Meat and Wool Production Calculator

Introduction

The purpose of this calculator is to encourage farmers to think about production in a different way.

It isn't enough to simply record the weight of product going off the property and claim that as the "production" for the year. This type of calculation will be different from "real" production when:

- the farm engages in significant trading activity e.g. finishing lambs that have been purchased in store condition. The real production here needs to recognise that the weight of lambs purchased was not "produced" on the farm
- the base stock numbers change significantly e.g. when drought forces a reduction in stock numbers. In this case, the sold weight will be inflated by the sale of capital stock. The real production needs to adjust the sold weight for the change in the stock numbers.

In general, the calculation of production is:

	Sales
less	Purchases
plus	Change in stocks on hand
equals	Production

Accountants will recognise this formula as the calculation of (gross) profit. However, in our calculation, we will be using kilograms rather than dollars.

What do I need?

At a minimum, you will need:

- A computer
- A spreadsheet program that can read files in Microsoft Excel format
    - If you do not have a suitable progam, you can download LibreOffice at no cost (search for it on Google).
- Your farm accounts.

If you have detailed information about your livestock weights at balance dates, and the weights of stock purchased and sold, then this will allow us to calculation your production with greater precision.

You may have to set your spreadsheet program to allow Macros to run when you open the calculator.

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If you do not use Microsoft Excel as your spreadsheet program, you may need to manually "unhide" some rows that are hidden when you open the spreadsheet for the first time. These are the 'Grazing In' and 'Grazing Out' detail rows on both the 'Sheep' and 'Cattle' worksheets.

What happens if I don't have detailed information?

The calculator includes a set of "standard" weights and conversions. If you don't have detailed information on your stock weights, then these values will give you an indicative production figure.

If you do have detailed information, then you can overwrite the default values with your own information. This will give you a more accurate production estimate.

Some things to think about

If you want to compare your production with that from another farm, then it is important that the figures that are being compared are calculated in a similar manner. Therefore:

- if product weights are entered on an actual basis on one farm, but left as estimated weights on another farm, then the comparison may be biased
- where financial values are used, we should be aware that:
  - the choice of livestock taxation scheme may give different results for the same set of transactions
  - accountants presentations of accounts may be different (especially with regard to livestock value changes, and non-deductible items)
  - expenditure patterns within a single year may be significantly different from "normal". For example, there may be abnormally high R&M when stock yards are rebuilt, or fertiliser expenditure may be abnormally low in low income or drought years. These "one-off" factors may give a distorted view of production costs (per kilogram of production).

Ideally then, data should be "standardised" before being entered into the production calculator. This would mean:

- actual livestock weights would be used whenever possible
- all livestock revenue accounts would be assessed using the same livestock taxation scheme (preferably the herd scheme)
- livestock revenue in the production calculator would be shown including the value change assessed by the taxation scheme
- other revenue will exclude any non-farm income (interest, dividends etc.)

- non-deductible items and capital transactions occur below the profit line
- where expenditure is abnormally high or low, then an adjustment could be made to bring it back to "normal". Whether this is done will depend on what you want to get out of the production calculator.

Layout of the Calculator

The calculator is divided into 5 different pages or tabs. The first is a general 'Notes' section. This is followed by pages for 'Sheep', 'Wool', and 'Cattle'. Finally, there is a 'Production' page which summarises the information from the three preceding pages, and includes some financial analysis.

Each page is divided into categories, such as livestock numbers at open and livestock numbers at close. Where these categories have their heading in **blue text**, then you can click on that text, and the detail lines below the text will alternately be displayed or hidden.

In the image below, the 'Grazing In' category has been hidden. This can be restored to view by clicking in cell 'A38' or 'B38'. When you hover the mouse pointer over any of these trigger cells, it should change to a pointing hand.

		Head	Live Wt	Dress Out %	Carc Wt	Total CW
31	**Purchases**	**Head**	**Live Wt**	**Dress Out %**	**Carc Wt**	**Total CW**
32	Ewes	302	59.6	39.0%	23.2	7,006
33	Hoggets	47	36.1	44.0%	15.9	747
34	Lambs	286	29.1	44.0%	12.8	3,661
35	Other	7	92.0	44.0%	40.5	284
36	**Total**	**642**				**11,698**
37						
38	**Grazing In**	**Head**	**Live Wt**	**Dress Out %**	**Carc Wt**	**Total CW**
43	**Total**	**36**				**871**

Cells are colour-coded to identify the different types of information in the calculator.

- Data entry cells are shown in RED. For example, see the numbers in the 'Head' column above. You enter the values appropriate for your farm here.
- Default parameters are shown in GREEN. For example, the 'Live Wt' numbers in the above image are of this type. If you have better information than this default value, then you can overwrite this value. **NOTE:** Other entries may be linked to these values. Changing one of these green parameters may change other values in the calculator too.
- Linked parameters are shown in ORANGE. For example, see the 'Dress Out %' numbers in the above image. These parameters are linked to one of the GREEN default parameters, and will change automatically

when (if) you change the default value. You can overwrite this value directly if you have better information.

- Calculated values are shown in BLUE. For example, see the 'Carc Wt' numbers in the above image. You can overwrite this value directly if you have better information.
- Final values are shown in MEDIUM RED on a light green background. For example, see the 'Tot CW' figures above. You cannot (easily) change these values – they are calculated from the values you have entered (or the defaults you have accepted).

NOTE: The notes above say that you can overwrite the default values offered if you have the information to do so. If you do this, then highlight those cells by applying a background colour to them. This will act as a visual reminder that you have changed these from their default values.

Entering Data

We recommend that you complete each page before moving to the next. This will help ensure that all relevant items are filled in.

Within each page, we recommend you do things in this order:

- Fill in the items marked in RED first.
- Update the items in GREEN next – if you have the information to do so. Changes made to these items will automatically flow through to the linked items marked in ORANGE.
- Update the items in ORANGE next – if you have the information to do so.
- Finally, update any items in BLUE. There shouldn't be any need for this if you have filled in the earlier data entry items.

Once this has been done on all pages, the results will be displayed on the 'Production' page.

Grazing Stock / Non-owned Stock

If you undertake grazing of stock owned by other farms, or if you graze some of your own stock off-farm, or if you are rearing stock on your farm that is actually owned by the meat company, then you need to think a bit about your data entries:

- Stock numbers at open and close should be all stock on the farm – whether you own them or not. If you have stock grazing off-farm at balance date, these should be EXCLUDED from the numbers on hand at that date.
- The term 'Grazing In' means an inflow of stock onto your property. This includes the arrival of stock owned by meat companies or another farm, AND the return of your own stock from grazing off-farm.

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- The term 'Grazing Out' means an outflow of stock from your property. This includes stock owned by meat companies being sent to slaughter, the return of other farmers' stock to their own properties, AND any of your own stock being sent off-farm for grazing.

Results

The results you have got represent one period in time. You may want to repeat this for previous years so that you can see whether there is any trend in production on your farm.

Compare your results with those of other farmers that you know. "Look behind" the numbers to understand why the results differ.

Remember, a higher production level is not necessarily better than a lower production level. Production is a means to an end, and the usual "end" to aim for is profitability.

Notwithstanding the above statement, higher production is usually associated with higher profitability.

Problems / Questions

If you have any problems using this calculator, or have any questions about the calculations, please contact Brian Speirs on (04) 474 0846 or send an email to econ@beeflambnz.com