

CAPTAIN

COOL SEASON PLANTAIN

NEW FROM BARENBRUG AGRISEEDS

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We believe that good things take time. After years of crossing, selecting and trialling we have *Captain CSP*, derived from 'katepano' (Greek) literally meaning 'one at the top'.

Captain CSP we've called 'cool season plantain (CSP)' due to its extra growth through this period. This is the most valuable feed in farm systems, and gives environmental advantages too.

KEY FEATURES OF CAPTAIN CSP

- Top cool season production
- Very high overall DM yield
- Deep, coarse root system
- Distinctive narrow-leaved plant with upright growth habit for increased utilisation
- Suited to both sheep and beef and dairy systems
- Good compatibility with ryegrass and clover

OUTSTANDING COOL SEASON PRODUCTION

***Captain CSP* yields significantly more cool season DM yield than other plantain cultivars.**

Plantains vary hugely in winter growth, from winter-active types through to winter-dormant, as shown in the photo below.

Captain CSP has greater yield across the cool seasons (autumn, winter and early spring), providing more feed when it is both most valuable and most needed.

Reduced N Leaching

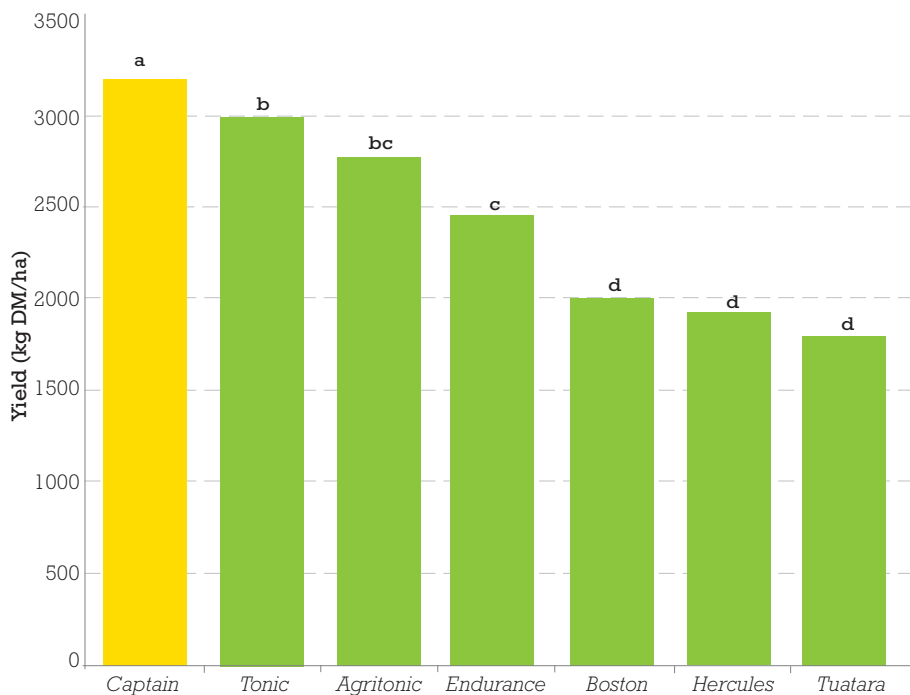
Initial investigations indicate that plantain can mitigate N leaching via a number of mechanisms, including direct activities on soil N mineralisation and direct uptake of N through growth.

The greater cool season activity of *Captain CSP* will enhance both of these mechanisms when it is most needed, as N leaching mainly happens when soils are wet through the late autumn, winter and early spring.



Captain CSP (centre) showing its significant cool season yield

Cool season DM yield data combined from three dryland Canterbury trials sown between 2013 – 2018.



* Cool season yield is autumn – early spring period. LSD (5%) lettering given on yield bars, cultivars with the same letter are not significantly different.



advantage over other cultivars on 30 July at Courtenay (190m ASL).

HIGH TOTAL DM YIELD

Not only does *Captain CSP* have a cool season advantage, it produces strongly in the other seasons too.

Captain CSP has very high yielding ability, with good year round growth.

Its high summer yield is important, providing additional much needed protein and feed quality over the warm months, particularly in summer dry areas.

DM yield of plantain cultivars in Canterbury over three trials*.

Trial mean = 100.

Entry	Winter	Early spring	Late spring	Summer	Autumn	Total
<i>Captain CSP</i>	101 ab	102 a	101	101 ab	102 a	114 a
<i>Tonic</i>	95 bc	86 bc	98	95 bc	86 bc	111 a
<i>Agritonic</i>	105 a	96 ab	93	105 a	96 ab	104 ab
<i>Endurance</i>	96 bc	97 ab	94	96 bc	97 ab	93 bc
<i>Boston</i>	96 bc	105 a	105	96 bc	105 a	86 cd
<i>Hercules</i>	96 bc	104 a	103	96 bc	104 a	85 cd
<i>Tuatara</i>	93 c	82 c	100	93 c	82 c	82 d
Trial mean (kg DM/ha)	410	449	1691	2821	449	7492
LSD (5%)	13	14	15	10	14	9

*Data from three replicated trials in dryland Canterbury.

PERSISTENCE

Captain CSP has shown good persistence in mixed sward trials.

Canterbury plantain/ryegrass mixed sward trial, plant density score two years after sowing*.

Entry	Density score 25 May 2017
<i>Tonic</i>	7.7 a
<i>Captain CSP</i>	6.8 a
<i>Endurance</i>	4.4 b
<i>Boston</i>	2.4 c
<i>Tuatara</i>	1.0 d
<i>Trial Mean</i>	5.0
LSD (5%)	1.2
Significance	***
%CV	21.0

* Scored on a 1-9 basis, where 9 = dense plant population.



Captain CSP (white frames) out-persisting many other varieties.

ANIMAL PERFORMANCE

Captain CSP is high in energy and crude protein throughout the year. It is easily digestible, improving stock appetite especially over dry summer months when ryegrass is of lower feed quality.

Vegetative leafy plantain can enhance animal performance with the following nutritional benefits over ryegrass:

- Lower NDF (fibre content) than ryegrass when ryegrass starts to go to seed in late spring and summer.
- Higher protein in summer.
- Rapid rumen degradation rate which can lead to higher animal intakes through faster rumen clearance.
- Higher in essential minerals like P, K, S, Ca, Mg, Na, Zn, Cu, B and Co than ryegrass/clover pastures.



SHEEP, BEEF, DEER SYSTEMS

Captain CSP can be used as a finishing crop, or in a pasture mix.

Two year finishing crop

In sheep, beef and deer systems *Captain CSP* is an ideal component of a finishing crop when mixed with red, white, and annual clovers, to provide a very high LWG pasture.

The annual clovers (Persian and arrowleaf) provide most of the animal performance through the first year, with red and white clover providing it after that.

This is also ideal to control grass weeds like browntop, where grass herbicide programme should be used.

In a pasture mix

Captain CSP can also be used as part of a perennial pasture mix to improve sward protein and quality particularly through late spring and summer.

Finishing - suggested seed mixes

Sheep, Beef, Deer		kg/ha
Two year high LWG finishing crop	<i>Captain</i> plantain	10
	<i>Laser</i> Persian clover	3
	<i>Zulu II</i> arrowleaf clover	3
	<i>Tuscan</i> red clover	4
	<i>Kotuku</i> white clover	3
	Total	23
Perennial pasture mix	<i>Tyson</i> or <i>Rohan SPR</i>	18
	<i>Safin</i> cocksfoot	4
	<i>Weka</i> white clover	4
	<i>Tuscan</i> red clover	4
	<i>Captain</i> plantain	2
	Total	32

DAIRY SYSTEMS

Captain CSP can be used as a crop, or sown as part of a perennial ryegrass pasture.

Summer crop

Captain CSP can be sown as specialist dairy forage crop at 10-15 kg/ha. To feed a daily diet of 3-4 kg DM/cow/day of *Captain* through summer, the area required is 5-6 ha/100 cows working on a 21 day rotation. This equates to a daily allocation of 20-30m²/cow/day. The rotation may need to be adjusted where growth rates are affected (e.g. in dry conditions).

In a pasture mix

Captain CSP can be added into a pasture mix at 2-4 kg/ha to increase summer feed quality of pastures in dryland situations. *Captain* can also be used as part of a specialist high-yielding, high quality 2-3 year pasture, with *Shogun NEA* hybrid ryegrass and *Kotuku* white clover.

Dairy - suggested seed mixes

Dairy		kg/ha
Perennial pasture mix	<i>Trojan</i> or <i>Governor</i>	22
	<i>Kotuku</i> white clover	2
	<i>Weka</i> white clover	2
	<i>Captain</i> plantain	2
	Total	28
Specialist 2-3 year pasture	<i>Shogun NEA</i>	30
	<i>Kotuku</i> white clover	4
	<i>Captain</i> plantain	2
	Total	36

CROP MANAGEMENT

Establishment

Plantain is best suited to fertile, free draining soils. Due to its small seed size, *Captain CSP* should be sown no deeper than 10mm. Sow into a firm, weed free seed bed, when soil temperatures are above 10-12°C. The first grazing of *Captain CSP* should be after 6 true full leaves, allowing the plant time to establish its deep root system.

Broadleaf weeds need to be completely controlled prior to sowing as few herbicide options are available for spraying broadleaf weeds out of plantain. Alternatively, *Captain CSP* can be oversown into new pasture in spring, allowing broad-spectrum herbicides to be used over first winter.

Seek advice from your local retail technical representative for appropriate spray options.

AGRICOTE seed treatment

We recommend sowing *AGRICOTE* treated seed. This contains a range of insecticide, fungicide and nutrients to help protect and enhance establishing plantain seedlings when they are most vulnerable.

Fertiliser

Annual maintenance requirements for phosphate (P), sulphur (S) and potassium (K) are the same as for ryegrass. Plantain shows a good response to nitrogen (N). Three or four applications of 35 kg N/ha post grazing are recommended through spring/summer.

Grazing

Ideally *Captain CSP* is suited to rotational grazing. Graze at 25 cm (~3000 kg DM/ha cover) down to a residual of 4-5cm (1500 kg DM/ha). Repeated overgrazing will impact regrowth potential and reduce persistence.

Avoid pugging and grazing in very wet conditions. In a well-managed pasture sward *Captain CSP* will survive for at least three years.



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