How much milk production will grass support

As spring calving cows are reaching peak intake capacity, generally 8 weeks after calving, it is imperative that grass intakes are maximised to reduce feed costs. Every year the issue arises as to how much milk can cows produce off grass only and whether it is justifiable to continue to feed meal throughout the summer?

Q How much milk will cows produce on grass only diet?

Assuming a 550kg cow, her theoretical intake capacity is 17 kg DM of grass/day. Excellent quality grass in summer is regarded as 1 UFL/ kg DM. So in theory the cow has an intake of 17 UFL on a grass only diet. Assuming no BCS change, a maintenance value at grazing of 5.8 UFL, means that 11.2 UFL is available for production. Next we need to know how much energy is needed for a kg of milk.

	% MS	UFL/ Kg	Milk kg from 11.2 UFL	MS yield (kg)
Low	7.1	0.43	26	1.85
Medium	7.6	0.45	25	1.9
High	8	0.47	24	1.92

Table 1. UFL per kg milk produced at different milk solids percentages.

You can see from Table 1. that the higher the MS percentages the greater the energy demand per kg of milk. So from the 11.2 UFL, we could get 1.85 kg MS of low % milk, and 1.92 kg MS of high % milk. The difference in MS yield is caused by the energy required to produce the extra lactose in the higher yielding cows.

Extra production can be achieved where grass intakes are higher. It is unlikely that forage quality will exceed 1 UFL, so differences in production are coming from intake or BCS loss. Carefully examine cow condition especially during the breeding season to avoid condition score loss.

The lower MS% cows are typically animals bred to deliver higher yielding and are often larger framed animals. This will result in a greater maintenance cost but they do have higher overall intakes so performance can be greater in reality.

Grass quality is often lower than expected and can be 0.9 UFL per kg. These swards typically have high post grazing sward heights (5-6 cm), high pre-grazing covers (2000 kg DM), older swards will lower ryegrass proportion. When combined with the reduction in intake from higher fibre levels, these swards will only support 20 kg of milk or 1.4 kg MS.

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