

Field beans

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Interest in grain legumes continues to be high, as purchasing protein is expensive, and organic livestock farmers are increasingly looking for home-produced protein. One such option available to farmers in Scotland is the use of field beans. This technical summary will take you through what you need to know about planting these in Scotland.

Only **early varieties** of spring beans should be grown in Scotland although sourcing enough organic seed of any one variety might be a problem. However, you may be able to get derogation for use of untreated conventional seed in some instances.



Earliness of ripening should be a key consideration if you plan to harvest as a dry grain.

Mixtures of varieties could be considered and may offer benefits in many situations, e.g. reduced disease risk.

Soil **pH above 6.0** is preferable on most soils. Below this, N fixation may be reduced.

Sowing

Field beans **should be sown as soon as soil conditions allow in February or March**, although later sowings, up to early April, have given acceptable yields.

Seed size ranges from 350-500g /1000 seeds. With a target plant population of 45 plants /m², **seed rates** may exceed **250 kg /ha**.

The relatively large seed **may require modifications to the seed drill**, such as special feed wheels, **to avoid cracking the seed**.

Spring beans are **best drilled, not ploughed**, at a depth of **60-80 mm**.

If you have not grown beans before, or they have been very poor, you might consider **inoculation** at sowing (e.g. from Legume Technology). Trials by SRUC found that this can dramatically improve nodulation, assuming soil pH and other factors are adequate, resulting in a much higher yield.

Weed control

Weed control can be achieved by **inter-row hoeing** or **harrowing** when the crop is young; later hand rogueing may be necessary.

Chocolate spot is the most likely disease problem. There is no direct control available.

Treatment of mildew with sulphur (by derogation) may be appropriate in wetter years.

Undersowing beans with low-growing forage legumes (e.g. white clover or trefoil) can be an effective way to control late weeds and ensure some N fixation should the beans not establish well.

Harvesting

In a normal year spring beans are **likely to be mature around early October in Aberdeenshire**, but possibly a little earlier e.g. mid/late September in earlier areas (e.g. Morayshire, Angus, Fife and Lothians/Borders).

Unlike combining peas, **field beans generally remain standing until harvest.** They are less affected by wet weather and less likely to shed than peas if harvest is delayed.

Beans may also be harvested as a wholecrop and ensiled, similarly to peas.

Ensilage when pods are fully formed and flexible, and the beans are pliable with a rubbery texture. Use an additive as fermentation is difficult due to their high buffering capacity. The silage does not always look good, but can feed well, and you could expect 11 MJ /kgDM ME, and ~20% CP.

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