AGT COVER CROPS & FORAGES AFRICA

Common Vetch – *Vicia sativa*

Common vetch is an annual cool season legume suited to a wide range of conditions. It is a popular cover crop choice – fixing Nitrogen, building organic matter, and suppressing weeds.

Common Vetch is palatable – although it has poor regrowth compared to Grazing Vetch-types.

Strengths	Limitations
• 3-8t DM/ha/season **Depend on environmental conditions and management** • Adapted to a range of soil types • Dryland cropping and under irrigation • Multiple uses including pasture, hay, silage and green manure • Extremely palatable • Fixes nitrogen • Improves soil health • Offers disease breaks for cereals in crop rotations • Provides non-selective weed control	• Intolerant to waterlogging • Not tolerant to heavy grazing • Seed toxicity to monogastrics

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What can it be used for?

Cover Crop: Common vetch has a well-developed taproot that can penetrate up to a depth of 1.5m. This allows it to increase soil fertility and organic matter while also alleviating compaction. Common Vetch is also slightly shade tolerant making it a good cover crop for use in orchards and vineyards. Common vetch also aids in weed suppression, even more so when coupled with cereals.

Common vetch decomposes easily. The crop should be ploughed in once full bloom occurs. The nitrogen fixing nature of the crop allows it to lower the C:N ratio in mixed pastures.

Grazing: Common vetch is palatable - however has poor regrowth after grazing. Pods and seeds are utilized by sheep. Common vetch can be left for late-winter grazing, if other cold sensitive forage is available for early winter grazing. Grazing should take place once the plants are 12-15cm tall.

Hay: Common vetch can be cut for hay once first pods are well formed. In a mixture with oats, hay can be cut once the oats reaches early milk stage.

Silage: Can be used to make good quality silage. Cutting for silage should be done at early pod stage to ensure the best nutrition to yield balance.

Production potential: Common vetch is often sown into cereal stands and mixed pastures. Production ranges from 3-8 t/ha/season depending on the mixture and management of the crop. Production is also reliant on planting

density, environmental factors, soil fertility and cultivar choice. Seed production can yield 1-1,3 t/ha.

Metabolic disturbances in animals on cultivated pastures:

Bloat: Common vetch has a moderate potential to cause bloat**.**

Seed toxicity: Common vetch seed contains cyanogenic amino acids and glycosides. These are toxic to monogastric animals.

Establishment

Climate: Common vetch is a cool season crop. It grows at temperatures ranging from 5-23°C. It is not tolerant of hot weather and quickly deteriorates when exposed to high temperatures.

Moisture: Under dryland conditions, optimal production requires an annual precipitation of 300-750mm. Timing of precipitation plays an important role in total production.

Soil: Common vetch tolerates a range of soil types but prefers well drained, moderately fertile soils. It grows well in the pH range of 4.5-8.2, however once off high volumes of lime before planting can be injurious.

Fertilization: A soil analysis before establishment is essential [6].

Removal Rates (kg/ton)	Nitrogen (N)	Phosphorous (P)	Potassium (K)
	26	6,5	18,3

Phosphorus (P) and Potassium (K) can be recycled back to pastures when grazed by animals. This depends on the grazing system and the type of animals used. Up to 40% of P and 90% of K can be recycled. It is however necessary

to do an annual soil analysis to determine the level to which recycling occurred. The difference should be fertilized.

Methods: Following a cultivated crop (e.g. cereal crops) little to no seedbed preparation is needed. In heavy clay soils, ploughing and disking might be necessary prior to sowing. Vetch is commonly broadcasted but can also be drilled in (use a lower seeding rate with the latter). Drilling should take place into a firm seedbed 1-5cm deep.

Seed can be inoculated with suitable Rhizobium bacteria before planting to ensure nitrogen fixation takes place.

Seeding rate:	**Rows / Dryland**	**Broadcast / Irrigation**
	30-45kg/ha	50-60 kg/ha

***Usage as well as environmental conditions (soil type, soil health, climate, rainfall) will determine seeding rates.**

Planting time: Common vetch should be planted in Autumn. It is usually established with a winter cereal crop.

Management

Utilisation: Grazing should only take place once the plant reaches 30cm in height (15 nodes). It can be grazed until the onset of flowering.

For hay and ensiling, the best time to cut is at flowering to early pod stage.

Diseases: Common Vetch is susceptible to the following diseases:

Rust (*Uromyces viciae-fabae*), Ascochyta blight, and Chocolate spot (*Botrytis* spp.)

Pests: Major pests of common vetch include:

Redlegged earth mite, Lucerne flea, Bluegreen aphid, Cowpea aphid and Heliothis bud worm.

Cultivars

Timok: This cultivar is suitable for grain production, hay, silage, grazing and for incorporating as a green or brown manure crop. It is highly rust resistant and moderately resistant to Ascochyta blight. This cultivar establishes early and takes 100-110 days from planting to full flower. Toxins in the grain are 0,57% lower than competing cultivars.

Resources

1. Matic, R. Nagel, S. and Kirby, G. 2008. Common Vetch Fact Sheet. https://keys.lucidcentral.org/keys/v3/pastures/Html/Common_vetch.htm
2. Common Vetch (*Vicia sativa*) :https://extension.msstate.edu/node/26685
3. Heuzé V., Tran G., Baumont R., 2015. Common vetch (Vicia sativa). Feedipedia, a programme by INRA, CIRAD, AFZ and FAO. https://www.feedipedia.org/node/239.
4. University of California. Common Vetch. https://ucanr.edu/sites/asi/db/covercrops.cfm?crop_id=14
5. FAO – http://www.fao.org/ag/agp/AGPC/doc/Gbase/data/Pf000247.htm
6. Pasture Handbook, Kejafa Knowledge Works, ISBN 0-620-31994-1
7. Australian Government, Grains Research and Development Corporations. GRDC Grownotes Vetch. https://grdc.com.au/__data/assets/pdf_file/0017/370700/GrowNote-Vetch-North-05-Nutrition.pdf
8. Pasture Genetics. Timok Vetch. http://pasturegenetics.com/seed/timok-vetch/