



FACT SHEET

APRIL 2018

SUCCESSFUL HILL COUNTRY FORAGE CROPS AND PASTURES

FACTORS THAT MAKE HILL COUNTRY FORAGE SYSTEMS SUCCESSFUL

In harsh hill country environments, sound back-to-basics management practices and decisions are essential. Forages need to be sown at the correct time and have sufficient moisture to become well-established in hill country environments.

To be profitable, forage crops need to be high-yielding and used for high-return stock.

WHY GROW HILL COUNTRY FORAGE CROPS?

Summer forage crops are used to grow out and finish young stock.

Winter forage crops allow a large number of animals to be wintered in a relatively small area. They are often used as a break crop as part of a pasture renewal programme. This is particularly important when changing from wild endophyte to novel endophyte pastures.

ESTABLISHING FORAGE CROPS AND PASTURE ON HILL COUNTRY

The main problems establishing forage crops are:

- Poorly timed sowing
- Poor seed bed preparation
- Lack of soil moisture hindering establishment
- Difficult paddock contours.

To successfully establish forage crops and pasture on hill country, it is important to sow crops at the correct time and have good soil moisture.

On-farm trials have shown autumn pastures, sown following a forage crop, may perform poorly if sowing is delayed by extended grazing of the forage crop or conditions are very dry. Summer fallow can be a useful tool in allowing soil moisture to accumulate before sowing.



THE ECONOMICS OF HILL COUNTRY FORAGES

Factors to consider:

- **Product prices;** the returns expected from a forage crop are largely dependent on product prices.
- **Costs of developing new pastures;** factors such as location, contour, drainage and soil fertility all affect the final cost of establishing new pastures.
- **Summer forage crop yields;** these are dependent on how the crops are established and the quantity of spring rainfall. While farmers can control crop establishment, they cannot predict the weather.
- **Winter forage crop yields;** most winter forage crops are grown in summer moist environments and crop yields are generally consistent. Yields can be comprised if soil fertility issues are not corrected and insect and pest problems are not addressed.

The value of new pastures

The two main advantages of establishing new pastures are increased drymatter yield and increased pasture quality.

- **Yield:** Yield increases will be achieved as long as the problems causing poor performance have been addressed. These may include poor soil fertility, drainage issues and grazing management.
- **Quality:** New pastures are almost always of higher quality than old pastures. They have less dead matter and increased legume content.

DO FORAGE CROPS AND NEW PASTURES STACK UP?

Results of a hill country forage crop and pasture research project carried out in 2009/10, found summer crops need to grow at least four tonnes per hectare of high quality forage to be profitable. In winter, utilised yield need to be in excess of eight tonnes per hectare to be economic.

For hill country forages to be cost-effective, sheep and beef farmers must follow best management practices for establishing forage crops or new pastures and achieve maximum yields from those crops and pastures.

The research project found the economics of summer forage crops in hill country was marginal and will not be economic in dry seasons.

The choice of crop species will be critical as crops that persist for two years, such as clover, plantain and chicory, may help spread the cost of establishment.

Summer crops may be profitable if the crop is being used to renew a poor performing pasture.

Winter forage crops typically generate more reliable yields but they need to be yielding over eight tonnes/ hectare of utilised feed to be economic.

Establishing new pastures will be economic if it is done successfully and the class of stock using the pasture are high return animals such as finishing lambs or growing young replacement stock. Product prices are critical in determining the economics of growing forage crops.

ACKNOWLEDGEMENTS AND MORE INFORMATION

This fact sheet includes information from a historical Beef + Lamb R&D Brief 153: Successful hill country forage and pastures.

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B+LNZ RESOURCES

 www.knowledgehub.co.nz

PDF DOWNLOADS

- Dryland mixes for dryland farming systems fact sheet
- Production and persistence of dryland pastures fact sheet
- Guide for subterranean clover identification and use in New Zealand
- Liveweight production of sheep grazing dryland pastures fact sheet
- Winter forage crops management before grazing fact sheet
- Winter forage crops management during grazing fact sheet
- Winter forage crops management after grazing fact sheet
- Management practices of forage brassicas resource book
- Endophyte update fact sheet

VIDEOS

- Establishing legumes in uncultivable hill country
- Hamish and Annabel Craw: 3 tonne plus legumes hill country
- Forage use high performance sheep system

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