

KALE PREFERRED VARIETIES



CALEDONIAN

Caledonian was the highest yielding kale in our trials. Caledonian is **club root resistant**, which now enables growers to continually sow kale on club root infected sites. Caledonian's huge yields makes it ideal for utilisation by dairy and beef cattle. Bred by the James Hutton Institute, Dundee (formerly the SCRI).



KEEPER

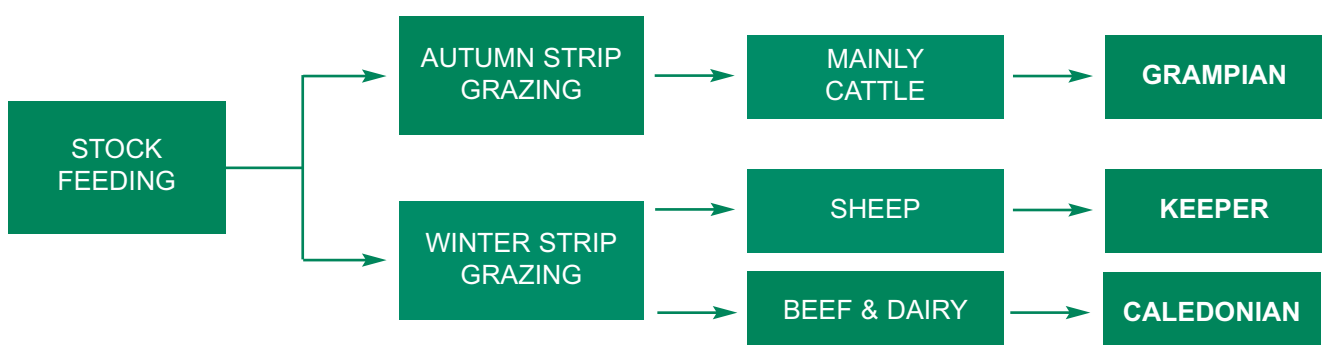
Keeper is very winter hardy and exhibits excellent lodging resistance. Keeper is a medium/short type ideal for fattening lambs and providing high quality winter keep. It has **low SMCO and improved nutritional value**, and is an excellent replacement for Maris Kestrel.

GRAMPIAN

This is a new variety bred by SCRI which will produce excellent autumn or winter feed for both sheep and cattle. Grampian exhibits very **high dry matter yields** combined with some **club root resistance**. Bred by the James Hutton Institute, Dundee (formerly the SCRI).



Sowing Options



KALE HUSBANDRY INFORMATION

Soil Type

Kale grows best on a medium loam soil with a pH of 6.0-7.0. It needs a well drained field which is free from pans or evidence of soil compaction. If grown on very light soils there is a risk that the crop could suffer from drought post drilling (which will jeopardise seed emergence). Alternatively, with crops grown on very heavy sites one will have to remember that a very wet autumn could make the strip-grazing operation rather difficult. If you have a difficult site then it will probably be worthwhile looking at Kaleage - big bale kale silage.

Seed Bed Preparation

A fine, firm moist level seedbed is required. The crop will benefit from applications of slurry or FYM and this should be ploughed in. The seedbed should be worked down with the intention of losing as little moisture as possible.

Sowing

Kale seed should be sown between mid April and mid July. Early sown crops which establish well are more likely to give the highest yields. The seed can be broadcast or sown with a precision drill or root drill. Under normal conditions a seed rate of 4-5kg/ha should be adequate. If seedbed conditions are very dry, or the crop is broadcast, then the rate can be increased slightly as an insurance. The target population is 70 plants/square metre, whichever sowing method is used.

Fertiliser

The kale crop will grow extremely well when provided with plenty of organic matter. It is a fast growing crop and it needs plenty of nourishment.

For a soil index of 2 apply 100 units/ha each of P and K to the seedbed. The amount of nitrogen required will depend on the previous cropping. Up to 170 units/ha may be needed after a run of cereals whereas the rate following a crop of intensively grazed grass can fall to 75 units/ha. The nitrogen application can be split for early sown crops - 65% in the seedbed and the balance when the crop has reached a height of 15/16 cm. For direct drilled crops it is normally considered wise to increase the nitrogen applied by up to 25% to boost the crop in the establishment phase. Consult your usual fertiliser supplier for an accurate assessment of your requirements particular if slurry or FYM has not been used.

Sprays

Several pre-emergence sprays are effective in kale and chemicals are also available for post emergence control of broad leaved weeds. Consult your usual spray specialist if you have any doubt about the efficiency of any products you propose to use.

Pests & Diseases

In dry years an attack by flea beetle can cause considerable damage to young established crops. A seed dressing will provide some protection against a moderate attack. Slugs can be a problem in direct drilled crops - slug pellets should be considered if this pest is likely to pose a threat. Rabbits and pigeons can also be a problem and control may be necessary in fields which are considered to be especially at risk.

Clubroot represents the major disease threat - it is soil borne so control is by a good rotation of crops. Avoid growing kale on any fields which have a history of clubroot. Alternaria and mildew can affect crops but attacks are seldom too serious.

Harvesting

Kale can be ensiled and several farmers in the UK have been using this approach. However the traditional method is to utilise the crop fresh either by -

- **Strip grazing** behind an electric fence which should be moved once or twice a day. Allow a space of 3 metres per cow and an area of grass for the animal to run back on is helpful. Keep a close eye on the levels of wastage - some varieties are more palatable than others.
- **Zero-grazing** - Cutting the crop with a forage harvester will help secure the maximum use of the green feed with little waste. The kale can then be fed from a forage box or behind a barrier. Just as with fodder beet, great care must be taken to avoid soil contamination.

Feeding

The feeding value of kale is related to the proportion of leaf to stem. This, in turn, is dependent on several factors including variety, date of sowing and harvest, plant population and levels of nitrogen applied. Obviously, frost damage and leaf loss will lower the overall feeding value. Remember that kale is low in phosphorous, manganese and iodine but high in calcium. On this basis mineral supplementation may be necessary if the crop is to represent a large proportion of the total ration. As a general rule experts often say that kale should provide no more than 30/35% of the dry matter intake per day for dairy cows. Excessive intakes of kale can lead to anaemia in dairy cows.

