

What is quota worth?

Many producers ask what quota is worth, hoping that there is a magical formula to determine its value. The future value of quota and its associated risk is unpredictable and difficult to judge. However, determining the economic value of quota using financial figures is really just a matter of 'number crunching'.

To do an economic analysis on the value of quota, a producer needs to know farm revenue, cost of production, desired pay-back period and interest rate. The most difficult and important piece of information is that of determining a cost of production figure. Without it, a reliable value of quota and profitability, for any individual farm, is difficult to calculate. Using industry averages fails to provide a true picture of an individual farm's profit and affordability of quota.

When investing in an asset such as quota, most producers have an expectation of a

payback period for that investment. One individual may look at a 4 to 6 year period while another individual who plans to be in the dairy business for 30 years may consider a payback of 10-15 years. Thus, there is a wide range of payback periods when producers invest in quota.

Producers who buy quota tend to be in three main categories :

- 1) new producers getting into the business;
- 2) producers who are expanding production, and;
- 3) producers in an over-quota situation.

In all three situations above, the analysis to determine a quota value is the same, but the affordability is different due to different payback periods and net returns to the farm. Below are examples of three producers who have different net returns and payback periods.

In Example 1, where a producer is new to the

| | EXAMPLE 1 | | EXAMPLE 2 | | EXAMPLE 3 | |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| \$/hectolitre | MSQ | Fluid | MSQ | Fluid | MSQ | Fluid |
| Revenue : | | | | | | |
| Milk | 44.00 | 53.00 | 44.00 | 53.00 | 33.30 | 33.30 |
| Subsidy | 5.05 | 0.93 | 5.05 | 0.93 | 5.05 | 0.93 |
| TOTAL REVENUE | 49.05 | 53.93 | 49.05 | 53.93 | 38.35 | 34.23 |
| Variable costs : | | | | | | |
| Feed ¹ | 14.85 | 14.85 | 14.85 | 14.85 | | |
| CDC Levies | 1.92 | 1.00 | 1.92 | 1.00 | 1.12 | 0.21 |
| Other ¹ | 14.38 | 14.38 | 14.38 | 14.38 | | |
| Fixed Costs ¹ | 7.82 | 7.82 | | | | |
| TOTAL COSTS | 38.97 | 38.05 | 31.15 | 30.23 | 1.12 | 0.21 |
| NET RETURN² | 10.08 | 15.88 | 17.90 | 23.70 | 37.23 | 34.02 |
| Pay-back (years) | 10 | 10 | 6 | 6 | 4 | 4 |
| Interest rate (%) | 8 | 8 | 8 | 8 | 8 | 8 |
| QUOTA VALUE (\$) | 19 | 389 | 23 | 400 | 34 | 411 |
| - MSQ portion (2.43 kg) | | 46 | | 56 | | 83 |
| - est Skim-off (0.3 kg) | | 6 | | 7 | | 10 |
| ADJ QUOTA VALUE (\$) | 19 | 337 | 23 | 337 | 34 | 318 |

¹ sources : Alberta Agriculture, Economics of Milk Production 1992; Dairy Control Board

² excludes family labour

business, he needs to cover all his fixed and variable expenses. Fixed costs are those costs that remain unchanged regardless of volume of production. These costs are items such as property taxes, depreciation, and insurance. Variable costs (operating) are those costs that change with production volume and include such items as feed, utilities, breeding fees and producer levies.

In Example 2, where a producer is expanding production without increasing capital expenditures, it is the variable costs that need to be covered, not the fixed costs. The fixed costs are already covered by the pre-expansion farm. Since only variable costs need to be covered for the expansion, the cost of production is lower for the expansion than the total farm. This results in a higher net return and a potential lower desired payback period than for Example 1.

In Example 3, where a producer is in an over-quota situation, a decision whether to down-size or buy additional quota needs to be made. In most cases, the decision is to buy additional quota and use the *over-quota levy* (\$9.25/kg or \$33.30/hL) to finance the purchase of quota. In this scenario, only a few additional levy costs are required for marketing industrial milk, and all other fixed and variable costs do not change. Thus, a producer has a higher net return per hectolitre than the other two examples, resulting in the lowest payback period

for buying quota at current market prices.

In all three examples, affordability of quota depends on two important elements: *net returns and desired pay-back period*. Since these two elements differ among producers, the result is different calculated quota values for each producer. In the above analysis, it should be noted that a return to family labour and management is not included in the calculations. In addition to the economic value of quota, producers need to evaluate other risk and uncertainties such as trade agreements, quota cuts, additional skim-off and consumer buying power that could impact the value of quota.

In the end, the value of quota is what a buyer and seller negotiate. The quota exchanges are an indicator of that value.

The above examples should not be taken as a suggestion to what quota is worth, or what a producer should pay, but rather as a framework for analysis of quota values. It is the responsibility of each individual producer to evaluate their individual circumstances to derive a value and affordability of quota for their farm. If you have any questions regarding quota purchases or transfers, please call the Alberta Dairy Control Board.

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