

Guidance for Carrying out Mass Balance Calculations

What is Mass Balance?

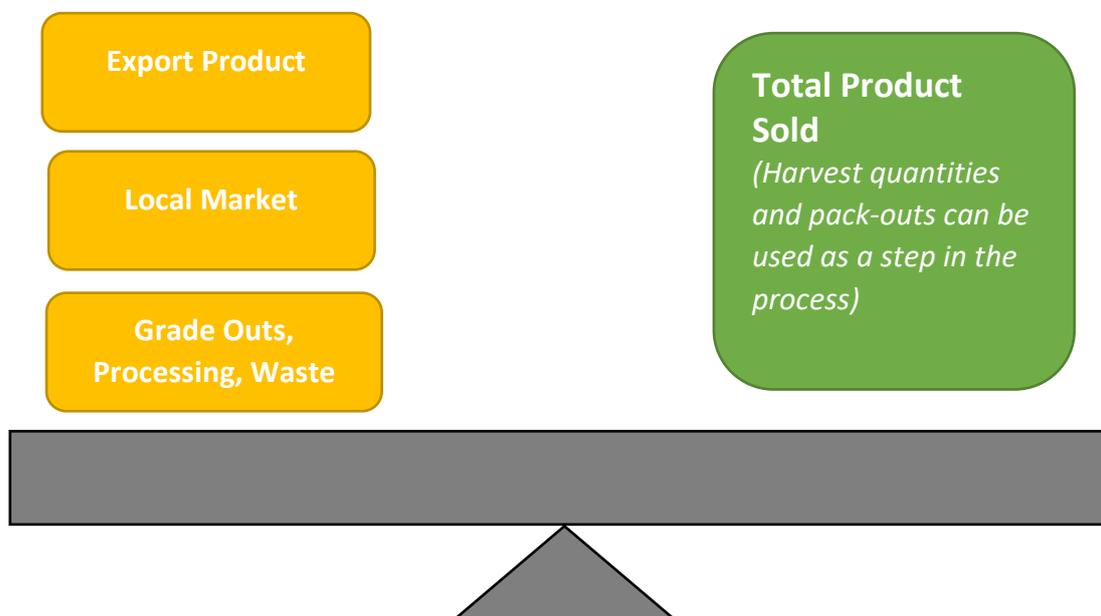
Mass Balance is a way of demonstrating via traceability and calculation that the amount of certified product sold is not more than is harvested or could be produced.

Both GLOBALG.A.P and NZGAP require a mass balance to be carried out **at least** once a year. It can be done by variety or an entire crop but must cover **both certified and non-certified production**.

The final **reconciliation of sales is the point at which change of ownership occurs**. Pack-out data can be used as step in the process of demonstrating how the mass balance is achieved but is not the final point.

Clauses Covering Mass Balance	
GLOBALG.A.P	NZGAP
AF 14.1, 14.2 & 14.3	3.11, 3.12 & 3.13

OVERVIEW OF MASS BALANCE



Guidance		Examples used in calculation on next page
Identifier and Description of this crop at harvest.	<p>Identifier (for traceability) can be PIN #, production areas, management area or whatever is appropriate and traceable.</p> <p>If date is part of the identifier and block is harvested multiple times then you need to include volumes from all harvest dates (bins, kgs units).</p>	PIN1234, Home Block, Jazz
Total Volume Harvested (Bins, kg's, units, crates) (A)	<p>Include all harvests.</p> <p>Reference the records used to get this total harvest number. Auditor will need to see this record.</p> <p>Ultimately harvest volume needs to be the same unit as sold and/or packed. If sold volumes are based on kg's you need to convert to kg's.</p> <p>A conversion may be needed (e.g. approx. bin weight of Jazz = 350kg). This allows you to convert number of bins into kg's.</p>	<p>Load out dockets from 11/3 and 25/3 (PIN1234, Home Block, Jazz)</p> <p>11/3 – 80 bins</p> <p>25/3 – 67 bins</p> <p>Total harvest for Home Block – Jazz = 147 bins</p> <p>Bin weight = approx. 350kg</p> <p>Total harvest = 51,450 kg Jazz</p>
Total Packout (Optional)	<p>Packhouse report of pack-out.</p> <p>How does packhouse report packout e.g. export product, local market and waste.</p> <p>A conversion made be needed to align units with harvested and/or sold.</p> <p>While it is not essential to include packout in this process, it may provide a check or a step in the calculation to explain some product e.g. waste.</p>	<p>Packout =</p> <p>2108 x 20 kg cartons = 42,160 kg</p> <p>24 x 350 kg local market bins = 8,400kg</p> <p>2 X 350 kg waste = 700kg</p> <p>Total from packhouse = 51,260 kg</p>
Total SOLD	<p>Sales documents detailing amount of product sold. The harvest volume needs to be in the same unit as sold and/or packed. If harvested volumes are based on kg's you need to convert sold volumes to kg's.</p> <p>(Must be traceable to the original harvest)</p>	<p>2108 x 20 kg cartons = 42, 160</p> <p>24 x 350 kg local market bins = 8,400 kg</p> <p>Total Sold = 50,560</p>
	<p>Total Sold should be similar to Total Harvested</p> <p>If total harvested and total sold are not similar an explanation (or correction) will be needed. Some examples of what may result if a difference between total harvest and total sold include</p> <ul style="list-style-type: none"> • waste not accounted for • incorrect labelling • loss of traceability • incorrect conversion ratio (e.g. bin weights may vary from season to season or from beginning to end of season) 	<p>Total Harvest = 51,450 kg</p> <p>Total Sold = 50,560 kg</p> <p><i>(Packout data shows 2 x 350 kg was waste so accounts for some of discrepancy)</i></p>

Example of Mass Balance Calculation – can be done by variety or by entire crop type.

Sold volume and harvested volume will need to be in same units e.g. kg's, tonnes, bins

Identifier/Traceability			Volume Harvested				Packout (optional)				SOLD (Point of change of ownership)			
Identifier	Variety/Description	Harvest Date	Units Specify (Bins, Kg's, Units)	Loadout Docket #	Conversion Rate (if needed)	Total Harvest Volume (kg)	Packout (Optional)	Conversion Rate (if needed)	Total Packout (kg)	Packhouse Report #	SOLD - Point of change of ownership	Conversion Rate (if needed)	Total Sold (kg)	
PIN 1234, Home	Jazz	11/03/19	80 bins	#5678	Bin Jazz = 350 kg	28000	2108 x 20kg cartons		42160	Jones 19 - 52	2108 x 20 kg cartons		42160	
PIN 1234, Home	Jazz	25/03/19	67 bins	#8765	Bin Jazz = 350 kg	23450	24 local market bins	Bin Jazz = 350 kg	8400	Jones 19 - 58	24 local market bins	Bin Jazz = 350 kg	8400	
							2 bins waste	Bin Jazz = 350 kg	700					
Total Harvested						51450	Total Packed			51260	Total Sold			50560

Total Sold should be similar to Total Harvested. If they are not similar there must be an explanation for the difference