#### Analyse the effect of increasing the herd size.

#### Exercise 1. What do they need to borrow?

Dave and Jodi are 50/50 sharemilkers, currently milking 210 cows. They have been offered a new position milking 390 cows. They currently have 210 mixed aged cows and 50 rising 1-year heifers. They will need to purchase 150 mixed age cows, 30 in-calf heifers and 30 rising 1-year heifers. They have adequate machinery for their new position, (value: $100,000 plus their car), and will have $45,000 debt at the end of this season. How much will their total term borrowings be?

Current market prices are;

* Mixed aged cows $1,800
* In-calf heifers $1,250
* Rising 1-year old heifers $600

**Answer**

|  |  |  |
| --- | --- | --- |
| **Purchases** | **Value** |  |
|  | **=** |  |
|  | **=** |  |
|  | **=**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
|  | **=** |  |
| **Plus debt** | **= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |
|  | **Total term Borrowings** | **=** |

#### Exercise 2. How much could they borrow?

The bank will use the following values:

* $1,500 for mixed age cows
* $1,000 for in-calf heifers
* $500 for rising 1-year heifers

The bank will lend up to the following:

* 60% on stock
* 50% on plant

Using the above information, calculate the maximum term finance you could expect the bank to lend for the new position (Day 1) proposal?

**Answer**

|  |  |  |
| --- | --- | --- |
| **Assets** |  |  |
| Stock |  |  |
|  |  | = |
|  |  | = |
|  |  | =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |
| Plus Machinery |  | = |
| Asset total |  | = |
|  |  |  |
| Maximum Term Finance |  |  |
| Stock | @60% |  |
| Machinery | @50% | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Maximum term finance (will form liabilities) | | = |

#### Exercise 3. How much interest will they pay on the loan?

Dave and Jodi are paying an interest rate of 7.0% over a 5-year term, what is the annual cost of term finance to be included in the budget?

#### Formula: Maximum Long term finance X interest rate X time

**Answer** = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#### Exercise 4. Current situation with 210 cows

#### Assets

a. Dave and Jodi currently own the following stock and plant.

**Answers**

|  |  |  |
| --- | --- | --- |
| 210 mixed age cows, valued at | $ 1,800. each |  |
| 50 yearling replacements, valued at | $ 600. each |  |
| 80 horse power tractor, valued at | $45,000. |  |
| Mower, valued at | $10,000. |  |
| Tedder, valued at | $10,000. |  |
| Calf feeding equipment, valued at | $ 2,000. |  |
| Motorbikes (2), together valued at | $18,000. |  |
| Assorted plant. | $15,000 |  |
| Car, valued at | $15,000. |  |
| Total assets | | $ |

#### Liabilities

b. They have a term loan with $45,000 still owing.

Currently, they are in overdraft of $10,000 in their seasonal finance account. Calculate their total liabilities

**Answer:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

c. Calculate Dave and Jodi’s current equity as a percentage of their total assets.

#### Equity = Assets – liabilities

**Answers**

|  |  |  |  |
| --- | --- | --- | --- |
| 210-cow operation | | 360–cow operation | |
| Assets |  | Assets |  |
| Liabilities |  | Liabilities |  |
| **Equity** |  | **Equity** |  |

d. Equity as a percentage of total assets is calculated by **Equity ÷ Assets X 100%**

**Answers**

**210-cow operation 360-cow operation**

Equity = Equity =

Total assets = Total assets =

Equity as a percentage = \_\_\_\_\_\_\_\_\_\_\_ Equity as a percentage = \_\_\_\_\_\_\_\_\_

#### Exercise 5. Things to consider

List some likely causes of change between their forecast end of season financial position and the actual end of season financial position.



#### Exercise 6.

The 390-cow farm operation would have

Gross farm income = $546,000

Farm expenses = $312,000

Calculate the rate of return on assets for the farm (ROA)

ROA = Earnings before interest and tax ÷ assets x 100%

**Answer**

ROA = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#### Exercise 7. Profitability

Calculate the profit of the 390-cow farm by:

Income – Farms expenses – interest = Profit

Answers - *Collect the information from previous questions*

|  |  |
| --- | --- |
| Gross Farm income |  |
| Farm expenses |  |
| Interest |  |

#### Profit = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#### Exercise 8. Should they expand?

#### The current profit level of the 210-cow farm is $120,000. State whether Dave and Jodi should take up the offer of a new milking position milking 390 cows

Answer *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*