



# Gross Margin Training Notes



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These training notes are to be used with the TechTalk Gross Margin Calculator:

<http://gmcalc.techtalk-international.com/>

They are designed to make the process of Gross Margin calculating simple and understandable. The spreadsheets/data entry forms in Annex 1 and Annex 2 provide a farm recording system which can be used for your enterprise.

## An Introduction to Gross Margins

**Gross Margins** provide simple indications of the financial performance of individual farming enterprises.

**A Gross Margin of an enterprise = Gross Income of enterprise – Variable Costs of that enterprise**

**A Gross Margin is well known as a reliable but simple gauge of how well an enterprise is working in financial terms.** It acts as a single-figure indicator of the technical performance of an enterprise, the economic environment in which it is operating and the relative financial success of the management choices being made.

As such (providing that fixed costs are similar), Gross Margins may be used to:-

- Assess the performance of a single enterprise, in the same project or on the same farm, in different seasons or years.
- Compare the performance of different enterprises in the same project or on the same farm, in different seasons or years.
- Compare the performance of similar enterprises in different projects or on different farms, in different seasons or years.

This means that Gross Margins can help you make important decisions about how to manage your land – for example, what the advantages of using different input combinations are, which enterprises to expand or outputs to focus on, which markets to sell on and so on...

At first glance, running a Gross Margin Calculation may seem like a lot of work – in fact, providing you have your data to hand and take each step at a time, it is a straightforward process. These Training Notes (and the spreadsheets they provide) should help you understand the steps involved. You are also welcome to [Contact Us](#) for more assistance in using the Gross Margin Calculators or interpreting the results.

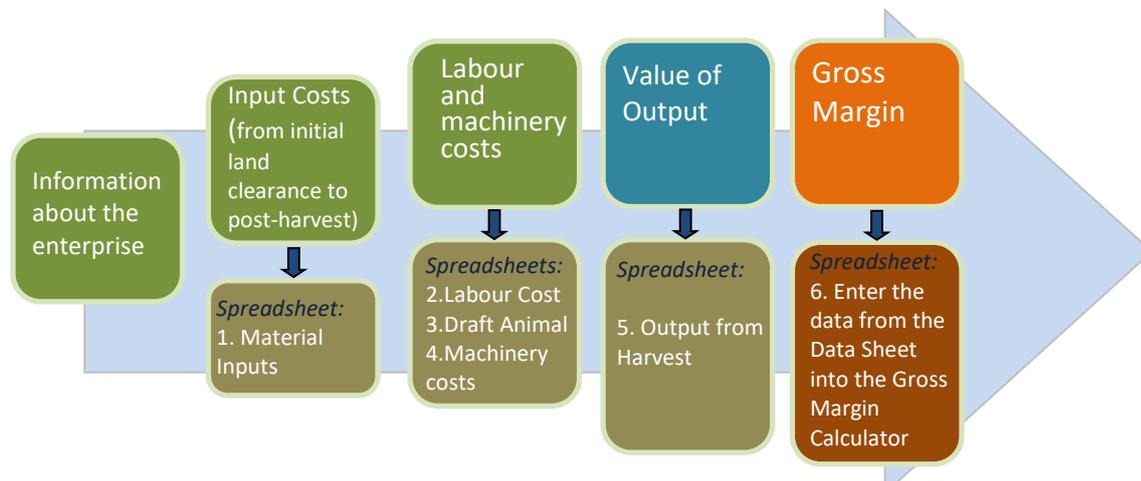
In order to calculate **Gross Margins**, the keeping of good farm records is essential. Record keeping is an important component of farm management, providing the information needed for day-to-day decision-making and long term planning. This means keeping regular records on-farm of all technical and financial activities. The spreadsheets/data input sheets provided in Annex 1 or 2 offer a simple system of farm recording for your enterprise. You should (i) download the sheets into a separate folder on your computer, (ii) enter the data as instructed, (iii) transfer the totals from the data entry spreadsheet into the relevant sections of the Gross Margin Calculator.

## The Gross Margin Calculator

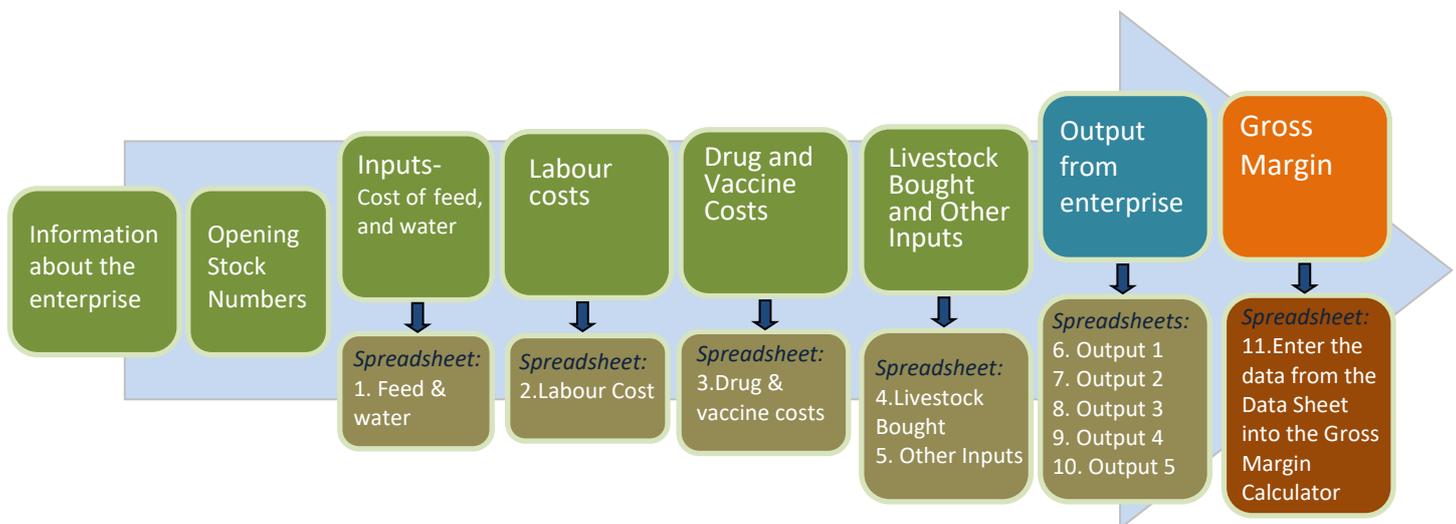
The TechTalk Gross Margin Calculator is divided into the Crop Gross Margin Calculator (Crop GMC) and the Livestock Gross Margin Calculator (Livestock GMC) – these produce Gross Margins on a per hectare (ha) or on a per breeding female basis. When calculating GM, individual calculations need to be carried out for each enterprise/option that you are analysing.

The TechTalk Gross Margin Calculator varies slightly, depending on whether you are inputting data for a crop or livestock enterprise. Both require data on the quantity, cost/price of inputs and the price/value of the output of the enterprise. As part of the TechTalk GMC, AA International has developed a series of workbooks, containing spreadsheets, designed to help you with your recording. These workbooks result in aggregated (totalled) input and output data that you can enter directly into the GMC. The structure of the Crop GMC and the spreadsheets within the Crop Workbook are shown below in Figure 1, those within the Livestock Workbook are shown in Figure 2.

**Figure 1: The structure of the Crop GMC and corresponding spreadsheets**



**Figure 2: The structure of the Livestock GMC and corresponding spreadsheets**



## Information about the enterprise

The first page of the Gross Margin Calculator asks you to record details about the farm. You will need to include:-

- the currency you will be using (this needs to be consistent throughout),
- livestock or crop type,
- area (if applicable) in hectares (if you do not normally work in hectares, Annex 4 provides conversion values which will help you to work this figure out),
- farming system (lowland or mountain, irrigated or rainfed),
- husbandry type (nomadic/transhumant or settled),
- whether you wish to enter your data on an annual or quarterly basis (livestock only).

## Livestock Numbers - Livestock GMC

The next page of the Livestock GMC asks you to enter **opening** and **closing** stock numbers, the total number of **breeding females**, as well as information relating to **birth rates**.

Note that the number of breeding females should be **the total number of females kept for production** in the season being reviewed (whether for lambing, milking, egg-laying etc.). This figure is used to calculate the GM per breeding female on the last page of the calculator.

Note that, as only one of these figures is used by the Livestock GMC in any calculations, the main purpose of this page is to provide you with a record of stock numbers for future reference and comparison.

## Inputs /Costs to the enterprise for both the Crop and Livestock GMC

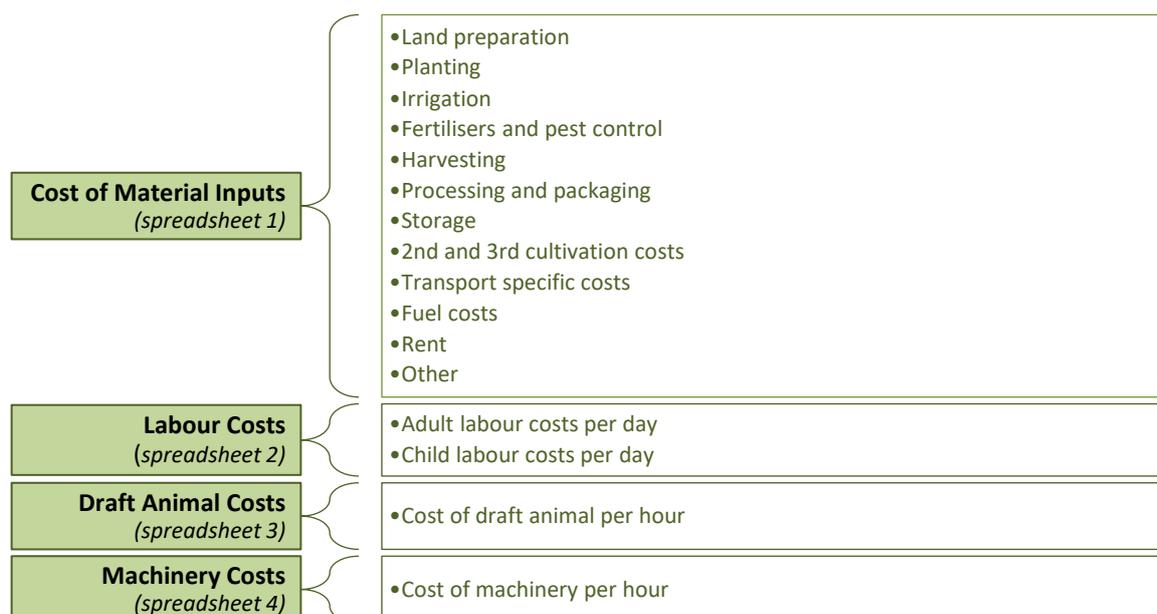
Input costs are a key part of the GMC and are the variable costs associated with the production of an enterprise. Figure 3 illustrates these inputs for Crops and Livestock.

There are two pages within the Crops GMC for input cost data entry. When entering input data into the Crops GMC, you will need to select at least one input type from the drop down menu (you can select more by clicking on the  icon), choosing the appropriate units (litres, kg, bags etc.) and then entering the unit price and quantity purchased or used in the production of that enterprise).

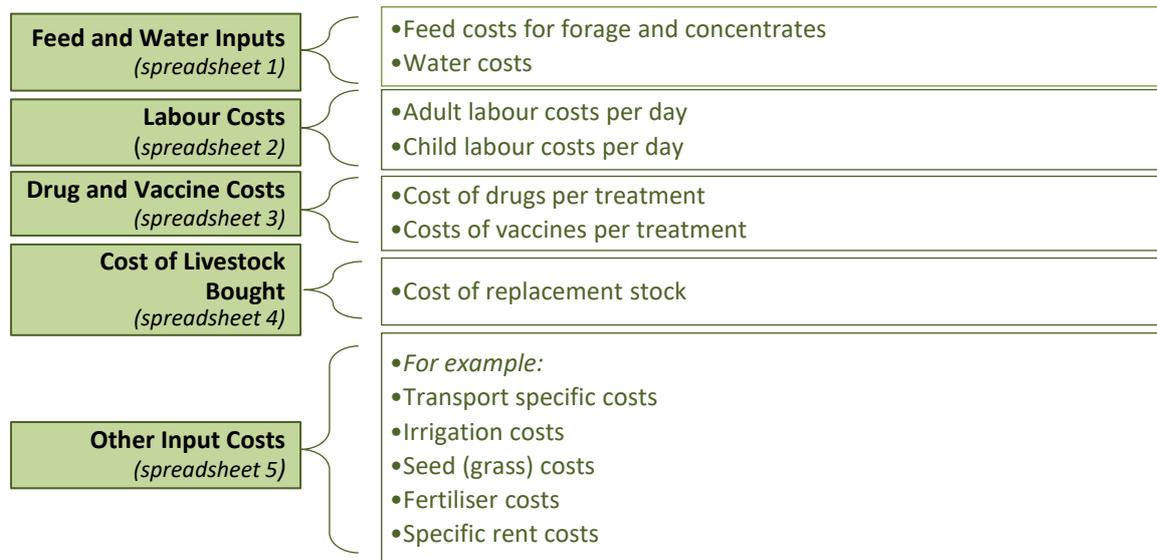
There are six pages within the Livestock GMC for input cost data entry. The layout of most of these (the exception being the "Other Inputs" page) is rather different to the Crops GMC because it is generally dealing with different sub-groups of data (the different livestock categories). To enter input data into the Livestock GMC, you will need to enter the unit price/value of the relevant input in the top row of the table and the quantity used by the different livestock categories in the bottom four rows. Due to the general nature of the "Other Inputs" used in livestock production, this page follows the same simpler format of the Crops GMC.

Note that if you are doing a quarterly calculation, you may have four sets of data to enter (JFM = January, February, March; AMJ – April, May, June etc.).

**Figure 3:**  
**Inputs for Crop GMC**



**Figure 3 (cont.)**  
**Inputs for Livestock GMC**



Fixed Costs (overheads/capital costs) are not included in the GM Calculation. These are costs which are not associated with any particular enterprise on the farm and so are attributable to the whole farm (e.g. overall rent, insurance, finance costs, wages, general fuel and power costs). They may be shared by several enterprises on the farm.

If any additional land or buildings are rented for a specific enterprise which would not otherwise be needed, then that rent should be included in the calculation for that enterprise, under “other costs”. Specific transport costs should also be included for both crop and livestock gross margins under the other costs category.

If extra labour is specifically brought in to assist an enterprise for e.g. lambing or harvesting, then that cost should be included in the gross margin calculation. In addition, although it may appear to be a fixed cost, the value of the farmer’s own labour (as well as any family labour) specifically involved in a particular enterprise should be included as an input– this should be entered at the local daily wage rate. The reason behind this is that if the farmer (or his/her family) were not engaged in that enterprise, he/she could be employed and earning an income elsewhere.

### Stock Purchase Costs – Livestock GMC

The Livestock GMC also provides a section for the costs of **stock purchased in the given season**. This is located in the first half of the “Livestock Bought & Sold” page. You should not include the value of any opening stock - this is because Gross Margins should only include the cost of replacing and maintaining flock/herd numbers.

### The Workbooks/Spreadsheets

The workbooks and spreadsheets (in MS Excel format) can be downloaded by following the links in Annex 1.

Workbooks and spreadsheets are available for the following enterprises:

- Crops - One standard workbook per crop type
- Livestock – Workbooks available for: Goats, Chickens, Camels, Sheep, Cattle and Pigs on an Annual and Quarterly basis.

If you prefer to print out recording sheets to fill in as paper copies, they can be downloaded and printed out by following the links in Annex 2. These sheets are similar to the spreadsheets **but they will not automatically calculate totals and averages for you.**

Each new enterprise will need to use a separate workbook (e.g. each different stock type or different crops). Remember each workbook contains a number of spreadsheets relating to the type of input of the enterprise, as shown in Figure 1 and Figure 2.

**Key Points to consider when inputting data into the spreadsheets and GMC calculators**

In the annual livestock spreadsheets, the month in which you start your enterprise will be month 1. Quarterly data can be entered under the relevant month (January, February etc.)

Please make sure that when you open the workbooks, your screen is **maximised** – in this way you will be able to see and navigate through the spreadsheet tabs at the bottom of the workbook. When using the workbooks, please make sure you **start at Spreadsheet 1** (Material INPUTS for the Crops workbook; FEED & WATER for the Livestock workbooks)

Only fill in the data which are relevant to your enterprise. It does not matter if some categories are left blank.

**Recording the Input/Costs of your enterprise using the Workbooks / Spreadsheets**

Our workbooks and spreadsheets can assist you in calculating variable costs for entry into the Crop and Livestock Gross Margin Calculators. Although the Crop and Livestock GMCs operate differently, the way in which input data is calculated by the spreadsheets is very similar. A typical image of the inputs spreadsheet from within the Goats workbook is shown in Figure 4. Note how cells can be left blank if they do not apply.

**Figure 4: The Input spreadsheet for Concentrates, Forage and Water Inputs for Goats**

	Concentrates			Forages			Water		
	Quantity Used (kg)	Unit Price	Cost	Quantity Used (kg)	Unit Price	Cost	Quantity Used (litres)	Unit Price	Cost
8 kids (fat & store)			0.00	750.0		0.00			0.00
9 Month 2									
10 does (breeding)	1450.00	0.48	696.00	1400.0	0.19	266.00	12000.0	0.01	120.00
11 bucks (breeding)	48.00	0.48	23.04	38.0	0.19	7.22	360.0	0.01	3.60
12 does (replacements)	500.00	0.48	240.00	320.0	0.19	60.80	3600.0	0.01	36.00
13 kids (fat & store)			0.00			0.00			0.00
14 Month 3									
15 does (breeding)	1520.00	0.48	729.60	1600.0	0.19	304.00	12000.0	0.01	120.00
16 bucks (breeding)	48.00	0.48	23.04	38.0	0.19	7.22	360.0	0.01	3.60
17 does (replacements)	500.00	0.48	240.00	320.0	0.19	60.80	3600.0	0.01	36.00
18 kids (fat & store)			0.00			0.00			0.00
19 Month 4									
20 does (breeding)	1490.00	0.49	730.10	1650.0	0.19	313.50	15000.0	0.01	150.00
21 bucks (breeding)	46.00	0.49	22.54	38.0	0.19	7.22	400.0	0.01	4.00
22 does (replacements)	470.00	0.49	230.30	320.0	0.19	60.80	4200.0	0.01	42.00
23 kids (fat & store)	100.00	0.61	61.00			0.00	2000.0	0.01	20.00
24 Month 5									

Input data is entered into the spreadsheets as the purchase price per unit (or value per unit in some cases, such as when you are using your own labour) and the quantity of units purchased/used for that month. From these data, the spreadsheets will automatically calculate the average price per unit and total number of units purchased for your enterprise over the year/quarter. These data are displayed in the data summary sheet (orange tab) at the end of the workbook and can then be transferred to the Crop and Livestock GM Calculators.

**Output (what is produced) of the enterprise**

A Gross Margin is equal to the gross output (the value of what is produced) of the enterprise minus the variable costs associated with that enterprise and so it is essential that output is recorded as well as inputs/costs.

The workbooks developed by AA International include spreadsheets for recording output, shown in Figure 5 and Figure 6. Output data are entered into the spreadsheets as the **price/value per unit** and the **quantity of units sold, in-store, eaten or given away** for the different products produced by the enterprise concerned. The **price/value per unit** will be the same as the sale price or market value of the produce.

There is one page for data entry relating to outputs in the Crops GMC and 3 pages (including 5 sections) within the Livestock GMC.

### Entering output data for Crop calculations

A typical image of the calculation of output of sold produce from within the crops workbook (green tabs) is given in Figure 5.

**Figure 5: The value of output spreadsheet for Crops – sold as loose or packaged produce**

Crops									
HARVEST									
Month	Sold - Loose Produce (kgs)			Sold - Packaged (kgs)				Total for year	
	Price / Value per kg	Number of kgs	Value of produce sold	Price / Value per unit (Bag/Bale/Box/Bundle)	Number of units sold	Number of kgs per unit	Number of kgs sold		Value of units sold
1			0					0	0
2			0					0	0
3			0					0	0
4			0					0	0
5			0					0	0
6			0					0	0
7			0					0	0
8			0					0	0
9			0					0	0
10			0					0	0
11			0					0	0
12			0					0	0
13			0					0	0
14			0					0	0
15			0					0	0
16			0					0	0
17			0					0	0
18	Total number of kgs (A)		0						0
19	Total Value of produce sold (B)			0					0
20	Average value per kg								#DIV/0!

For a crop enterprise, produce may be sold loose or packaged. Packaged produce may be in bags/bundles/bales or boxes, of which each should be of its own standard weight. This should be decided on the outset of the planning of the business, so that record keeping is consistent and accurate.

For the Crops GMC, all output data (whether sold, eaten, in-store or given away) relating to **quantity** need to be entered in **kilograms** (if you do not normally work in kilograms, Annex 4 provides conversion values which will help you to work this figure out).

The spreadsheets will automatically calculate total weights of loose or packaged produce in kilograms for you – just enter your data into the appropriate section (e.g. loose or packaged as well as sold, in-store, eaten or given away) of the Output from Harvest Workbook.

The **price/value per unit** also needs to be entered into the Crops GMC. The crop spreadsheets will automatically calculate a yearly average price for each category (sold, eaten etc.), which can be entered into the Calculator. Remember even if you eat or give away produce, the number of units and their value should still be recorded. As with inputs, if you are using the workbooks/spreadsheets, the data summary sheet (orange tab) at the end of the workbook provides an annual summary of the **average price/value per kg** and **total number of units sold**,

**in-store, eaten or given away** by your enterprise, automatically generated from the data entered into the set of spreadsheets within the workbook over the season/year.

**Entering output data for Livestock calculations**

A typical image of the output calculation from within the Goats workbook (green tabs) is given in Figure 6.

**Figure 6: The value of output 1 spreadsheet for goats**

		Sold			Eaten			Given away			Total for Year
		Quantity	Price/value each	Value	Quantity	Price/value each	Value	Quantity	Price/value each	Value	
54	does (replacements)			0.00			0.00			0.00	
55	kids (fat & store)			0.00			0.00			0.00	
56	Month 11										
57	does (breeding)	1495	0.38	568.10	85	0.40	34.00	80	0.40	32.00	
58	bucks (breeding)			0.00			0.00			0.00	
59	does (replacements)			0.00			0.00			0.00	
60	kids (fat & store)			0.00			0.00			0.00	
61	Month 12										
62	does (breeding)	980	0.40	392.00	50	0.40	20.00			0.00	
63	bucks (breeding)			0.00			0.00			0.00	
64	does (replacements)			0.00			0.00			0.00	
65	kids (fat & store)			0.00			0.00			0.00	
66	<b>Total does (breeding)</b>	<b>9490</b>		<b>3764.60</b>	<b>470</b>		<b>192.00</b>	<b>255</b>		<b>104.00</b>	<b>10215</b>
67	<b>Total bucks (breeding)</b>	<b>0</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0</b>
68	<b>Total does (replacements)</b>	<b>0</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0</b>
69	<b>Total kids (fat &amp; store)</b>	<b>0</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0</b>		<b>0.00</b>	<b>0</b>
70	<b>Total quantity sold, eaten or given away (C)</b>	<b>9490</b>			<b>470</b>			<b>255</b>			<b>10215</b>
71	<b>Total value sold, eaten or given away (D)</b>			<b>3764.60</b>			<b>192.00</b>			<b>104.00</b>	<b>4060.60</b>
72	<b>Average price of output (D/C)</b>		<b>0.40</b>			<b>0.41</b>			<b>0.41</b>		<b>0.40</b>

For a livestock GM calculation, data for up to five separate outputs can be recorded. These include the main output of the breeding females (e.g. lambs, kids/calves (bullocks), eggs, milk), sale of current stock and any by-products. Figure 7 illustrates these outputs.

**Figure 7: Typical Outputs from Livestock**

Sheep	<ul style="list-style-type: none"> <li>•Output 1: Lambs - fat or store (slaughter stock)</li> <li>•Output 2: Wool, milk and cheese</li> <li>•Output 3: Breeding Ewes, breeding rams, cull ewes</li> </ul>
Goats	<ul style="list-style-type: none"> <li>•Output 1: Milk (cheese)</li> <li>•Output 2: Kids fat or store (slaughter stock)</li> <li>•Output 3: Breeding does (any ages), cull does, breeding bucks</li> </ul>
Cattle	<ul style="list-style-type: none"> <li>•Output 1: Milk (cheese and cream)</li> <li>•Output 2: Male calves, steers, bulls</li> <li>•Output 3: Female calves, heifers, cull cows</li> </ul>
Pigs	<ul style="list-style-type: none"> <li>•Output 1: normally piglets for fat and store (slaughter stock)</li> <li>•Output 2: Breeding sows (any age)</li> <li>•Output 3: Cull sows, breeding boars</li> </ul>
Camels	<ul style="list-style-type: none"> <li>•Output 1: Milk</li> <li>•Output 2: Male calves, breeding bull camels</li> <li>•Output 3: Female calves, camels, cull females</li> </ul>
Chickens (Layers)	<ul style="list-style-type: none"> <li>•Enterprise (i) Output 1: Eggs; Output 2: Cull hens</li> <li>•Enterprise (ii) Output 1: Broilers</li> <li>•Enterprise (iii) Output 1: Day old chicks; Output 2: Pullets; Ouptut 3: Cull hens</li> </ul>

As for the Crops GMC, output data relating to **quantities** need entering. In the case of the Livestock GMC however, these can be expressed in different units. For example, as numbers (e.g. young livestock, eggs etc.), litres (e.g. milk) or kilograms (e.g. cheese).

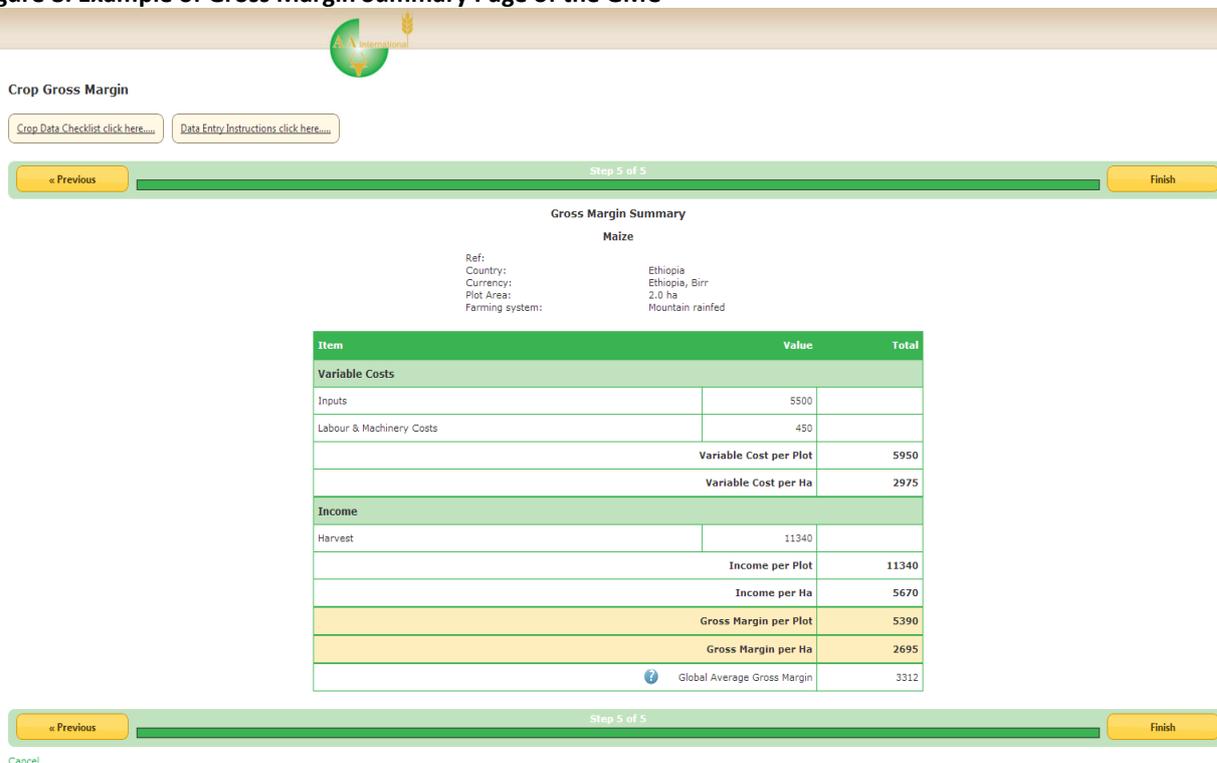
A **price/value per unit** (whether sold, eaten or given away) also needs to be entered into the Livestock GMC. The spreadsheets will automatically calculate an average value/price per unit for each of the outputs, annually or quarterly. These quantity and average value data are automatically displayed in the data summary sheet at the end of the workbook.

## The results of the Gross Margin – Taking it one step further

A summary of your calculation data will be displayed on the final page of the calculator. An example is shown in Figure 8 below. It includes a breakdown of variable costs, income and, finally, the Gross Margin value. For Crop calculations, the Gross Margin is shown on a per plot and per hectare basis. For Livestock calculations, it is shown on a per flock, per hectare and per breeding female basis.

If you are using the GMC as a **registered user** (see **Annex 3**) and have finished entering your data, you will be asked at the bottom of the final page if the data set is complete, or whether it is a practice run (that is, work in progress or test data). Completed calculations will be automatically saved to the GMC database and will be included in global average calculations but practice data will not. If you are using the GMC straight from the website and are not logged in, your entries will not be included in the database.

**Figure 8: Example of Gross Margin Summary Page of the GMC**



Once your GM has been calculated you can begin to analyse the efficiency of your enterprise: Gross Margins are an indicator by which the financial success of different farming systems and enterprises can be measured and compared.

The results of the Gross Margin Calculator can be compared for different enterprises (with the same fixed costs), allowing you to identify those that have been or will be more profitable – this will help you to make decisions such as what crop to grow.

Comparisons can also be made of the Gross Margins for the same enterprise, produced under a different system of management (that is, using different inputs) or sold on a different market, produced in the same or a different season. If you are going to compare your Gross Margins in this way, it is important that you are using the TechTalk GMC as a registered user so that your data are saved.

Registered users will also be able to compare their Gross Margins with global averages generated by the database, as well as the averages of other users for the same Country / Crop Type / Farming System.

## Glossary of terms

**Income** – the amount of money received during a period of time from the sale of goods

**Input** - resources used in the production process, e.g. feed, materials, labour and machinery, measured in physical or financial terms.

**Output** – the value of what is produced, whether sold, given away or eaten at home.

**Variable costs** -Variable Costs are costs that are readily allocated to an enterprise and which will vary in approximately direct proportion to the scale of the enterprise. If the enterprise ceased then these costs would not exist.

**Fixed costs** - are those costs which either cannot readily be allocated to a specific enterprise or do not vary with small changes in the scale of the individual enterprise.

**Gross Margin** - Output less the Variable Costs of the enterprise.

**Enterprise** - an identifiable sector of the farm or horticultural business, for which output includes valuations of unsold stocks produced by the enterprise.

**Capital costs** -Fixed, one-off expenses incurred on the purchase of land, buildings, construction, and equipment used in the production of goods or in the rendering of services

**Opening stock** - the total number of females kept for production in the season reviewed (whether for lambing, milking, egg-laying etc.).

## Annex 1

**Notes:** When using the spreadsheets within the workbooks, you will notice cells that are grey and orange. These are the averages and totals which the spreadsheet has calculated automatically and which are transferred to the data summary sheet ready to transfer to the Gross Margin Calculator.

The **yellow** tabbed sheets relate to **input** data; the **green** tabbed sheets relate to **outputs** and the **orange** tabbed sheet is the **data summary** sheet. The data for quantity used and unit price need to be entered into the green and yellow tabbed sheets on a monthly basis.

Remember do not worry if any categories are left blank. Only fill in data relevant to your enterprise.

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### Crop Workbooks

There is one workbook for crops. The workbook (Excel format) can be downloaded and saved onto your computer. You can make additional copies for each enterprise (different type of crop), using the file – save as command.

Download Workbook for **Crops**:

[Crops](#)

### Livestock Workbooks

There are workbooks for cattle, chickens, goat, pigs, sheep and camels on an annual or quarterly basis. Additional copies of the workbooks can be made for using for different enterprise and for different years.

Download Workbooks for **Livestock**:

**Annual Workbooks/Spreadsheets (Excel)**

[Cattle](#)  
[Camels](#)  
[Chickens](#)  
[Goats](#)  
[Pigs](#)  
[Sheep](#)

**Quarterly Workbooks/Spreadsheets (Excel)**

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[Chickens](#)  
[Goats](#)  
[Pigs](#)  
[Sheep](#)

## Annex 2

If you do not have access to Excel, or if you prefer to print out your recording sheets to fill in as paper copies, they can be downloaded and printed out here. These sheets will not automatically calculate the totals and averages - you will have to do this manually.

Download manual recording Sheets for **Crops**:

[Crops](#)

Download manual recording Sheets for **Livestock**:

**Annual Recording Sheets**

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## Annex 3

If you wish to save your Gross Margin Calculation then you can register for TechTalk. You can then login and download, compare and store your gross margins within your login account. Registration is free, just click the register with TechTalk button on the Gross Margin Calculator homepage to set up your account.

<http://gmcalc.techtalk-international.com/>

## Annex 4

**Conversion values** for some commonly used units of measurement are shown below. To convert these to hectares, kilograms or litres, just multiply your figures by the numbers provided:

Unit of area	Use	To convert to hectares (ha) multiply by:
Acre	widespread	0.40
Feddan	Sudan	0.42
Gunta	India	0.01
Jerib	Iran	1.00
Jerib	Afghanistan	0.20
Kanal	Parts of India and Pakistan	0.05

Unit of weight	Use	To convert to kilograms (kg) multiply by:
Pound	widespread	0.45
Quintal	widespread	100

Unit of volume	Use	To convert to litres (l) multiply by:
Pint	widespread	0.57
US Pint	USA	0.47

**Metric conversion** rates are shown below:

Convert from	Convert to	Multiply by
Metre <sup>3</sup> (cubic metre)	Litres (l)	10,000
Millilitres (ml)	Litres (l)	0.001
Metre <sup>2</sup> (square metres)	Hectare (ha)	0.0001
Grams (g)	Kilograms (kg)	0.001