



Stylos increase liveweight gains on Karma Waters

Climate Clever Beef

It is estimated the beef industry is contributing 79% of greenhouse gas (GHG) emissions produced by agricultural practices in Australia, mostly in the form of methane from livestock. The Pedersen family on Karma Waters chose to participate in the Climate Clever Beef (CCB) project to, firstly, identify feasible and profitable herd and grazing practices on Karma Waters and, secondly, assess carbon farming options that may be available to extensive beef enterprises. Branding, growth and death rates are not only the key profit drivers of any breeding business but directly influence total GHG emissions as well as emission intensity. Stylos play a key role in improving diet quality and herd productivity on Karma Waters.

Stylo establishment program on Karma Waters

Stylos do not establish well on heavy soils but prefer the well-drained, rocky soils on Karma Waters. Prior to planting, grass competition was reduced through storm burning. Establishing and maintaining Stylos on the better country (Bullock paddock) is difficult due to heavy grass completion and frequent/hot fires. A lightning fire in 2010 across most of the paddocks on Karma Waters decreased the Stylo density.

Table 1. Stylo development program on Karma Waters.

Locality	When	Area (ha)	Seeding Rate/ha	Percentage of Stylo in Pasture in 2015
Black Duck and Fine Gold Creeks	January 1991 (post storm burn)	1,000	0.5 kg/ha (50% Seca; 50% Verano)	<ul style="list-style-type: none"> • 20% Stylo along alluvial areas. Fires a problem due to local mining operations.
Scrubby and Brumby paddocks	December 1992 (post storm burn)	1,120	0.5 kg/ha (50% Seca; 50% Verano)	<ul style="list-style-type: none"> • 40–50% Stylo (80% Seca:20% Verano)
Front, Black Snake, Antimony, Terrace Creek and Bullock paddocks	January 2008 (post storm burn)	14,000	0.5 kg/ha (50% Seca; 50% Verano)	<ul style="list-style-type: none"> • Front 30% Stylo (70% Seca:30% Verano) • Black Snake 50% Stylo (80% Seca:20% Verano) • Antimony 15% Stylo (90% Seca:10% Verano) • Terrace Creek 10% (90% Seca:10% Verano) • Bullock 5-10% Seca

16,000 hectares have been oversown with Stylos on Karma Waters to increase annual liveweight gain by an estimated 20–30 kg/head. Diet quality data collected every four to eight weeks on Karma Waters highlighted the value of Stylo pastures coming into the drier months, with protein levels often at 6–7% and digestibility above 51% in November across several paddocks. This diet quality is above the maintenance levels of growing cattle and weight gain in steers would be expected. It is not uncommon to see native pasture protein and digestibility levels sink below 5% and 48% respectively this time of year on similar country, resulting in weight loss across all classes of cattle.



Image 1. Good Stylo establishment in Brumby paddock.

Handy hints from Karma Waters

- Plant on rain to minimise ant damage/loss.
- Uncoated seed tends to stick in clumps due to hooks, whereas coated seed spreads better aerially. Coated seed is more ant resistant than uncoated seed.
- In the future the Pedersens would sow a higher percentage of Seca (70% Seca:30% Verano).
- A light seeding rate of 0.5 kg/ha will cover more area but it could be five years to see much productivity improvement— 2 kg/ha will improve establishment time.
- You do not see many plants for two years. Do not overstock sown paddocks and wet season spell at least every two years.
- Carefully control your burning program as Stylo populations are greatly reduced by fire.



Producer demonstration site (Forest Home)

Table 2. Weaner performance on Stylos at Forest Home (1987–1994).

Treatment	Stocking Rate	Liveweight Gain per Day May–August	Total Liveweight Gain per Head over 78 Days
Native pasture + CM*	1 weaner:4 ha	0.29	22
Unfertilised Stylo + CM*	1 weaner:1.33 ha	0.42	32
Fertilised Stylo + CM*	1 weaner:1.33 ha	0.54	42

* All weaners were fed 0.5 kg/day of Copra Meal (CM) and had free access to Kynofos and salt. Fertiliser was only used during Stylo establishment. This demonstration focused on weaners ranging from 100–150 kg at three to five months of age.

Stylos—key points from Forest Home

- Native pasture: 60–120 kg annual liveweight gain.
- Stylo pastures: 120–160 kg annual liveweight gain.
- Improved stocking rate: three times for Stylo.
- If soil phosphorus is below 4 ppm use fertiliser to establish Stylos.
- If soil phosphorus is 4–8 ppm use phosphorus supplement.
- Phosphorus must be fed to young cattle in the wet season across most north Queensland properties.



Further information

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