

Forage Rape – Brassica napus

Forage rape is a quick growing, leafy brassica plant. Forage rape can be sown from spring to autumn. The species provides a very palatable, high yielding, protein rich forage option. It can be grazed, used in cut-and-carry systems, or made into hay or silage. It is fast to establish – effective in suppressing weeds.



Strengths

- 3.5-4.5t DM/ha/season
Depending on environmental conditions and management
- Strong growth
- Good soil cover
- Can serve as forage
- Frost tolerant

Limitations

- Significant risk of parasitism and disease
- Difficult to terminate and fully prevent regrowth



What can it be used for?

Cover Crop: Forage Rape is a valuable cover crop during the end of summer, autumn and winter. It prevents soil erosion and Nitrogen leaching. It has a deep-reaching taproot that alleviates compaction and improves soil structure.

Grazing: As with any brassica crop, feeding should be introduced gradually over a 2-week period. Strip-grazing is recommended for cattle, while it is not required for sheep or goats. This can be achieved with the use of an electric fence which limits movement of livestock and reduces wastage.

Silage: Silage production is possible - provided it is cut at optimal DM (13-14%) and sugar (25%) contents. Prior to ensiling, prewilting is recommended. The forage should then be cut into 3-4 cm pieces. The pile of Forage Rape should not be too compacted.

Production potential: 7-10 t DM/ha in summer, 4-6 t DM/ha in winter. The yield is dependent on several environmental factors, as well as the cultivar chosen.

Metabolic disturbances in animals on cultivated pastures:

Risk of Bloat: Brassicas can be highly metabolizable and hungry animals can bloat very quickly, thus animals should be introduced slowly.

Risk of nitrate poisoning: Nitrate issues may occur on many forage types and is often associated with crops grown on or after high legume pastures. Over-cast conditions can create an increased risk. Ensure animals are introduced to crops gradually.





It is recommended that dairy cows do not consume Forage Rape at least one hour before milking to avoid a "cabbage" taint in the milk

Establishment

Climate: Mostly grown in cool temperate regions, however many Rape varieties can also be effectively grown in warmer regions by using an earlier sowing date.

Moisture: Forage rape grows where annual rainfall is as low as 300mm per annum.

Soil: Adapted to a wide range of soil types, however a free draining, light loamy soil with a pH of between 6-6.5 is ideal. It can survive and grow on relatively poor soils.

Fertilization: An application of manure or slurry before sowing will be beneficial for the establishment of Forage Rape. If this is unavailable, the addition of Nitrogen, Phosphorus and Potassium fertiliser into the seed bed should be enough for the crop. If necessary, 4-5 weeks after sowing a top dressing of nitrogen can be applied.

	N (kg/ha)	P (mg/kg soil)	K (mg/kg soil)
Requirement for establishment***	60-90*	25	25
Seasonal application (kg/ha)	75**	Use removal rates	

*Fertilizer just after establishment (kg/ha)

**Selected rate should maximise profit

***Determined by production potential

Phosphorus (P) and Potassium (K) can be recycled back to pastures when grazed by animals. This is dependent 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 annual soil analysis to determine the level to which recycling occurred. The difference should be fertilized.

Methods: A firm fine seedbed is required before planting. Rolling after sowing will consolidate the seedbed and help reduce moisture loss. After the main crop is harvested rape seeds can be drilled into stubble or it can be broadcasted on bare soil. When rape is sown after a cereal, the straw should be removed before sowing. The seeds should be planted at a depth of 2-4 cm depending on the soil texture and moisture.

Seeding rate:	Drilled pure stand	Broadcast pure stand
	3 kg/ha	6-10 kg/ha

Planting time: Planting in Spring: During Mid October – early November.
Planting in Autumn: During late January – early March.

Management

Utilisation: Forage rape crops can be utilised between 12-14 weeks after sowing. Strip grazing will utilise the crop most efficiently. If the crop is managed properly and not over grazed, it can be grazed for a second time. This can be achieved by excluding the stock to allow it to recover, and allow some regrowth





Resources

1. Heuze V., Tran G. and Lebas, F 2019. Rape forage. Feedipedia, a programme by INRA, CIRAD, AFZ and FAO. Viewed 22 April 2020 Last updated on August 12, 2019, 23:23 (Access date 22 April 2020).
2. Ammann, S., Nash, N. and Goodenough, D. Fodder radish and other forage brassicas. https://www.kzndard.gov.za/images/Documents/researchandtechnologydevelopment/publications/Research_and_Technology_Bulletins/2015.17-Fodder-Radish-and-other-forage-brassicus.pdf (Access date 22 April 2020).
3. ITAB.2012.Choosing and managing cover crops in organic agricultural systems, https://orgprints.org/30573/12/Fiches_Especies_EngraisVerts_ENG_2018.pdf (Access date 22 April 2020).
4. Heritageseeds. 2016. Brassica and summer forage crop guide. Summer_Forage_Guide_SINGLE-PAGES-ALL_FA-WEB%20.PDF. (Access date 22 April 2020).

