



# GROWING KALE & RAPE

## Kale

**Lime:** A pH of 6.5-7.0 is optimum.

**Fertiliser:** A NPK compound is normally broadcast at sowing and a top-dressing of nitrogen is applied when the crop is emerged. Slurry or FYM pre ploughing will normally provide enough Boron or use a fertiliser with Boron included. Kale is not as sensitive to Boron deficiency as other brassicas.

**Sowing & Yields:** Old (1990's) DAFM variety data for kale gives yield figures of 4 - 6 t DM/ha, however more recent trial and survey work done in Moorepark has shown that high yielding (8 -12 t DM/ha) kale crops are achievable. Utilisation in Moorepark experiments is generally taken to be 80%. Kale needs to be sown by mid-June for high yields. Sowing date will also determine maturity. Crops take approx. 150 days to maturity. *Sow rape from July to mid-August.*

A summary of the Moorepark fodder brassica experiments is available on page 13

[https://www.teagasc.ie/media/website/publications/2013/TRResearch\\_Autumn2013.pdf](https://www.teagasc.ie/media/website/publications/2013/TRResearch_Autumn2013.pdf)

And

<https://www.teagasc.ie/media/website/animals/dairy/MPK-Dairy-Levy-Update-Series-1.pdf>

A fine, firm seedbed (like grass) and moisture is essential for rapid emergence as kale & rape have small seeds with low reserves. All brassicas will yield poorly where compaction has occurred. Placing some fertiliser at sowing may aid establishment.

Ploughing and powered cultivation is the surest method of establishment but in well structured soils, direct drilling will also be successful. With direct drilling, it is essential to achieve a good weed kill with glyphosate pre-cultivation.

Kale may be precision drilled at 3kg/ha or direct drilled at 4kg/ha or broadcast usually with the fertiliser at 5-6kg/ha. Some seed merchants are recommending higher seeding rates to promote more leaf growth and less stem. *Rape is sown slightly heavier.*

Forage Crop	Sowing Date	Sowing Rate	Fertiliser Requirements at Sowing* kg/ha
Kale	Early May To Mid June	4.5 kg / ha	130 Kg/ha N 30 kg/ha P 170 kg/ha K + Boron
Forage Rape	Mid May to Mid August	6.5 kg / ha	120 kg/ha N 20 kg/ha P 50 kg/ha K + Boron

\*Assumes soil index 3 for P & K, N Index 2

Redstart and Swift are hybrid crosses between kale and rape. They will be grazed mid-summer or will be used in the autumn.

There is no independent data on frost hardiness but location seems to be more critical than variety based on field experience in 2009 and 2010.

#### **Weed Control:**

A well-established crop is critical to weed control and every effort should be made to have an excellent seed bed and vigorous early growth.

There are very few herbicides available for weed control in for Rape and Kale. (check <https://www.pcs.agriculture.gov.ie/> for up to date product registrations). Therefore glyphosate pre sowing is essential especially to control perennial weeds such as scutch grass, docks and thistles. A stale seedbed may reduce weed burden.

#### **Pests**

Flea beetles can attack at emergence - eat small holes in the leaves. Slugs can occasionally be problematic and can be controlled with slug pellets. Pigeons are attracted to kale but other food sources are usually plentiful so control is rarely warranted.

The most damaging caterpillar is the Diamond Back Moth which will lay eggs on the underside of each kale leaf. It is particularly damaging in warm weather.

Other caterpillars (e.g. Large White) will concentrate on eating plants in a particular area of a field.

#### **Disease:**

Club root is the main threat but kale is not as prone as other brassicas. A one in five year rotation for brassicas is suggested to keep Club root levels low. Club root can last 20 years in soils.



**Classical feeding (window-pane) damage from Diamond-back moth larvae in kale**



**Club-root symptoms (swollen roots) in fodder rape**  
Sow brassicas in a one in five rotation to prevent club root.



**Large White Butterfly Larvae on kale.**  
Damage is normally concentrated to an area of the field



**Diamond Back Moth** larvae eating kale. This pest can defoliate a crop in a few days and needs to be monitored in warm weather especially.