

# Agrinote



Pastures for Profit.®



Timothy is a late flowering, prolifically tillered grass with very high spring and summer production, under rotational grazing systems. Timothy has the highest quality of New Zealand temperate grass species, making it an important component of a pasture mix. Given that Timothy produces most of its production in the spring and summer it is best suited to reliable summer rainfall areas, or under irrigation.

**Charlton** was bred by AgResearch Grasslands. The production from **Charlton** Timothy is approximately 40% greater than imported Canadian Timothy varieties and **Charlton** also has improved persistence.

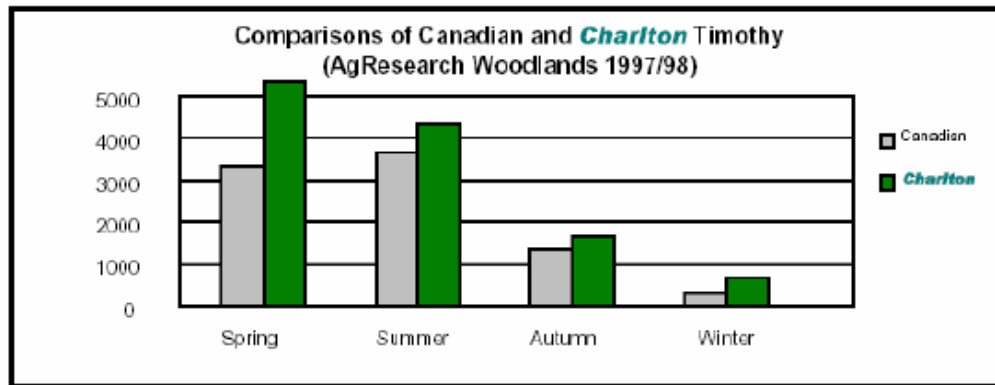
## Characteristics

Perenniality	Leaf Size	Flowering Date
Perennial	Fine	Late

1000 Seed Weight	Endophyte Status	Suggested Sowing Rate (kg/ha)
0.4 grams	Nil	Pure sward 5 Mixed sward 1-2

- ✓ **Charlton** has 40% higher production than imported Canadian varieties.
- ✓ Timothy is a late flowering grass with high spring and summer production
- ✓ Timothy is the highest quality temperate forage grass species available in New Zealand.
- ✓ Timothy performs and persists best under rotational grazing.

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## Background

Timothy is recognised as high quality forage capable of producing high growth rates in stock over the spring and summer period. As farmers put management practices in place to improve per hectare performances, Timothy will have an even greater role within pasture mixes in areas of good rainfall or irrigation.

**Charlton** is a new Timothy bred by AgResearch Grasslands in Gore as a replacement for Kahu Timothy.

**Charlton** Timothy has been bred with a finer leaf and a three week earlier flowering date than Kahu.

## Key Features

- ✓ **Charlton** is a very high quality forage capable of high production over the spring and summer
- ✓ **Charlton** has 40% higher production than an imported Canadian variety tested at Woodlands in Southland
- ✓ **Charlton** requires rotational grazing management to ensure persistence.

## Production Performance

✓ **Charlton** is suitable for all summer moisture, where high animal performance is expected pasture mixes in regions of good AgResearch Gore 1988-1993: Hogget live weight gains in Spring (mean of two years)

	LWT Gain (g/day)	Stocking Rate Hoggets/ha	Meat Production (kg/ha/day)
Kahu Timothy	218	37.4	8.15
47% lift			
Nui ryegrass	164	33.8	5.54

Given the quality of Timothy production over the summer months, animal performance on Timothy swards will always be high.

The majority of Timothy presently used in New Zealand is imported Canadian Timothy.

Dry Matter Production from **Charlton** Timothy versus a Canadian Variety conducted by AgResearch at Woodlands Research Station.

	Total kg DM/ha/yr
<b>Charlton</b> Timothy	14 350
Canadian Timothy	10 500

**Charlton** has 40% higher total production than the main imported Canadian variety and is expected to have greater persistence.

## Growth Pattern

Timothy is very slow to establish and often is not evident in a pasture until 12 months after sowing. Growth over the autumn/winter period from Timothy will always be slow compared to perennial ryegrass. Total annual production for a season is comparable to ryegrass, highlighting the very high vegetative production of Timothy over the

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**Grazing Management** spring and summer. Given Timothy's very late flowering, high quality forage is produced throughout the spring/summer period. Timothy is slow to establish and should not be grazed until plants are not at risk from "pulling".

Once established, grazing management determines the persistence of Timothy. Timothy has a significantly higher proportion of tillers with growing points above ground level during the spring and summer than ryegrass. Set stocking systems and low grazing will rapidly kill Timothy plants. Rotational grazing systems ensure Timothy persists for the life of the pasture. Timothy is moderately tolerant of winter treading and heavy soils, making it more persistent than any other species in this type of environment.

## Role for **Charlton** Timothy

Timothy performs best in wet summer environments, where its superior summer production can be exhibited. Research shows that Timothy produces as well as ryegrass on heavy, but drought prone soil.

**Charlton** Timothy has a major role in all high quality pasture mixes where summer moisture is not limiting, at sowing rates of 1-2 kg/ha.

A pure stand sowing rate of **Charlton** Timothy is at 5 kg/ha.