

Cropmark

Fodder Beet

AUTUMN GRAZING OF FODDER BEET IN A DAIRY SYSTEM

The use of fodder beet as an autumn/late autumn feed while cows are lactating is increasing in popularity across the country, this is because fodder beet can provide a high ME feed during a period of low grass quality and sometimes quantity as has been the case over the 2019, 2020 and 2021 summers in the Waikato. Unlike turnips or rape, fodder beet has no grazing window or expected maturity dates. This allows greater flexibility in grazing, at any time throughout the autumn period. Of course, there are still animal health issues to be aware of however, with the main one being acidosis. Acidosis occurs when the rumen microbes have not had enough time to adjust to the new feed which has been introduced. To ensure that acidosis does not become an issue, the introduction of cows to fodder beet must be controlled.

Paddock Selection

Identify potential fodder beet paddocks well in advance of sowing. Fodder beet prefers light to medium free draining soils with a pH of over 5.8. Consider location of paddock and also access to grazing and mechanical harvesting.

Sowing Time

Fodder beet should be precision sown in rows 40-50cm apart. Sowing time of beet that is intended to be autumn grazed should be planted earlier than if it was to be grazed for winter feed. This is to allow enough time for the crop to yield sufficient volume for grazing. In the Waikato, this has been from mid-September, however this will depend on soil and climatic conditions at the time

Recommended sowing rate

In the North Island, it is recommended to keep sowing rate up, preferably 100,000 seeds/hectare. This is due to increased weed pressure, keeping the sowing rate high will help the establishing crop compete against weed invasion.

Paddock Preparation

Paddocks should have no history of certain herbicides within the prior 2 years of establishment – speak to your local agronomist to determine suitability.



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Soil fertility

The paddock should have good base fertility, the Sustainable Farming Fund (SFF) has recently completed a project looking at optimal fertiliser recommendations. Any soil fertility issues where capital fertiliser or lime is required should be applied well in advance of crop being planted (6 months+).

Most fodder beet planters cannot sow fertiliser 'down the spout' so starter fertiliser should be broadcast and incorporated into soil prior to sowing.

Ground Preparation

Fodder beet requires a fine firm seedbed, extra time spent in preparation of the seedbed can result in a more evenly germinated crop and a higher plant population. Soil should be cultivated to a fine tilth followed by a roll with a Cambridge or tyre roller. Post roll, you should not be able to create a deep footprint as you walk across the paddock, so depending on soil type this may take several rolls to achieve.

0-15CM SOIL DEPTH AND WITHIN THE GIVEN SOIL TEST RANGES

SOIL TEST	TYPICAL TEST RANGE IN FODDER BEET PADDOCKS	MEASURED SOIL TEST RANGE	NUTRIENT RECOMMENDATION (STARTER FERTILISER)
PHOSPHORUS ^A (OLSEN P)	8-30 + ug/ml	Olsen P < 15 Olsen P > 15	50 kg P/ha 20 kg P/ha
POTASSIUM (K)	2-10 QT	QT K < 3 QT K 3-5 QT K > 5	100 kg K/ha 50 kg K/ha No K
TBK (RESERVE K)	0.5-3.0 me/100 f	TBK < 1 TBK 1.0-1.5 TBK > 1.5	100 kg K/ha 50 kg K/ha No K
CALCIUM (CA)	2-15 QT	QT Ca < 4 QT Ca > 4	Apply lime No Ca
MAGNESIUM ^B (MG)	4-20 QT	QT Mg < 8 QT Mg > 8	25- 30 kg Mg/ha No Mg
SODIUM (NA)	1-10 + QT	QT Na < 5 QT Na > 5	150 kg/ha of AgSalt No Na
SULPHUR ^C (SO₄-S)	2-10+ QT	QT S < 5 QT S > 5	Apply S in basal fertiliser No S
BORON ^D (B)	0-4 ppm	< 1.0 ppm > 1.0 ppm	1.5 kg B/ha No B

^A Generally, P is not required in large quantities for crop growth, with optimum range of 25-30 ug/g Olsen P.

^B Very few soils have low Mg. Some yield reductions may occur with soil tests less than QT Mg 8.

^C Sulphur is not required in large quantities for fodder beet production

^D Boron rate and timing of application has no effect on yield or incidence of B deficiency symptoms.

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Post-emerge weed control

Most fodder beet crops will require several applications for weed control. Especially in the Upper North Island. Timing of these applications is important for a reasonable level of control. Speak with your local merchant rep around timing of applications. For some chemical it is also important to apply before crop reaches a certain growth stage – such as Clopyralid (Archer, Multiple), this must be applied prior to bulb formation otherwise it can result in cracking of the bulb – leading to disease incursion into the crop.

The addition of insecticide into at least one post emerge application is also advisable, to help control insects such as aphids and nysius fly.

Fungicide application

Depending on location and potential disease pressure a fungicide may be recommended, this should be applied in late January/February, take note of withholding periods on the fungicide, as this will affect when you can start to graze or feed the fodder beet. Depending on intended grazing date, a 2nd application may be necessary to retain green leaf area.

Grazing Fodder beet

Cows should be introduced to fodder beet in a controlled system. As they are prone to acidosis, ensure cows are full prior to introduction. Allocation should start off low at 0.5kg/cow/day, increasing total fed per cow by no more than 0.5-1kg/cow every 2nd day, increasing to a maximum of no more than 5-6kg/cow/day if in a grazing situation. If lifting, allow maximum intake/cow/day of 4-5kg. When offered above these levels, the low protein intake can reduce milk yield and cause animal health issues related to low fibre (poor rumen function). Low phosphorus and calcium intakes (production losses, SCC issues, down cows) can also occur. Seek veterinary advice if you are concerned about mineral intakes.

From practical experience, when grazing, feed the long edge of the paddock, as this allows a thinner and longer face giving easier access for the animals to receive their allocation. Some farmers will open up the paddock prior to grazing with a beet bucket and feed this beet in another area, this will allow your cows to have more area to move when first introducing them to grazed in-situ fodder beet.

Generally in late summer soil conditions are good, however in wet conditions, much like grazing turnips, mastitis can sometimes be an issue.

Due to the palatability of fodder beet, it is recommended only to feed fodder beet prior to afternoon milking, not after milking when cows are hungry.

Some farmers prefer to lift either on a daily or every couple of days with a beet bucket. These lifted beet can then be fed on grass or feed pad through a silage wagon.

