

# OFFM Calculator (Version 3.0)

## Introduction

There are four main categories of software available to help you use On-Farm Fibre Management (OFFM):

- software that shows the potential economic benefits from all pathways
- objective animal-selection software
- clip preparation and marketing software
- enterprise or whole-farm record-keeping software.

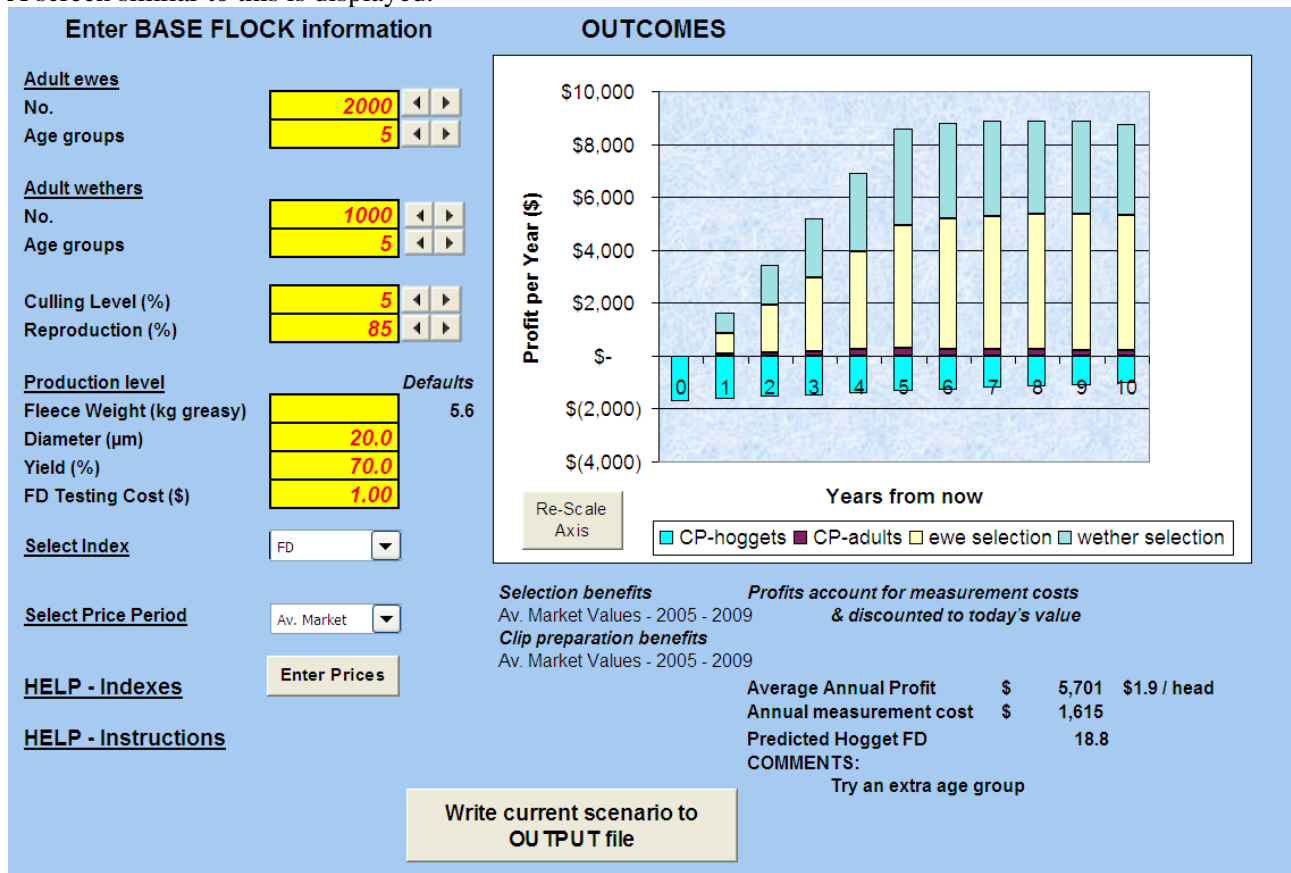
As most producers will obtain the maximum benefit from OFFM by using a number of the pathways, it is critical to assess the benefit of each pathway as well as the overall benefit. 'The OFFM Calculator' has been designed specifically for this purpose. It allows growers to input their own flock data and see the likely benefit from OFFM that will arise from selection and clip preparation.

"The OFFM Calculator" has been developed by K.D. Atkins and S.J. Semple, with support and funding from the Sheep CRC & Australian Wool Innovation, as a multi-purpose tool that can be downloaded from the web-for regular review and as an MS Excel® tool for interactive training during workshop development and workshop delivery. Basic information on flock size and structure and average (adult) fibre diameter are required. The output is in the form of a profit map over time with some suggested changes for increasing profit by altering structure or selection method.

## Getting started

After downloading the tool from the web, when opening the MS Excel® file, please ensure that the option "Enable Macros" is selected.

A screen similar to this is displayed.



If the calculator is opened without "Enabling Macros", close the file and re-open, this time clicking "enable macros".

There are 3 worksheets in the tool:

- **Data Entry** for input of data
- **Production Levels** predicted production levels across years
- **OutputFiles** sheet for storage of previous scenario inputs

## Input Cells

The calculator assumes you are running a self-replacing Merino flock. It has limits set on the input cells to avoid generation of unrealistic scenarios. Many cells have default settings. To alter the values in the input cells, either type directly into the cells or click the arrow buttons to change the values. A message box appears on screen with information on the next input. If this is in the way you can click on it and drag it out of the way. To return to a default setting, use the delete key in the appropriate box.

## Ewe Numbers

Limits: 500 to 10,000. This represents the total number of ewes in the breeding flock.

## Age Groups

Limits: 0 to 9 age groups. The ewe flock structure (including survival) and the reproduction rate determine the number of animals available for selection and the number required to maintain the flock. If the number required, exceed the number available, a message appears notifying the user that the numbers chosen are unsustainable.

## Adult Wethers

Limits: 0 to 10,000. Numbers of wethers are limited by ewe numbers and reproduction rate. If limits are exceeded a message will appear notifying the user that the numbers chosen are unsustainable.

## Culling Level

Limits: 5-25%. This represents the proportion of hogget ewes culled for visual faults, not associated with measured performance.

## Reproduction

Limits: 50-120%. The reproduction rate of the flock, calculated as lambs weaned per ewe joined

## Production

This is where you include your breeding ewe flock details – fleece weight, fibre diameter and yield.

There are no minimum data required; if all cells are left blank the program uses inbuilt default values. If micron is entered, but no fleece weight, a default value is calculated based on the entered fibre diameter. Default values can be used by deleting the value in the input box, not zero. If you select a default value, the assumed value will appear in the neighbouring cell.

Trait	Limits	Default Value
Greasy fleece weight	2.0 to 9.9 kg	Based on FD
Fibre diameter	17.0 to 25.0 $\mu\text{m}$	20 $\mu\text{m}$
Yield	50.0 to 80.0 %	70 %
Testing cost	\$ 0.50 to \$ 5.00	\$ 1.50

## Testing costs

Testing costs can be selected that may include both the cost of OFFM testing plus labour and other costs to suit individual situations. Manipulation of the price in this cell allows a breakeven cost of testing to be found.

## Select Index

### Superfine wool production

- A. Fine 5% micron premium
- B. Fine 10% micron premium
- C. Fine 20% micron premium

### Merino wool + surplus animals

- A. Dual Purpose 3.5% micron premium
- B. Dual Purpose 7% micron premium
- C. Dual Purpose 14% micron premium

### Dual purpose wool + meat production

- A. Merino 3.5% micron premium
- B. Merino 7% micron premium
- C. Merino 14% micron premium

**FD** Selection on fibre diameter only

## Select Price Period

Click on the drop down to select the price period to be used for the evaluation, Low, Average or High Premium Market values (cents / kg clean) are embedded in the tool to represent 3 different market scenarios.

Micron indicator	Low Premium Market (2003 - 2004)	Average Premium Market (2005 – 2009)	High Premium Market (2002 – 2003)
17	1195	1293	2161
18	1035	1162	1441
19	973	1022	1212
20	919	884	1148
21	892	832	1140
22	869	804	1129
23	845	781	1111
24	811	738	1094
25	758	645	1022

For selection responses, a longer term view (such as 5 years) is probably more suited since animals will remain in the flock for a number of shearings. For clip preparation, the current market is more relevant.

The “**Enter Prices**” option allows the user to insert micron indicator prices obtained from wool brokers or AWEX type reports. Be aware that if prices entered are beyond reasonable limits, the calculated answers may not be relevant.

## Outcomes

The outcomes are represented graphically on the top RHS side of the screen. The stacked bars show the portion of profit (additional income minus testing costs) that will come from clip preparation (CP) of hogget wools and adult wools, wether and ewe selection.

Please note that the Profit per Year axis changes scale to suit the number of ewes entered. The scale is then fixed to allow comparison between different scenarios. As the Profit amount changes the Y axis values may go off the scale, if this happens click the **Re-Set Scale** button or adjust the number of ewes (up or down) to re-set the scale, then revert to original ewe number.

For the broader micron categories, the bar will extend below the 0 profit line demonstrating that clip preparation can sometimes result in a loss (note all measurement costs are allocated against clip preparation income). A comments box is included in the bottom RHS of the screen to encourage users to consider additional production options.

An option button “**Write current scenario to Output file**” exists to export the inputs and results from the current run to a separate worksheet for later review. This sheet is called **OutputFiles**, and can be viewed by clicking the appropriate tab.

A separate worksheet “**Production Levels**” (activated by clicking the tab marked “**Production Levels**”), lists the expected fleece weight and fibre diameter for each age group through the 10 year prediction period, based on the selected index option. Micron indicator prices for the scenario being examined are also listed, as depicted below.

Year	Index:		FD		Fibre Diameter	Price (c/kg clean)
	Ewe GFV (kg)	Ewe FD (µm)	Wether GFV (kg)	Wether FD (µm)		
1	5.6	19.8	6.1	19.7		
2	5.6	19.6	6.1	19.5	17	1293
3	5.6	19.5	6.1	19.2	18	1162
4	5.5	19.4	6.0	19.0	19	1022
5	5.5	19.2	6.0	18.7	20	884
6	5.5	19.2	6.0	18.7	21	832
7	5.5	19.1	6.0	18.6	22	804
8	5.5	19.1	6.0	18.6	23	781
9	5.5	19.0	6.0	18.5	24	738
10	5.5	19.0	6.0	18.5	25	645

Year	Ewe GFV (kg)	Wether GFV (kg)
1	5.6	6.1
2	5.6	6.1
3	5.6	6.1
4	5.5	6.0
5	5.5	6.0
6	5.5	6.0
7	5.5	6.0
8	5.5	6.0
9	5.5	6.0
10	5.5	6.0

Year	Ewe FD (µm)	Wether FD (µm)
1	6.1	19.7
2	6.1	19.5
3	6.1	19.2
4	6.0	19.0
5	6.0	18.7
6	6.0	18.7
7	6.0	18.6
8	6.0	18.6
9	6.0	18.5
10	6.0	18.5

FD (µm)	Price (cents/kg. clean)
17	1293
18	1162
19	1022
20	884
21	832
22	804
23	781
24	738
25	645

Average Profit / Number Tested	\$	3.53	Average Profit / Number Adults	\$	1.90
Number Tested		1615	Number Adults		3000