

# BRASSICA & HERB GUIDE

QUALITY FEED YOU CAN RELY ON

 Mainstar Forage Rape

**AGRICOM**   
Pastures for Profit®

## ECOTAIN® - THE PLANT



**Ecotain®** environmental plantain is a flexible perennial herb, which is widely adapted to many climates and soil types. It persists through hot summers and wet winters if it is not overgrazed in these conditions.

**Ecotain®** has erect growth and broad leaves enabling maximum intake per bite.

**Ecotain®** has a coarse fibrous root system which is very efficient at extracting nutrients, meaning **Ecotain®** can perform in a wide range of soil fertility.

**Ecotain®** is best suited in environments of 600mm+ rainfall and maximum production occurs in fertile soils.

*Mature Ecotain® plant with coarse fibrous roots.*

### SOWING RATES AND GRAZING TIMES FOR ECOTAIN®

Suggested sowing time	Suggested sowing rate	Growth habit	Time to first grazing	Grazing management	Persistence
Soil temperatures 10°C and rising	10-14kg/ha pure stand 6-8kg/ha in clover mix	Erect, leafy	When the plant has seven true leaves	Rotational graze	Perennial 2-4+ years depending on grazing conditions

## INCREASING PASTURE DIVERSITY

**Ecotain®** adds diversity to pasture mixes, increasing the palatability and quality of swards. Increased palatability leads to higher intake and better utilisation. The following table shows recommended rates of **Ecotain®** with various grasses such as **Savvy** cocksfoot, **Hummer** tall fescue, **One50** perennial ryegrass and **Knight** Italian ryegrass.



*Ecotain® and Knight Italian ryegrass*

*Ecotain® and Hunter forage brassica*

*Ecotain®, Relish red clover and Tribute white*

Ecotain 5kg/ha	Ecotain 5kg/ha	Ecotain 5kg/ha	Ecotain 5kg/ha	Ecotain 4kg/ha	Ecotain 8kg/ha
<b>Knight</b> Italian ryegrass 15kg/ha	<b>Savvy</b> cocksfoot 8kg/ha	<b>Hummer</b> tall fescue 15kg/ha	<b>One50 AR37</b> perennial ryegrass 15kg/ha	<b>Titan 5</b> Lucerne 8kg/ha	<b>Mainstar</b> forage rape 2kg/ha

## ANIMAL PERFORMANCE - DAIRY

Adding **Ecotain**® to dairy pastures can significantly increase milk production. Figure 1 demonstrates a 2L/cow/day increase in milk production when cows grazing low quality ryegrass were supplemented **Ecotain**®.

**Ecotain**® improves palatability in late spring and summer when grass goes reproductive, improving pasture utilisation.

The rapid rumen degradation time of **Ecotain**® allows cows to spend less time ruminating and more time eating, increasing feed intake and milk production.

### MILK PRODUCTION (L/COW/DAY) OF COWS GRAZING IRRIGATED RYEGRASS BASED PASTURE VS. ECOTAIN® VS. GRASS + ECOTAIN®

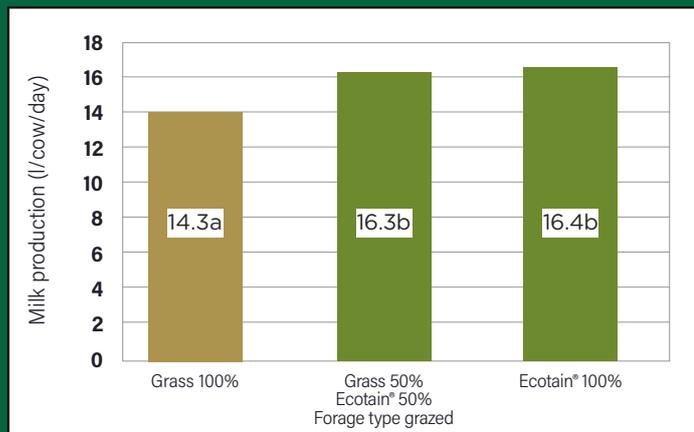


Figure 1 showing mean milk yield of cows grazing irrigated ryegrass or Ecotain® mixed pastures in summer (LSD 0.76, P value <0.001) Adapted from Box et al. 2016. This table has been developed in New Zealand from New Zealand information.



## ANIMAL PERFORMANCE - SHEEP & BEEF



**Ecotain**® forage systems can increase sheep liveweight production. The winter activity of **Ecotain**® allows farmers to lamb ewes or maiden hoggets on high quality forage, resulting in heavier lambs and ewes at weaning. Four separate trials have shown **Ecotain**® increased lamb weaning weights by 10 to 34%.

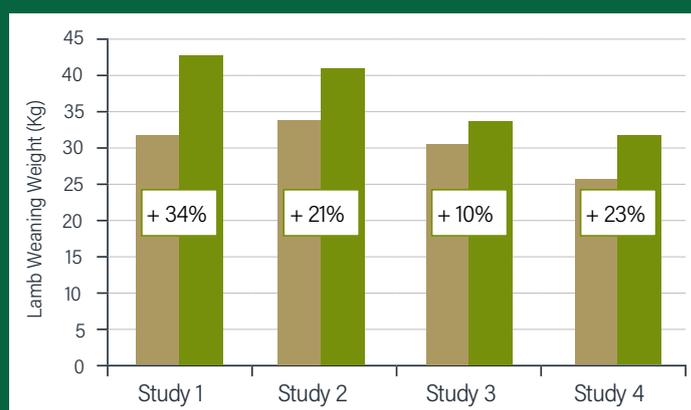
Livestock tend to be healthier on **Ecotain**®, due to elevated levels of important minerals (Zn, Cu, Se, MG, Ca, K).

**Ecotain**® stands have also shown anecdotal evidence of less dags on sheep and a reduced risk of facial eczema spore.

### WEANING WEIGHT DIFFERENCES OF LAMBS BORN, GRAZED AND WEANED FROM PERENNIAL RYEGRASS OR ECOTAIN® STANDS FROM FOUR STUDIES

■ Perennial ryegrass ■ Ecotain®

- Study 1:** Adapted from Judson. (2008). (109 day lactation)
- Study 2:** Adapted from Judson et al. (2009). (95 day lactation)
- Study 3:** Adapted from Judson et al. (2009). (87 day lactation)
- Study 4:** Adapted from Judson (2010). Unpublished hogget lambing (hogget 90 day lactation)



## PALATABILITY AND PERFORMANCE



### Mainstar

#### Forage Rape

- Early maturing, 10-12 weeks
- Drymatter potential 4-10 t DM/ha
- Highly palatable with excellent regrowth
- Aphid tolerant
- High leaf percentage with superior animal preference

**Mainstar** is a short type brassica that has excellent regrowth potential after grazing, giving it the ability to respond to moisture after long periods of summer dry. It has increased forage yields over other short type brassicas. Testing during the breeding process found **Mainstar** to have a higher leaf percentage and superior animal preference over other short type brassicas.

#### SOWING RATES AND GRAZING TIMES FOR MAINSTAR FORAGE RAPE

Suggested sowing time	Suggested sowing rate	Time to first grazing	Number of grazings	Potential yield (depending on number of grazings)
August to November and February to April	3-4 kg/ha	10 to 12 weeks	2 to 4	Up to 10 t DM/ha

## GROWS MORE LAMB



### Winfred

#### Forage Brassica

- Early maturing, 10-12 weeks
- High leaf to stem ratio for excellent utilisation rates
- Regrowth potential for 2-4 grazings
- Tolerant of dry conditions once established
- Ideal for summer, autumn and winter feed

**Winfred** is a versatile brassica, being suitable for a wide range of soil fertility and environmental conditions, stock classes and sowing times. **Winfred** has good frost tolerance and excellent regrowth potential and may extend grazing times from early summer to late winter. Due to the potential of an earlier first grazing, **Winfred** has the ability to be grazed up to four times through summer and early autumn.

#### SOWING RATES AND GRAZING TIMES FOR WINFRED FORAGE BRASSICA

Suggested sowing time	Suggested sowing rate	Time to first grazing	Number of grazings	Potential yield (depending on number of grazings)
August to November and February to April	3-4 kg/ha	10 to 12 weeks	2 to 4	Up to 10 t DM/ha

# FORAGE BRASSICA PLANT COMPOSITION

Trial work was undertaken to compare **Winfred** (short type brassica) versus Greenland (tall type brassica).

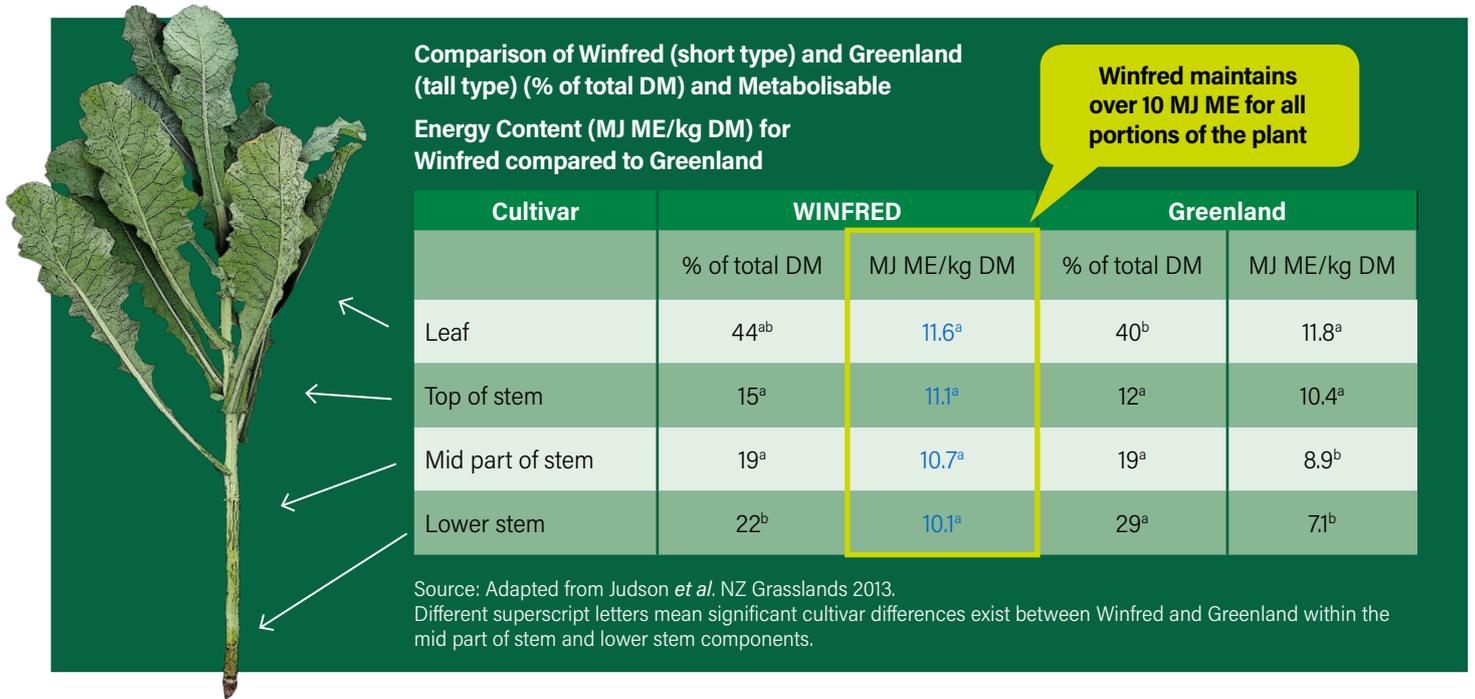
There is considerable variation between forage brassica (rape) cultivars in the relative proportion of leaf and stem, and the various qualities of these plant components. In general, short rape types have a higher percentage of leaf relative to the total yield than tall rape types.

The leaves of rape plants are high quality regardless of the rape

type however, the quality of the rape stem decreases from the top to the bottom.

Short types generally have higher quality in the bottom two thirds of the stem compared to taller varieties.

The lowest quality part of the rape plant is the bottom portion of the stem and this makes up a lower proportion of the total yield of **Winfred** compared to Greenland.



## TRIAL WORK - LIVEWEIGHT GAIN ON LAMBS

Crop yield at grazing, stocking rates, intake parameters and liveweight gain (LWG) data for lambs on two rape cultivars		
Cultivar	WINFRED	Greenland
Type	Short	Tall
Yield t DM/ha	7.6 <sup>b</sup>	10.2 <sup>a</sup>
Crop height*(cm)	60 <sup>b</sup>	78 <sup>a</sup>
Stocking rate (lambs/ha)	56 <sup>b</sup>	75 <sup>a</sup>
Utilisation (%)	63 <sup>a</sup>	46 <sup>b</sup>
Apparent intake (kg DM/head/day)	1.45 <sup>a</sup>	1.17 <sup>b</sup>
Lamb liveweight gain (g/day)	205 <sup>a</sup>	146 <sup>b</sup>
Liveweight gain/ha/day (kg/LWG/ha/day)	11.5 <sup>a</sup>	11.1 <sup>a</sup>

\*mean of four evaluation trials (2010, 2011, 2012 – Kimihia NZ and 2012 – Culverden NZ).

Within row, different superscript letters mean significant cultivar differences exist between Winfred and Greenland.

Source: Adapted from Judson *et al.* NZ Grasslands 2013.

### Key findings

- When offered the same allowance lambs utilised more of the **Winfred** than the Greenland.
- Lambs avoided grazing stem when allowance (feed on offer) was generous, which indicates stem is not a preferred component of the diet.
- For Greenland, intake by lambs appears to have been constrained, relative to **Winfred**, by the apparent reluctance by lambs to consume stem.
- The lower stem made up a greater proportion of total drymatter in Greenland, and the stem was of lower quality compared to **Winfred** which has a lower drymatter yield and has less lower stem.

# A QUICK MATURING FORAGE BRASSICA



- Early maturing, 6-8 weeks, no ripening required
- Excellent quality and forage yields in fertile, moist conditions for finishing stock
- Fast recovery from grazing with excellent subsequent yields, given adequate moisture
- Strong plant survival following multiple grazings
- Low proportion of bolting plants from a mid-late spring sowing
- Tolerates Turnip Mosaic Virus and Cauliflower Mosaic Virus attack

**Hunter** is a quick-growing, forage brassica, with minimal bulb development and is best suited to multiple grazings for summer and early-autumn feed requirements.

**Hunter** is an excellent quality forage capable of providing high liveweight gain on animals.

**Hunter** was bred for tolerance of Turnip Mosaic Virus and Cauliflower Mosaic Virus. This, combined with selection for vigorous regrowth, has provided a variety with fast recovery from grazing and excellent ability to yield in the second, third and sometimes fourth regrowth cycle. Plants usually show good resistance to most clubroot races, but they are susceptible to drought and aphids, and are best suited to heavier soil conditions with periodic summer moisture or irrigation.

## SOWING RATES AND GRAZING TIMES FOR HUNTER FORAGE BRASSICA

Suggested sowing time	Suggested sowing rate	Time to first grazing	Number of grazings	Potential yield (depending on number of grazings)
September to April given moisture	4 kg/ha	6 to 8 weeks	2 to 4	Up to 10 t DM/ha

## QUICK GUIDE TO GRAZING MANAGEMENT OF LEAFY BRASSICAS



### Residuals too low - stock eating too much of crop

- High stocking rates but animals growing slowly
- Low LWG/ha - 2-5 kgLWG/ha/day
- Eating 80% of forage on offer



### Residuals to maximise liveweight gain/ha

- Optimal stocking rates and animals growing fast
- Maximum LWG/ha - 12.4 kgLWG/ha/day
- Eating 65% of forage on offer

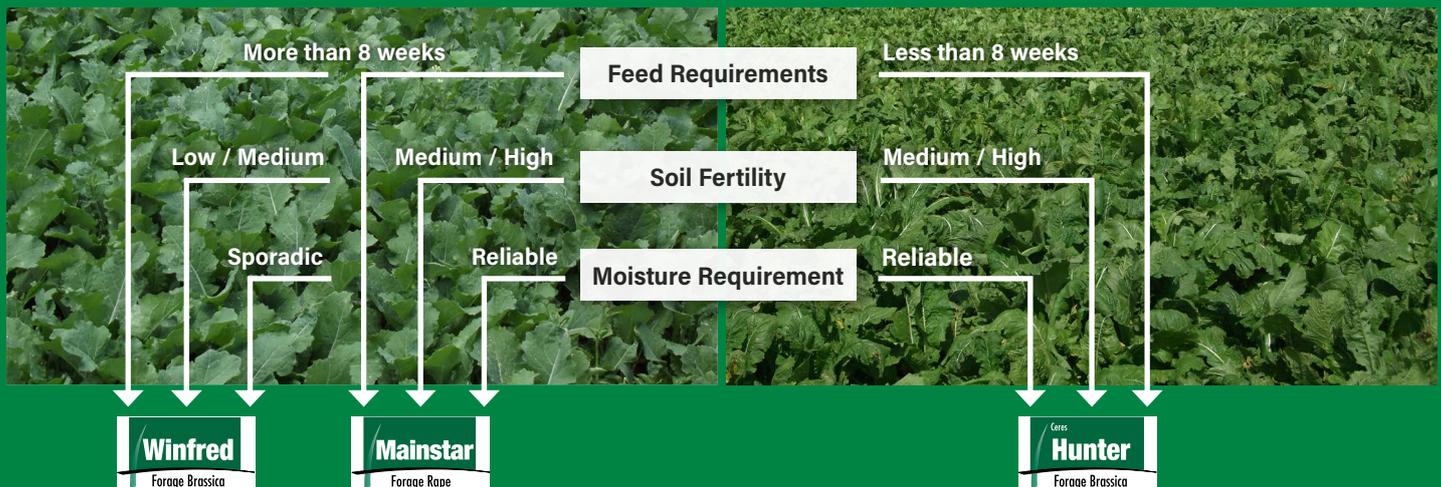


### Residuals too high - not eating enough of crop

- Low stocking rates and animals growing fast
- Moderate LWG/ha - 7.2 kgLWG/ha/day
- Eating 35% of forage on offer

Note: Appropriate stocking rates will vary depending on pre-grazing mass and speed of growth

## WHAT'S RIGHT FOR YOU - WINFRED, MAINSTAR OR HUNTER? or an area of each?



# THE PRODUCTIVE AND PERSISTENT PERENNIAL CHICORY



- Perennial herb with persistence of 3-4 years
- High ME (+12 ME/kg DM)
- High summer drymatter production given adequate moisture
- Improved cool season growth
- Selected for lower lactucin levels

**Choice** is a perennial herb with a deep tap-root, high forage quality and high warm-season pasture growth. **Choice** chicory has been proven on farm and in trials to improve production both per animal and per hectare in sheep, beef and dairy systems.

The deep (1.5-2 metres) tap-rooted nature of **Choice** chicory can result in consistent growth rates and forage quality, even during hot or dry periods. **Choice** chicory is relatively inexpensive to establish compared with ryegrass/clover pastures. **Choice** chicory can be added to new grass pasture mixes (e.g. 2 kg/ha) to boost animal performance and feed production.

**Choice** chicory has been selected for low lactucin levels. Lactucin has been associated with the potential to cause milk taint.

### SOWING RATES AND GRAZING TIMES FOR CHOICE CHICORY

Suggested sowing time	Suggested sowing rate	Time to first grazing	Grazing management	Persistence
Soil temperatures 10°C and rising	Pure stand: 6kg/ha Perennial pasture mix: 1-2 kg/ha 1-2 kg/ha forage brassica, 3-5 kg/ha Choice	6 to 10 weeks	Rotational graze or set stock	Perennial 3-4 years depending on grazing conditions

## FOR PERSISTENCE AND YIELD, CHOOSE CHOICE PERENNIAL CHICORY OVER BIENNIAL CHICORY'S

A CSIRO study compared the production and persistence of chicory varieties in a 3 year trial across NSW, VIC and SA.

Key findings were that **Choice** performed extremely well:

- **Choice produced the most drymatter when averaged across all five trial sites at the end of three years over the other chicory varieties**
- **Choice had the highest plant persistence at the end of three years over the other chicory varieties including Chico, Commander and Grouse**



Full CSIRO paper *Evaluation of chicory cultivars and accessions for forage in south-eastern Australia*, Guangdi D. Li et al. available from [www.publish.csiro.au/CP/CP10011](http://www.publish.csiro.au/CP/CP10011).



After First Winter

18 Months Post Establishment

## HIGH YIELDING SHEEP & BEEF OPTION



## Australian Purple Top Turnip

- Selected for improved Diamondback moth (DBM) tolerance
- 12-14 weeks to mature, summer turnip
- Selected in dryland conditions
- Certified alternative to Mammoth Purple Top turnip

**Australian Purple Top** is an Australian selection from the popular Mammoth Purple Top turnip.

It was bred for increased tolerance to dry conditions in Australia and Diamondback moth attack. APT has true leafy tops and large round bulbs. All APT seed is certified, which ensures true-to-type and meets strict standards including purity and germination.

### SOWING RATES AND GRAZING TIMES FOR AUSTRALIAN PURPLE TOP TURNIP

Suggested sowing time	Suggested sowing rate alone	Time to first grazing	Number of grazings	Potential yield
September to December	1-2 kg/ha	12 to 14 weeks	1	Up to 10 t DM/ha

## SUMMER CROP/DAIRY & BEEF OPTION



- Early maturing (10-12 weeks), summer turnip
- Excellent leaf production and leaf holding
- Tankard shaped bulb with high proportion above ground
- Short term, one graze, summer crop

**Rival** summer turnip is a mid-maturing tankard-shaped bulb turnip bred for high leaf production and improved turnip mosaic virus tolerance. **Rival** summer turnip provides high volumes of high energy, high protein and low fibre forage at a time of year when fibre content of pastures are increasing, and energy and protein are decreasing. Maturity is 10-12 weeks.

### SOWING RATES AND GRAZING TIMES FOR RIVAL TURNIP

Suggested sowing time	Suggested sowing rate alone	Time to first grazing	Number of grazings	Potential yield
September to December	1.5-3 kg/ha	10 to 12 weeks	1	Up to 10 t DM/ha

## DISTRIBUTORS

Agricom cultivars are available from all quality seed suppliers. For further information and advice contact one of our distributors:

### AusWest Seeds

NSW & QLD 1800 224 987



### Stephen Pasture Seeds

VIC, SA, TAS 03 5334 2555



### Smyth Seeds

VIC, STH NSW 03 5762 5288



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