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Faba bean – *Vicia Faba*

This cool season annual legume is also known as Broad bean and Fava bean. Faba Beans are a bushy, hardy annual with a coarse stem that can grow up to 1.2m in height. They produce large amounts of biomass – making this a popular cool-season green manure crop. Like most legumes, Fava bean plants are nitrogen fixers, and they replenish the soil with this vital nutrient.

Strengths	Limitations
• Strong growth • No risk of bolting • Significant value as feed for grazing livestock • Easy to terminate • Fixes large amounts of atmospheric nitrogen	• Successful seedling growth requires high sowing rate • Susceptible to weed competition during early development • Large seeds—tricky to sow or to include in a mixture

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What can it be used for?

Grazing: Fava beans contain high levels of protein making it a good food source for livestock. The crop residue is also an important source of feed for grazing animals. The grain remaining after harvest is particularly valuable.as livestock select the grain first before feeding on the dead plant material left behind. Livestock thus only eat plant residue when the grain is not available.

Cover Crop: Faba beans produce large amounts of biomass. The green forage is worked back into the soil as organic matter, thus improving the tilth of clay and sandy soils.

Faba beans fix nitrogen. The crop is often terminated at flowering stage, with the crop being ploughed in or the residue left as a mulch on the soil surface.

It can be used in a cover crop mix in combination with grains, other legumes and brassicas.

Production potential: The average yields can range between 1 and 3 t/ha. Production is greatly affected by several factors including soil fertility, environmental conditions, cultivar chosen, plant density, management and rainfall. Later sowing markedly reduces yield potential.

Metabolic disturbances in animals on cultivated pastures:

Find detailed information at the following link: https://www.feedipedia.org/node/4926

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Establishment

Climate: Optimal growth occurs when temperatures range from 15 to 20°C. Heat experienced during the flowering and pod-filling hampers yields.

Moisture: Sowing should take place after the first substantial rainfall event of the season and when there is a high likelihood of successive rainfall. Faba bean can be cultivated where annual rainfall ranges between 350 mm and 450 mm. Consistent rainfall is ideal during the growth season

Soil: Faba beans prefer alkaline soils however the plants tolerate many different soil types. Water logging is tolerated better than other grain legumes.

Fertilization: Seeds should be inoculated with proper rhizobia, as a result additional fertilizer may not necessarily be required. Phosphorus and potassium can be added to aid in seed development, a soil test will determine this.

	N (kg/ha)	P (mg/kg soil)	K (mg/kg soil)
Requirement for establishment***	50*	50-100	50-100
Seasonal application (kg/ha)		Use removal rates	

Nitrogen is recycled back into the soil once the crop is terminated. It is however necessary to do annual soil testing to determine specific nutrient recommendations

Methods: Seeds should be sowed at a depth of 7-10cm, into a well prepared, weed free, well drained seed bed. Early planting promotes better growth and higher yields.

Seeding rate:	Rows (35cm) / Dryland pure stand	Broadcast / Irrigation pure stand
	90-100kg/ha	130- 150 kg/ha

Planting time: Best established in the Autumn – when rain is expected.

Management

Utilisation: When the hilum on the seed of Faba bean turns a dark brown-black colour, the seed is at full physiological development. Harvesting can begin once most of the stems are defoliated, but still green in colour.

Resources

1. Street K., Ismail A. and Rukhkyan N. 2008. Regeneration guidelines: Faba bean. In: Dulloo M.E., Thormann I., Jorge M.A. and Hanson J., editors. Crop specific regeneration guidelines [CD-ROM]. CGIAR System-wide Genetic Resource Programme, Rome, Italy. pp 1-9. (Access date 21 April 2020).
2. Outsidepride n.d. Fava bean seed. https://www.outsidepride.com/seed/cover-crop/fava-bean-seed.html (Access date 21 April 2020).
3. ITAB.2012. Choosing and managing cover crops in organic agricultural systems. https://orgprints.org/30573/12/Fiches_Especes_EngraisVerts_ENG_2018.pdf (Access date 21 April 2020).
4. Robinson, B. and Raynes, M.1994.Growing Faba bean Department of Environment and Primary Industries. http://agriculture.vic.gov.au/agriculture/grains-and-other-crops/crop-production/growing-faba-bean (Access date 21 April 2020).