

## Total Energy Intake and Milk Protein Percentage

Total Energy Intake (Forage and Concentrate) is often limiting in dairy cow diets.

Reduced energy intake reduces milk protein levels, cow condition and fertility.

Low forage quality and forage intake will restrict milk protein percentage.

What are the dairy cows requirement for energy ?

- What is required to produce 27 litres and optimise milk protein percentage ?
- The total diet energy required is 18 UFL per cow per day of Net Energy.
- Leafy grass has a UFL of 1, so the cow must eat at least 18 Kilograms of Dry Matter.
- Grass silage with a Dry Matter Digestibility of 72 % has UFL of 0.82.
- The cow will only eat so much due to the restriction of gut fill and forage quality.
- At best a cow will eat 11 kgs of dry matter of average quality grass silage.
- So that's 11 multiplied by 0.82 UFL grass silage giving 9 UFL from forage.

- The remaining 9 UFL (18 UFL minus 9 UFL from forage) comes from concentrate.
- To fill the gap 9.5 kgs freshweight of a 0.95 UFL concentrate is required giving 9 UFL.
- So 9 UFL from forage plus 9 UFL from concentrate giving 18 UFL in total.

**Low Total Energy Intake leads to low Milk Protein Percentage**