

Balancing Nutrition and Cost



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Goal:



- Provide a balanced diet
- That is cost effective
- That give the desired production target
- That kills as few animals as possible

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Metrics for comparing feed options



Cents per MJ of metabolisable energy
Dollars per kg of protein



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The Drought and Supplementary Feed Calculator app



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Feed wheat

Cost per tonne = \$425

DM = 90%

ME = 13 MJ/kg DM

First, determine the cost per kilogram of dry matter. We must multiply the cost per tonne by 10 and then divide by the dry matter percentage:

Cost per kg DM = $\$425 \times 10 \div 90 = 48\text{c/kg DM}$

Now, to determine the cost per energy unit we must divide the cost per kilogram dry matter (determined above) by the energy concentration of the feed. Wheat has an average energy value of 13 MJ/kg. Therefore:

Energy cost = $48\text{c/kg} \div 13 \text{ MJ/kg} = \mathbf{3.6\text{c/MJ}}$



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Feed barley

Cost per tonne = \$320

DM = 90%

ME = 12.5 MJ/kg DM

Cost per kg DM = $\$320 \times 10 \div 90 = 35.5\text{c/kg DM}$

Barley has an average energy value of 12.5 MJ/kg. Therefore:

Energy cost = $35.5\text{c/kg} \div 12.5 \text{ MJ/kg} = \mathbf{2.84\text{c/MJ}}$



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Comparing protein



Faba beans

Cost per tonne = \$460

DM = 90%

CP = 25.5%

$$\text{Cost per kg DM} = \$460 \times 10 \div 90 = 51\text{c/kg DM}$$

Lupins have an average crude protein percentage of 25.5%. Therefore:

$$\text{Protein cost} = 51\text{c/kg} \div 25.5 \times 100 = \mathbf{\$2/\text{kg CP}}$$



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Comparing protein



Chickpeas

Cost per tonne = \$610

DM = 90%

CP = 21%

$$\text{Cost per kg DM} = \$610 \times 10 \div 90 = 67\text{c/kg DM}$$

Chickpeas have an average crude protein percentage of 21%. Therefore:

$$\text{Protein cost} = 67\text{c/kg} \div 21 \times 100 = \mathbf{\$3.1/\text{kg CP}}$$



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Comparing protein

\$2/kg CP

\$3.1/kg CP



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Comparing protein



Urea lick blocks

Cost per 20 kg block = \$36

CP = 40%

Cost per kg = $\$36 \div 20 = 180\text{c/kg}$

Therefore:

Protein cost = $180\text{c/kg} \div 40 \times 100 = \mathbf{\$4.5/kg}$
CP



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Summary



Take a calculated approach to buying feed

Look at buying feed on a dry matter basis

Consider feed wastage

Storage

Questions?

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