

Maize silage - Costing and gross margin calculator instructions

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Background

The “Maize Silage - Costing and gross margin calculator” is an interactive Microsoft® Excel spreadsheet that will allow producers to enter their own data to calculate the cost of growing maize silage. The calculator can also be used to estimate the total cost of maize silage for the total area grown.

In the calculator, the pale grey fields are data entry fields, and the darker grey fields are where calculation formulas are located and should not be altered.

All yields are entered in the calculator at 100% dry matter.

Main budget

The first page contains the main gross margin budget. Income and costs (in dollars) are entered per hectare; however there is also a cell to enter the total paddock size, so the total income and costs can be calculated as well.

There is a default price (in dollars) per tonne in the calculator, however if you are growing silage for your own use only, simply set the price per tonne to zero.

Sensitivity analysis tables

The second page has a range of sensitivity analysis tables. The sensitivity analyses can be used to calculate prices for contract growing and selling maize silage and the price risks that are associated with yield.

Table 1: Growing cost (\$) per tonne of dry matter

This table shows the growing cost per tonne of dry matter for a range of yields per hectare. You

are able to alter the yield range in this table. The central value is the expected yield from the main budget table. Growers should obtain independent agronomic advice for the yield variability to suit their particular situation.

Table 2: Area (hectares) required based on tonnage required

This table shows the area (in hectares) required to be grown for a range of yields per hectare, based on total silage tonnage required for the operation. The dry matter yield per hectare range is drawn from Table 1. “Growing cost (\$) per tonne of dry matter”.

Table 3: Total costs (\$) based on total silage required

This table shows the total cost of growing the total tonnage of silage required. The dry matter yield per hectare range is drawn from Table 1. “Growing cost (\$) per tonne of dry matter”.

Table 4: Price and yield impact on gross margin/ha

This table shows the impact of variations in yield and price on gross margin. This would be useful for growers who undertake contract growing of maize silage. The dry matter yield per hectare range is drawn from Table 1. “Growing cost (\$) per tonne of dry matter”.

Table 5: Energy Calculator

This table calculates the cost of maize silage in cents per megajoule (MJ) of metabolisable energy (ME). The energy calculator can help with ration costing (however, the calculator does not account for storage or feed out losses – you will need to account for these). It would be advisable to check the likely feed quality attributes when choosing a variety for silage for livestock

purposes. Quality testing of the final product is recommended.

Maize silage is usually low in protein. It typically contains 6–8.5% protein and a cow normally requires 12–17% protein in her diet. Maize silage can be valuable in a mixed diet but is not suitable for 100% long term feeding. Additional protein could come from pasture or supplements and additives. Refer to NSW DPI publications such as;

- [Beef cattle feeding and nutrition](#)
- [Dairy cattle fodder production & animal nutrition](#)
- [Feeding protein supplements with maize silage - when and what type?](#)

More information

For information on [silage and hay production from NSW DPI](#).

“Successful Silage (TopFodder silage manual)” is a 417 page reference manual published in 2006 which details the practicalities and basic principles in producing silage in Australia, from growing and harvesting the parent forage to storing and feeding the silage to ruminants. Available to [order online](#) or call 1800 028 374 (toll free) during business hours to order by phone.

Information on [livestock feed costs and nutritive values](#).

For more detailed feed ration calculations, refer to the [NSW DPI ‘Feed cost calculator’ online tool](#), which can be used to compare the value of feeds on an energy and crude protein basis.

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We would like to thank the anonymous growers who provided feedback on the draft version of the calculator.

For updates go to www.dpi.nsw.gov.au/factsheets

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