE

If weeds appear later – start at 2 true leaf stage



HIGH WEED PRESSURE

In high weed pressure sites this programme is an option





BETANAL QUATTRO: USE IN FODDER BEET CROPS AT A GLANCE

CONTENT	60 g/L phenmedipham, 60 g/L desmedipham, 60 g/L ethofumesate and 200 g/L metamitron in the form of a suspo-emulsion.
RATE	2-5 L/ha. On red beet do not use more than 3 L/ha in a single application. On fodder and sugar beet do not use more than 5 L/ha in a single application.
SPRAY TIMING	Use 2 L/ha from the cotyledon to 2nd true leaf stage. Use 3-5 L/ha after the crop has 2 true leaves fully developed.
WEED SIZE	Apply to actively growing weeds no larger than 4 true leaves.
SUSCEPTIBLE WEEDS	Annual poa, black nightshade, clammy goosefoot, henbit, fathen, field pansy, fumitory, groundsel, nettle, prostrate amaranth, redroot, sharp buttercup, shepherds purse, spurrey, willow weed.
WATER RATE	Use a water rate to achieve full coverage of target weeds.
ADJUVANTS	Do not add any adjuvants with Betanal quattro unless experience has shown them to be crop safe.
COMPATIBILITY	Betanal quattro is compatible with Lorsban® 50EC, Pyramin® DF and Versatill™ Powerflo™. Otherwise apply Betanal quattro alone unless experience has shown the mix to be safe.
RAINFASTNESS	Avoid treatment if rain is likely before spray has dried on foliage.
ENVIRONMENTAL CONDITIONS	Apply Betanal quattro during conditions favouring active weed growth. Avoid application when beet crops are stressed or when temperatures are above 29°C.
WITHHOLDING PERIOD	Fodder and sugar beets 56 days. Do not graze on treated areas or feed stock with treated crops for 56 days after spraying. Red beet 50 days.
PACK SIZE	20 litre plastic bottle. Agrecovery compatible.

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