

Fodder Beet Growing & Grazing Guide

Introduction.

Fodder Beet is potentially the highest yielding winter forage options available to farmers currently.

Some of the advantages of growing fodder beet include:

- High dry matter yield
- Not in the brassica family therefore not susceptible to the brassica disease and pest problems
- Ease of feeding
- Low nitrogen requirement
- Fodder beet is high in energy, palatability and digestibility.
- However unless care and attention is paid at establishment and the first 8 weeks from planting it can will lead to a poor experience for growers.

Paddock Selection.

Paddocks suitable to grow fodder beet should have light to medium free draining soil types, with a soil pH > 6.

Paddock selection should occur very early in the planning and step 1 is to get a soil test done. Soil tests should be done using a deep probe (150 mm) and the fertiliser company informed that its end use will be fodder beet. Soil pH is critical to the success of your paddock and can take some time to correct 12-18 months in some cases. If your paddock is low in pH < 6 consideration should be given to not sow the paddock into fodder beet.

Fodder beet is not a candidate for direct drilling and to help ensuring a good strike of both fodder beet and weed seeds (so you can kill them) you need to deep plough and work until you get a very firm and fine seed bed. We recommend you select paddocks coming out of grass however fodder beet can be grown after a wide range of crops (including brassicas) however fodder beet is very susceptible to chemical residues particularly those typically found after a brassica crop. Also coming out of a cropping program will normally increase weed content that may create issues in the future. Soil types that have issues with “panning” will need to be either very deep ploughed or sub soiled to allow the important water root of the fodder beet to grow unrestricted.

Fodder beet, once past the early establishment phase, is very water economic and high yields have been achieved without the use of irrigation, however as with all plants irrigation is desirable. Irrigation has little benefit once the bulbs have fully developed.

Fodder Beet is sensitive to the effects of residue in the soil from many commonly used agricultural chemicals. The paddocks spray history over the last 12 to 15 months needs to be considered, if you are unsure help should be sought from your agricultural chemical advisor when selecting you paddock.



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Drilling.

Drilling date is best between late September (in warmer climates) through until mid November, soil temperatures of >5 are fine however ensure these ground temperatures are rising and not fluctuating up and down. This could lead to some plants bolting to straight seed head. Early drilling on light soil types is best as the palletted fodder beet seed can require up to 50 mm to strike. Delay drilling if you are going through a period of heavy frosts.

Fodder beet needs to be slowly (speed ≤ 4 km per hour) precision drilled at a depth of 2-3 cm. To achieve the desired 60 to 70,000 plants / hectare you will need to sow 80,000 plants per hectare. A 50 cm row width and a 15-20 cm plant spacing are ideal.

Fertiliser requirements.

Given the potential high yield of fodder beet its fertiliser requirements at establishment are high. The amount of fertiliser used will depend on your soil results and fine tuning of your requirements should be done in consultation with your local fertiliser representative.

The initial application of fertiliser is best done as a broadcast application prior to drilling. As mentioned soil pH is the single most important requirement for fodder beet. Fodder beet is also responsive to N.P.K.S but has a special requirement for Mg (Magnesium), B (Boron) and Na (Sodium). Levels of Mg and B will be determined by your soil test results. Like all members of the beet family Sodium is very important. Typically at drilling we would recommend 150-200 kgs/ hectare Cropzeal 16, added to this should be 100-150 kgs Agricultural salt. It's important to use agricultural salt (readily available) as it is finely ground. Nitrogen after planting should occur every 4-6 weeks after drilling up until bulbs are developed at between 80-100 kgs Urea per hectare. This will typically mean two applications will be required, but don't over use nitrogen.



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Weed & Pest Control.

As fodder beet is slow to canopy early total weed control an essential element to the successful establishment of your fodder beet crop. If you are a first time grower get beside your local chemical advisor and get him to monitor your crop regularly as the first spraying starts within 1-2 days of the drill leaving your paddock. Spraying for weeds, and to a lesser extent, pests will occur regularly for the first 8-10 weeks after drilling. Except for nysius, slugs and springtails typically found on and around drilling time fodder beet is very resistant to most pests issues typically found in brassica crops (i. e. diamond backed moth).

Specialty Seeds would like to thank Bayer® Cropscience for preparing the following fodder beet seed spray guide. This guide is on the next page of this program.

Please Note: It is important to: always read the label on any chemical used, to follow the instructions and take note of and comply with the information on the label.



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Bayer® Fodder Beet Weed Control Program

Prior to cultivation/ sowing apply:

Roundup Transorb: 2.7 – 3.7 Litres/ ha +/-

Pulse: depending on grass species present. Add Pulse for harder to kill species such as vernal and browntop.

Lorsban: Always add 1.5 Litres/ ha of to this application to control ASW and springtail present.

Poncho: Treat seed with Poncho to control grass grub.

Application Timing	Product	Target Weeds	Conditions
<u>Pre Emergence</u> Post sowing/pre emergence the crop	Nortron 2.0L/ha applied in 250L/ha	General Weed population	Apply as soon as possible after planting to a well prepared , Cambridge rolled seedbed with adequate moisture
<u>1st Post Emergence</u> First post emergence application, applied when crop at 2 true leaves or larger	Nortron 2.0L/ha plus Betanal Forte 1.2L/ha applied in 250L/ha	Annual Poa, chickweed, fathen, speedwell, spurrey, shepherds purse, nettle and groundsel.	Apply to weeds no larger than 4 true leaves.
<i>When weed populations are high use the option below:</i>			
<u>1st Post Emergence</u> First post emergence application, applied when crop at 2 true leaves or larger	Nortron 2.0L/ha plus Betanal Forte 1.2L/ha plus Goltix DF 1.0Kg/ha applied in 250L/ha	Above Weeds plus cornbind, wireweed and willow weed.	Apply to weeds no larger than 4 true leaves.
<u>2nd Post Emergence</u> Optional second post emergence application, applied 7 – 10 days after the first post emergence herbicide.	Betanel Forte 1.2L/ha plus Goltix DF 1.5kg/ha applied in 250L/ha AND/ OR Versatill 250ml/ha applied in 250L/ha	Apply Versatill where thistles or yarrow are present	Apply to weeds no larger than 4 true leaves.



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Grazing Fodder Beet.

Fodder beet is only suitable as part of your winter grazing feed plan. A typical ration when feeding Fodder beet is 50-60% Fodder beet, 30-35% grass silage with the balance of the diet hay or straw. It is therefore similar to grazing brassica crops. A daily limit of 4-5 kgs DM per adult cow is recommended. Fodder beet is best grazed between May and August and is normally feed in situ. Like most brassica crops stock should be slowly introduced to Fodder beet during the Rumen adjustment period typically 7-10 days. The hay and straw component of the diet is normally best feed to stock prior to accessing their daily ration of Fodder beet. Fodder beet is better when strip grazed using wide and narrow grazing “faces”, this will allow less damage to the Fodder beet and allow stock room to graze peacefully. Always ensure stock have access to fresh and clean water while grazing Fodder beet.

A typical analysis of a Fodder beet crop is:

Utilization: 70-80%. DM: 15-20%, Crude Protein: 10% and ME: 12-13+

Animal Health.

Early grazing of immature Fodder beet can lead to nitrate poisoning also a potential issue for brassica crops. Fodder beet can produce a high proportion of its total dry matter yield from its tops. Excessive grazing of these tops can lead to scouring caused by the tops containing low levels of “Oxalates”. The use of calcium is recommended when grazing Fodder beet. Many of the stock health issues are more of an issue when your first start grazing you Fodder beet so care during this period is critical. Check the mineral status of your stock regularly and adjust with trace elements as required.

Specialty Seeds recommends consultation with your local Vet prior to the start of grazing your Fodder beet crops.



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Cultivars available from Specialty Seeds:

Please note as there is no Fodder Beet seed grown in New Zealand currently all seed is imported on an indent basis. Therefore early ordering is also important to secure your requirements:

SF Brigadier:

The most commonly widely used Fodder Beet on the market today. Brigadier is a soft bite Fodder Beet and the best option for grazing young stock.

Root Dry Matter %: 11-13% Low dry matter type
Root % above ground: 65%

SF Blaze:

Higher in dry matter % Blaze is therefore more suited to older stock classes. Blaze has excellent frost tolerance.

Root Dry Matter %: 17-18% Medium to high dry matter type.
Root % above ground: 45%

Collosse:

High root yield. Oval, swede shaped Beet. Enabling easy access to the crop when strip feeding.

Root Dry Matter %: 15-17% Medium to high dry matter type.
Root % above ground: 45%

Kyros:

High Dry Matter Type (more root in the soil) A very consistent, high yielding variety producing a clean, highly palatable and easily digestible root at harvest Kyros will provide a high energy feed whole or chopped.

Root Dry Matter %: 16-17% Medium to high dry matter type.
Root % above ground: 50%



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