



FARMER LED, FARMER DRIVEN

The Choice of Crop
Maximising the Potential of Forage Crops
A Monitor Farm Scotland Innovation Project
Contractor: SAC Consulting



Alex Stephen Inch of Arnhall with youngstock on stubble turnips

The Deeside Monitor Farm Forage Crop Innovation Project followed and evaluated several outwintering systems in winter 2024/25.

CHOICE OF CROP TO SUIT THE SYSTEM

Options for outwintering systems include forage crops, catch crops, deferred grazing, grazing arable stubbles and bale grazing. Each system can reduce the costs associated with winter housing, increase welfare of livestock, reduce feed costs and return nutrients to the ground from the grazing animals. Choosing an outwintering system for your farm requires an understanding of your farm assets, how the crop system fits with your farming practices and how it would be grazed.

FARM ASSETS

The farm assets include land availability, shelter, soil type and climate. The project highlighted great variation between outwintering systems: high yielding crops such as fodder beet and kale carried high numbers of stock/ha at 16.88 livestock units (LU)/ha and 12.75 LU/ha respectively, while lower yielding crops such as a catch crop of stubble turnips and deferred grazing carried only 2.40 LU/ha.

	LU/ha
Fodder Beet 1	16.88
Kale	12.75
Fodder Beet 2	11.02
Brassica Mix & Yellow Neep 1	10.14
Brassica Mix	8.26
Deferred Grass	7.13
Swedes	6.62
Brassica Mix & Yellow Neep 2	6.31
Stubble Turnip	2.40
Failed Forage Mix	1.28

Table 1. Forage crop carrying capacity (LU/ha) across 10 crops.



The lower-yielding, lower-stocked crops including stubble turnips and deferred grass, allowed a crop (barley and hay, respectively) to be grown prior to the fields being grazed or shut off.

The farms that managed these crops in the winter are fortunate to have scope to grow a larger area of a lower-yielding crop, allowing it to be grazed over a wide area.

The deferred grass covered 12ha and grazed 114 in-calf cows for 80 days. High-yielding 'Fodder Beet 1' covered a third of this land (4ha) and grazed 90 in-calf cows for 55 days.

However, this fodder beet land is sown in the spring and not grazed until the winter, while the lower-yielding crops had a shorter period between sowing and use.

If land area or forage area is limited, then a higher-yielding crop would be more suited.

Once the system has been chosen, the farmer should consider numerous aspects to decide the site including:

- Shelter
- Free drainage
- Distance from water courses
- Water supply
- Good access
- Well fenced
- Dry run back area



SELECTING THE BEST CROP

Sowing and availability of brassica crops vary a lot.

The table lists recommended sowing dates, time to maturity and hardiness.

Crop	Sown	Utilised after sowing	Comments
Fodder Beet	Late March – Late April/early May	25–30 weeks	Very high yield, dry matter and energy Cold tolerant.
Stubble Turnips	April – September	8–13 weeks	Can grow as a catch crop (summer and autumn). Less winter hardy.
Hybrid Brassica	April – August	10–12 weeks	Summer, autumn and winter grazing. Cold tolerant
Kale	April – May	22–30 weeks	Cold tolerant.
Swedes	April – June	24–31 weeks	High dry matter Cold tolerant.
Forage Rape	May – August	10–12 weeks	Quick growing Not cold tolerant.

CLUB ROOT

Brassica crops should only be grown in a rotation, one year in every four or five to limit soil-borne diseases such as club root.

The majority of fodder crops belong in the brassica family, except for fodder beet, which belongs to the beet family.

If oilseed rape is part of the farm rotation, careful planning is required, as this is a brassica crop.



Robert Marshall's Forage mix at Lumphanan



Duncan Morrison's deferred grazing at Torphins



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To find out more or to sign up, please contact:

Regional Adviser – Peter Beattie

07769 366614

pbeattie@qmscotland.co.uk

monitorfarms.co.uk



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