

Climate Clever Beef

3. Soil health comparisons between remnant forest and cleared pasture in the Fitzroy catchment



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Climate Clever Beef in the Clarke Creek district

Seven grazing businesses in the Clarke Creek district of Central Queensland are working together within the Climate Clever Beef project. The groups aim is to evaluate the impact of management on soil health including soil carbon levels and soil microbiology. Nineteen management comparisons across seven properties have been assessed by installing a permanent *StockTake* monitoring site and sampling the surface soil (0–10 cm) (30 cores sampled per site).

Soil microbial activity, pasture biomass and total soil carbon results from three comparisons on brigalow softwood scrub country are presented. Comparisons include:

- A nature strip – Remnant brigalow softwood scrub (ungrazed) (1).
- Cleared brigalow softwood scrub, stickraked in 2006 (2).
- Cleared brigalow softwood scrub regrowth (3).

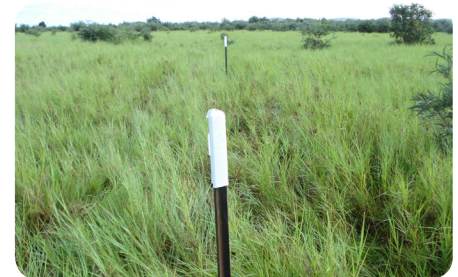
The cleared pasture sites were all in good land condition (A) and considered by the landholder to be appropriately managed. The cleared sites were first pulled in the 1970s.

Soil microbial activity was similar between management options. Total soil carbon was similar for the nature strip and stickraked pasture while the regrowth was lower. Pasture biomass was very low in the nature strip.

These results and other comparisons undertaken in the project will be used to discuss opportunities to improve beef business resilience through maintaining or improving land condition, livestock productivity, profitability and greenhouse gas emissions of the beef businesses.



1. Nature strip – remnant not cleared, not grazed, brigalow softwood scrub.



2. Cleared in mid 1970s and sown to buffel grass, stickraked in 2006 relatively lightly grazed.



3. Cleared in the mid 1970s and sown to buffel grass. No regrowth treatment. Relatively lightly grazed.

	Nature strip	Stickrake	Regrowth
Pasture biomass kg/ha	39	7,034	3,566
Total carbon %	4.01±0.29	4.24±0.89	2.81±0.13
Microbial activity*	79.6	89.2	88.6

Table 1. Pasture biomass, microbial activity and total carbon across the three comparisons on brigalow softwood scrub country.

**Microbial activity calculations are based on carbon dioxide evolution. The indicator is unit less, 80 is indicative of healthy agricultural soils.*

More information

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