

# Feed value of perennial ryegrass

## Summary

- Feed value differences between varieties are significant but relatively small.
- Combining varieties with good pasture management allows for feed value and production to be maximised in farming systems.

## Variety comparisons (ME)

Variety	ME (MJ/kgDM)*
<i>Bealey NEA2</i>	12.5 a
<i>Banquet II Endo 5</i>	12.5 ab
<i>Aberdart WE</i>	12.5 ab
<i>Revolution AR1</i>	12.5 ab
<i>Alto AR1</i>	12.4 ac
<i>One50 AR1</i>	12.4 bc
<i>Arrow AR1</i>	12.2 cd
<i>Sterling AR1</i>	12.2 d
<i>Impresario WE</i>	12.2 d
<i>Matrix SE</i>	12.2 d
<i>Extreme AR6</i>	12.2 d
<i>Bronsyn AR1</i>	12.1 de
<i>Kamo AR37</i>	11.9 e

\*Tested over 2004-08 at Courtenay, Canterbury in a well managed situation. Varieties sampled for minimum of a year (minimum 21 samples/variety) & analysed by NIR. Significance lettering given for 5% LSD level, varieties with the same letter are not significantly different.

## Management most important

Good pasture management is the key to maximising pasture quality and achieving high ME levels. Strategies include:

- Managing pastures through spring (see page 83).
- Grazing to the correct pasture residuals (see page 80).
- Grazing at the right time - when ryegrass has 2.5 new leaves per tiller (see page 79).
- Maximising the legume content (see page 84).

## Feed value of perennial ryegrass (cont.)

### Water soluble carbohydrates (WSC)

WSC are simple sugars in plant cells and are an important energy source for animals. WSC is highly correlated with ME, and in most cases ME is a better indication of animal performance than WSC.

#### Ryegrass water soluble carbohydrate (WSC) levels at Courtenay

Variety	WSC %*
<i>Alto AR1</i>	26 a
<i>Bealey NEA2</i>	26 ab
<i>Banquet II Endo5</i>	26 ab
<i>Revolution AR1</i>	26 ab
<i>One50 AR1</i>	26 ab
<i>Aberdart WE</i>	25 ab
<i>Arrow AR1</i>	24 bc
<i>Sterling AR1</i>	24 bc
<i>Extreme AR6</i>	23 cd
<i>Impresario WE</i>	23 cd
<i>Matrix SE</i>	22 cd
<i>Bronsyn AR1</i>	22 d
<i>Kamo AR37</i>	22 d

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### Crude protein

CP is needed by animals to maintain body tissue and produce milk/meat. Ideal CP levels for dairy cow production are 18-25%.

#### Ryegrass crude protein (CP) levels at Courtenay

Variety	CP %*
<i>Sterling AR1</i>	21 a
<i>Impresario WE</i>	21 a
<i>Matrix SE</i>	21 ab
<i>Bealey NEA2</i>	20 ab
<i>Extreme AR6</i>	20 ac
<i>Bronsyn AR1</i>	20 ac
<i>Aberdart WE</i>	20 ac
<i>Kamo AR37</i>	20 ac
<i>Banquet II Endo 5</i>	19 ac
<i>Revolution AR1</i>	19 ac
<i>One50 AR1</i>	19 bc
<i>Arrow AR1</i>	18 c
<i>Alto AR1</i>	18 c

\*Tested over 2004-08 at Courtenay, Canterbury in a well managed situation. Varieties sampled for minimum of a year (minimum 21 samples/variety) & analysed by NIR. Significance lettering given for 5% LSD level, varieties with the same letter are not significantly different.  
Reference: Kolver, E.S. (1998) Digestion of pasture by dairy cows. Proceedings of the Society of Dairy Cattle Veterinarians of the NZ Veterinary Association, 75:175-188.