



Milk loss calculation tool

Example scenario – 50/50 compensation claims received for loss of milk production from the farm owner and the sharemilker.

The dairy herd were culled in November. The Ministry for Primary Industries (MPI) received claims from the farm owner and the sharemilker, each, for their share (in respect of the 50/50 Sharemilking Agreement) of loss of milk production (Milk Solids in kilograms) (MSkg) from November to January.

Both parties provided their own supporting evidence to MPI including:

- Milk statements for the previous (baseline) year (2016/17) and the claim year (2017/18).
- Monthly cash flow reports for the two years.

MPI assessed the claim using the **Milk Tool**.

The value of loss = loss of income less the estimated costs of producing the lost production.

The loss of milk production (70,155 kg) is calculated by comparing the baseline and the claim year statements for the two years, please refer to Table 1. The cost of production is calculated by using the baseline expenses for each party.

The baseline (2016/17) monthly cash flow is analysed to separate variable from fixed expenses. Variable expenses are those that change with the amount of milk produced.

MPI will also assess both claims at the same time to determine the total loss of production for the farm. Each party's loss will be different depending on what their costs of production are.

The Milk Tool is used for initial claims and for the final 'wash-up' claim when the milk returns are finalised at the end of the milk year.

Milk Tool

MPI uses the information provided by the farm owner and sharemilker to assess the value of lost milk production. The loss of milk production for the whole farm is calculated by comparing the milk statements for the two years.

Table 1. Loss of milk production calculation

Milk Solids (MS)	November	December	January	Total
Baseline Year 2016/2017	28,087	28,089	28,979	85,155
Claim Year 2017/2018	15,000	-	-	15,000
Volume Change	(13,087)	(28,089)	(28,979)	(70,155)

The Sharemilker

The cost of production is calculated by using the baseline year's total variable costs of production for the same claim period (i.e. November to January). The farm owner and the sharemilker have each provided their own monthly cash flow reports for the baseline year. The Milk Tool assumes that most expenses (except for wages) relate to the month before they were paid, for example December payments (actuals) are for November expenses. On this basis, the table below shows the sharemilker's cash expenses for the claim period (November to January) as well as February.

Table 2. Sharemilker's fixed and variable costs

Fixed Variable	2016/2017 Cash Flow	November	December	January	February
	Actual - Expense				
Variable	Animal Health	8,700		4,200	1,500
Fixed	Breeding	175	200	200	200
Variable	Breeding	6,755	4,500	1,500	
Variable	Cropping & Re-grass			2,000	
Variable	Electricity	1,400	4,100	2,300	2,200
Variable	Fertilisers	6,400	800	3,500	
Variable	Freight	800	150		
Variable	Repairs & Maintenance	1,300	2,000	1,000	2,000
Variable	Shed Expenses	100		200	500
Variable	Supplements/ Concentrates	12,000	14,000	49,000	19,000
Fixed	Vehicles	1,500	3,500		
Variable	Vehicles	2,500	1,500	2,100	800
Fixed	Administration		700	500	500
Fixed	Leases	1,000	1,000	1,000	1,000
Variable	Levies	600	500	500	500
Variable	Staff wages (not owner's)	16,000	14,500	14,500	12,435
	TOTAL	\$59,230	\$47,450	\$82,500	\$40,635

Table 3. Summary of Production costs for the Sharemilker

Cash Expenses	November	December	January	February
Fixed	2,675	5,400	1,700	1,700
Variable	56,555	42,050	80,800	38,935
TOTAL	\$59,230	\$47,450	\$82,500	\$40,635

Because most expenses are paid the month after receiving the goods and services, the Milk Tool moves the expenses one month earlier to match the milk solids produced for that month. For the **sharemilker**, the cost of production per MSkg for the claim period is then calculated to be **\$1.90**.

Table 4. The Sharemilker's cost of production per MSkg for the claim period

	November	December	January	Total
Baseline Milk Solids (MSkg)	28,087	28,089	28,979	85,155
(Accrued) Variable Expenses (\$)	42,050	80,800	38,935	\$161,785
	Cost of production per MSkg			\$1.90

The Farm Owner

The same process is used for the farm owner's cash flow. The cost of production per MSkg for the claim period is calculated to be **\$0.70**. The following tables demonstrate how this is calculated.

Table 5. The Farm Owner's cost of production

Fixed Variable	2016/2017	November	December	January	February
	Actual - Expense				
Variable	Cropping & Re-grass	5,000	5,898		
Fixed	Electricity	150	100	150	150
Variable	Fertilisers		25,000		7,500
Variable	Grazing	1,500	1,500	1,500	1,500
Variable	Repairs & Maintenance		2,500	5,500	2,500
Variable	Weed & Pest Control		445		
Fixed	Rates & Insurance	2,000		2,500	2,500
Fixed	Administration	2,600	500	1,000	500
Variable	Administration	2,500	1,500	1,500	1,500
Fixed	Leases	7,000	7,000	7,000	7,000
Variable	Levies	500	500	500	500
	TOTAL	\$21,250	\$44,943	\$19,650	\$23,650

Table 6. Summary of Production costs for the Farm Owner

	November	December	January	February
Fixed	11,750	7,600	10,650	10,150
Variable	9,500	37,343	9,000	13,500
Total	\$21,250	\$44,943	\$19,650	\$23,650

Because most expenses are paid the month after receiving the goods and services, the Milk Tool moves the expenses one month earlier to match the milk solids produced for that month.

Table 7. The Farm Owner's cost of production per MSkg for the claim period

	November	December	January	Total
Baseline Milk Solids (MS kg)	28,087	28,089	28,979	85,155
(Accrued) Variable Expenses (\$)	37,343	9,000	13,500	\$59,843
	Cost of production per MSkg			\$0.70

Final Milk Tool Calculations

MPI has used the information provided by the farm owner and sharemilker to assess the value of lost milk production by comparing the milk statements for the two years.

Lost revenue is calculated using the 50% entitlement of MSkg.

Table 8. Lost milk revenue

Sharemilker	\$6.70 x 35,077.5 MSkg	\$235,019.25
Farm Owner	\$6.70 x 35,077.5 MSkg	\$235,019.25

The total cost of production is calculated using the whole herd quantity.

Table 9. Cost of production of the lost milk

Sharemilker	\$1.90 x 70,155 MSkg	\$133,295
Farm Owner	\$0.70 x 70,155 MSkg	\$49,109

The Milk Tool's final calculations show the total value of loss for the **sharemilker** is **\$101,724.25** and the **farm owner** is **\$185,910.25**.

Table 10. Calculation of lost income for the Sharemilker and the Farm Owner

	Sharemilker	Farm Owner
Whole herd quantity	70,155 MSkg	70,155 MSkg
Claim period	1 November 2017– 31 January 2018	1 November 2017 – 31 January 2018
Entitlement of the total MSkg – 50% / 50%	35,077.5 MSkg	35,077.5 MSkg
Lost milk revenue	\$6.70 / MSkg (\$235,019.25)	\$6.70 / MSkg (\$235,019.25)
Total cost of production	\$1.90 / MSkg applied to the quantity of milk solids (\$133,295)	\$0.70 / MSkg applied to the quantity of milk solids (\$49,109)
Value of loss	\$101,724.25	\$185,910.25