



Feed Management – Autumn

Autumn is upon us and traditionally is a time of compromise when feeding dairy cows. Unfortunately it looks like a super levy is inevitable for the 2011/2012 milk quota year with the country producing nearly 8% more milk in May 2011 versus May 2010. However, if you are on or under quota then feeding supplements this autumn may be a profitable exercise allowing milk to be produced until the end of December.

Autumn grass can decline in dry matter (DM), limiting the intakes of DM that cattle can eat. The increase in genetic merit for milk production in recent years has put emphasis on cow intakes matching their production potential. For the high producing cow, grazed grass alone will only support milk yield of 28 litres per day. Maximum grass intake is 16.5 - 17 kg DM; this leaves an energy gap for the higher producing cows. Grass supplies 1.06 UFL/kg DM (energy units) while concentrates supply 1.07 UFL/kg DM. At an intake of 16.5 kg DM, grass supplies 17.5 UFL (16.5*1.06) – this is the requirement for 28 litres of milk. For cows producing above this, supplementation will be necessary to achieve their production potential. All animals will respond to supplementation if they are underfed relative to their potential. The table (Fig 1) illustrates the effect on milk production of supplementing autumn pasture with concentrates or maize.

Fig 1. Effect of Supplement Type – Autumn (Murphy et al., 2006)			
	Grass only	Meals (3kg)	Maize
Milk yield	13.2	18.3	15
Milk fat	4.31	4.04	4.21
Milk protein	3.67	3.57	3.71
kg fat+protein	1.05	1.39	1.19
Response in Milk yield		1.27	0.45
Response in F+ P g/kg suppl.		85	35

Concentrates tend to give the best response (fibre based more so than starch based). Forage maize is middle of the road in terms of response, especially in the autumn where the substitution rate is high – gives a better response in the spring. Grass silage will also give a poor response unless it is surplus bales of high digestibility value (75% DMD).

Autumn Calving – Milk Fever

With the onset of autumn calving it is important to ensure that cows are in the optimum condition for calving and subsequent lactation. Milk fever is the most important metabolic disease in dairy cows during the transition period. It is a nutritional disorder which can be seen in high yielding autumn calving cows. It is caused by low blood calcium levels which arise at the start of lactation due to an increased demand for calcium as the cow starts to produce milk. It is a major risk factor for many other problems that arise around calving, including uterine prolapse, retained placenta,

ketosis and displaced abomasums after calving. These conditions are often confused with trace element deficiency, when a sub-clinical problem with milk fever may be the primary cause.

Prevention

Magnesium (Mg) deficiency alters calcium metabolism and thereby increases the risk of milk fever in recently calved cows at grass in autumn. Research has shown that increasing magnesium supplementation was found to have the greatest influence amongst dietary strategies for the prevention of milk fever.

Fig 2. Milk Fever Prevention Strategies

BCS at drying off	2.75
BCS at calving	3.0
Intake of Ca	≤30 g/day
Diet P%	≤0.3% of DM
Diet Mg%	0.3 to 0.4% of DM
Diet K%	<1.8% of DM*
*Difficult to achieve on many dairy farms	

Therefore, ensuring adequate magnesium supplementation is vital. Increasing the Mg content from 0.3 to 0.4% of the diet DM has been shown to reduce milk fever incidence by 62%. Some other dietary control strategies are outlined in Fig 2. Cows should have a restricted intake of grazed grass (high in potassium (K)) and a plentiful supply of long fibre such as straw or bale silage. It is important to feed a good quality dry cow mineral (with adequate Mg and

no calcium) from the time of drying off. It is worthwhile to supplement cows close to calving (10 days) with some concentrates in order to minimise the effects of reduced intake and higher nutrient demand in the freshly calved cow. Avoiding stress on the cow will also help reduce the risk of digestive upsets and metabolic disorders.

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