# CASE STUDY: Corn silage a cost-effective fodder reserve at Dundee

John and Caroline Chappell run 320 Angus breeders and 2,000 Westvale blood Merino ewes on 1,400 ha at “Bridgewater” Dundee in the Northern Tablelands of NSW. The soils are a mix of granites ranging from course to blue. The annual average rainfall for the region is 825mm (Glen Innes).

In 2020, the Chappell’s agreed to become a demonstration site for the MLA funded Northern Pastures Group, investigating pasture improvement strategies, after the drought of 2018 and 2019.

A 23ha paddock that had been sown with lucerne and brassica in 2016 was chosen for renovation. The initial plan was to re-sow the paddock with Lucerne. However Chilean Needle Grass was discovered in spring 2021. The need to control the Chilean Needle Grass combined with a desire to re-plenish fodder reserves post drought led to the decision to sow corn for silage in spring 2021.

Corn silage can yield up to 22 t DM/ha. It has high phosphorus and potassium requirements and provides a range of options for chemical control of weeds pre and post emergence. Prior to sowing, feedlot manure was spread on the paddock at a rate of 22 t/ha and the paddock was sprayed twice with Roundup. After sowing in November, Dual Gold and Prime Extra Gold was applied for post emergent weed control.

The wet conditions during the summer of 2021/22 (rainfall 452mm across the growing season) made weed control less effective. As a result, approximately 2ha of the paddock could not be harvested.

Contractors harvested the corn in May 2022, delivered it to the pit, rolled and inoculated the silage with 3 bacteria. The total yield of corn silage was 900 t wet, which represents a wet yield of 39 t/ha over the area sown. At 50% moisture this equates to 19.5 t DM/ha.

The total cost of silage delivered to the pit was $67/t wet and $133/t dry assuming 50% dry matter. John’s silage has not been feed tested, however advice from his agronomist indicates that corn silage normally provides 10 MJ/kg DM of energy and 7.5% crude protein. He is delighted to have re-stocked his drought reserves in such a cost-effective manner, with silage of reasonable nutritional value.

John indicated that the advice from Paul Tudor (Grazag Glen Innes) was critical to this successful corn crop. Thanks also to the Pietsch family for contract planting and post plant spraying, and the Judd Brothers Contracting for the chopping and ensiling.

Table 1 details the corn silage cost benefits.

Table 1. Corn silage - cost benefit

| Growing costs | Cost/ha |
|---|---|
| Feedlot manure - spread | $648 |
| Pre-crop Roundup X 2 | $115 |
| Disc paddock X 2 | $132 |
| Seed, sowing & post emergent chemical | $522 |
| **Sub total** | **$1,417** |

| Ensiling costs | Cost/ha |
|---|---|
| Plastic | $99 |
| Fuel | $106 |
| Chop, transport and roll | $818 |
| Incoulant | $159 |
| **Sub total** | **$1,181** |
| **Total cost per ha** | **$2,598** |
| **Total cost per wet tonne ensiled** | **$67** |
| **Total Cost per estimated dry tonne ensiled** | **$133** |

**For more information about this Case Study or the Northern Pastures Group please contact the Glen Innes Natural Resources Advisory Committee (GLENRAC).**

**GLENRAC**
**68 Church St**
**Glen Innes NSW 2370**
**02 6732 3443**
**www.glenrac.org.au**