

Red Sky KEY PERFORMANCE INDICATORS – DAIRY

The following Key Performance Indicators are all included in Red Sky Farm Performance Analysis and are split between FIVE primary measures: **Profitability**, **Efficiency**, **Risk**, **Solvency** and **Liquidity**. These are not meant to be an exhaustive list but are meant to represent the more important indicators that farmers should monitor regularly.

PROFITABILITY

The following measures assess the level of profitability of a business. The first four measures listed below directly describe the performance of the business with the top two being reliable comparative measures across districts, and between farming enterprises and even countries. The final two physical measures can only be used to indicate the likely level of profit and they rely on a correlation factor rather than assessing profit directly.

Return on Capital = Operating Profit / Total Assets under Management at Start of Year x 100. This should be assessed with capital gains/losses both included and excluded. This percentage measure of profitability records the return on total assets employed in the business and is arguably the most important measure of business performance.

Return on Assets = (Operating Profit – Lease on Land & Buildings) / Total Owned Assets at Start of Year x 100. This should be assessed with capital gains/losses both included and excluded. This percentage measure of profitability records the return on total assets owned by the business and is the second most important measure of business performance after Return on Capital. If there are no leased assets, then Return on Assets will be exactly the same as Return on Capital.

Change in Equity = (Equity at End of Year – Equity at Start of Year) / Equity at Start of Year x 100. This percentage measure of profitability records the rate of increase in equity and is arguably the most important measure of personal financial performance.

Operating Profit per Hectare = Operating Profit / Effective Milking Area. This measure of profitability records the level of profit against the largest capital asset of the business and as a result should be closely correlated to Return on Assets, although it needs to be interpreted in light of the wide variation in land values.

Return on Equity = (Operating Profit – Total Financing Costs) / Equity at Start of Year x 100. This should be assessed with capital gains/losses both included and excluded. This percentage measure of profitability records the return on equity utilised in the business.

Pasture Dry Matter Harvested (tDM/ha) – this is the equivalent tonnage of standardised energy density pasture consumed per hectare. Any hay and silage conserved on the farm is included in the total pasture yield. This is a measure that is correlated to profitability in pasture-based farming systems, although it needs to be interpreted for land quality and farming system (e.g. good versus poor soils, irrigation versus dryland).

EFFICIENCY

Measures of efficiency assess the level of performance of a business in a specific area. The measures below assess performance in the use of assets, pasture, supplements and staff. Improvements in efficiency in one particular area may not necessarily lead to an improvement in profitability but will provide definitive insights into how profitability might be improved.

Capital Efficiency = Asset Turnover Ratio = Gross Revenue / Total Assets at Start of Year x 100. This is a percentage measure of how efficiently assets are being used to generate revenue by calculating the value of production in relation to the value of assets.

Milksolids per Hectare – this records the amount of milk produced per hectare and as a result is closely related to gross revenue per hectare and would indicate the likely level of productivity of the business. This is a measure that is correlated to profitability in pasture-based farming systems with low to moderate levels of supplement, although it needs to be interpreted in light of the wide variation in farming systems.

Pasture Cost (per tDM) = Direct Pasture Cost + Variable Pasture Cost + Capital Pasture Cost. This is a complete assessment of pasture costs (not a gross margin cost) and is a measure of how efficiently pasture is being grown and fed to livestock.

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Forage Cost (per tDM Consumed including Wastage) = (Purchased Forage Cost + Variable Forage Cost + Capital Forage Cost) / Weighted Average Wastage Rate. This is a complete assessment of forage costs (not a gross margin cost) and is a measure of how efficiently forages are being purchased and fed to livestock.

Concentrate Cost (per tDM Consumed including Wastage) = (Purchased Concentrate Cost + Variable Concentrate Cost + Capital Concentrate Cost) / Weighted Average Wastage Rate. This is a complete assessment of concentrate costs (not a gross margin cost) and is a measure of how efficiently concentrates are being purchased and fed to livestock.

Management & Staff Costs per Cow = Management & Staff Expenses / Number of Cows in Herd. This measure of efficiency determines the overall cost of all labour utilised in the business.

Cows per Full Time Staff Equivalent = Peak Milking cow Numbers / Total 50-Hour Week Equivalent Full Time Staff. This measure of efficiency records the number of cows that are being milked per 50-Hour Full Time Staff Equivalent.

Core per Cow Cost = (Animal Health + Breeding + Dairy Shed Expenses + Electricity + Grazing/Support Area + Freight + 50% Repairs & Maintenance + 30% Rates, Licenses, Levies & Insurance + 70% Vehicle Expenses + 50% Depreciation) / Number of Cows in Herd. This measure of efficiency determines the underlying livestock cost structure of the business after removing the major cost centres influenced by different farming systems.

Core per Hectare Cost per tDM Pasture Harvest = (Administration + Cropping (green feed) + Phosphate & All Other Fertiliser + Pasture Maintenance & Renovation + 50% Repairs & Maintenance + 70% Rates, Licenses, Levies & Insurance + 30% Vehicle Expenses + 50% Depreciation) / Effective Milking Area / tDM Pasture Harvest. This measure of efficiency determines the underlying land cost structure of the business after removing the major cost centres influenced by different farming systems.

Pasture Harvested per Megalitre (tDM/ML) = Total Pasture Harvest per Hectare on Irrigated Area / Megalitres Applied & Effective Rainfall Received per Irrigated Hectare. This measure of irrigation efficiency records the amount of pasture produced from irrigation applications, plus effective rainfall over the irrigation season. One megalitre = 1.0 million litres.

RISK

Measures of risk assess the degree to which a business may move between profit and loss. These measures can not be assessed as either 'better' or 'worse' in one business compared to another, nor do these measures predict profit, as this will depend on the farming system being run. Highly productive farming systems may have a higher risk profile, but this may be essential to attain higher levels of profit. However, the higher risk profile does mean that they may be more exposed to changes in product prices or supplement prices.

Operating Profit Margin = Operating Profit / Gross Revenue x 100. This percentage measure of risk records the proportion of Gross Revenue that is retained as profit. As this measure takes account of changes to the amount of livestock and feed on hand, depreciation, imputed labour and management, and other adjustments to revenue and expenses, this is a more complete measure than Operating Expenses as % of Gross Revenue.

Cost of Production per kg Milk (or Gross Operating Expenses less Non-Milk Revenue per kg Milk) = (Manufacturing Milk Sales – Operating Profit) / Total Milk Sold. This measure of risk records the effective nett cost of producing each kilogram of milk and can be used for break-even analysis.

Total Operating Expenses as % of Gross Revenue = Total Operating Expenses / Gross Revenue x 100. This percentage measure of risk records the proportion of Gross Revenue that goes towards the payment of Operating Expenses.

Pasture as % of Total Consumed = Energy Consumed from Pasture on Farm / Total Energy Consumed by Livestock on Farm x 100. This percentage measure of risk records the proportion of the overall diet that is composed of pasture grown on the farm.

SOLVENCY

Measures of solvency assess the confidence with which a business can meet its financial obligations as they fall due. These measures can not be assessed as either 'better' or 'worse' in one business

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compared to another, nor do these measures predict profit. The appropriateness of the level of debt, and the proportion of revenue being used to service this, should be interpreted after an assessment of the level of predicted or actual profit as well as the ability and risk profile of the stakeholders.

Equity % = $\text{Equity} / \text{Total Assets} \times 100$. This is a percentage measure of risk and solvency.

Financing Costs as % of Gross Revenue = $(\text{Interest} + \text{Bank Charges} + \text{Loan Fees} + \text{Lease Fees \& Rentals}) / \text{Gross Revenue} \times 100$. This measure of risk records the proportion of Gross Revenue that goes towards the payment of financing costs.

LIQUIDITY

Measures of liquidity assess the ability of the business to generate sufficient cash to meet its financial obligations as they fall due. The measures below do not necessarily indicate whether a business is profitable but are primarily concerned with cash funding. A highly profitable business on a steep growth curve can still have severe liquidity problems if sufficient cash is not available to both invest in and support growth. Similarly, a low profit or unprofitable business with high equity and sound cash flow planning can ensure that liquidity is not a problem for a considerable length of time.

Change in Working Capital = $\text{Operating Surplus} - \text{Debt Servicing Costs} - \text{Assets Purchased} + \text{Long Term Debt Raised} - \text{Tax Paid} - \text{Drawings}$. This measure of liquidity records the accrued working capital surplus after all incoming and outgoing cash flows. The resultant figure should be a positive number if the business is to finish the year in a better cash position than at the start of the year. If the figure is negative, then the end of year result would normally be either a higher overdraft level or reduced cash on hand.

Operating Surplus = $\text{Total Operating Revenue} - \text{Total Operating Expenses}$. This measure of liquidity records the accrued operating surplus prior to any 'book' or non-operating adjustments, prior to financing costs, and prior to any changes to assets and liabilities.