XP CLUB

ISSUE 2

KEEP APPETITES UP AND EFFECTS OF HEAT STRESS DOWN THIS SUMMER

Although often a problem only associated with hotter countries such as the United States or Australia, heat stress in dairy cows within the UK has become more widely recognised in the last couple of years.

The symptoms

Dr Alison Bond
Commercial Nutritionist

Heat stress symptoms can start to become apparent when ambient temperatures rise above 25°C, However, severity is correlated to both ambient temperature and humidity level.

As temperatures start to rise, the first signs of moderate heat stress may be rapid shallow breathing. If respiratory rates are greater than 80 breaths per minute in 70% of the herd then they are exhibiting signs of heat stress. Other symptoms of heat stress include, decreased dry matter intakes often resulting in reduced milk production (it is estimated that 1-kg of milk is lost for every 0.5-kg decrease in dry matter intake). Dry matter intake has been estimated to drop as much as 8-12% as temperature rise, and milk production by up to 20%. In addition, dairy cows with decreased dry matter intakes, decreased feeding frequency, decreased rumination and selective feeding for feeds that produce less heat during digestion are also at risk of increased incidence of acidosis and impaired fibre digestibility.

Higher producing dairy cows will also be more susceptible to heat stress than lower producing cows as a result of their higher dry matter intake resulting in more metabolic heat generated.

Management

Traditional heat stress management techniques including things like;

- Providing shade to allow cows to rest in a more comfortable environment
- Easy access to water. Water is the primary nutrient needed to make milk, accounting for over 85% of the content of milk. In addition, water requirement increases significantly as the environmental temperature rises. It is crucial that water be available for cows in a location that is close to shade.
- Cooling fans and sprinklers
  However, it may also be beneficial to make changes to the ration, for example including higher quality forages that are digested faster and therefore create less heat

Feeding XP_{LS}

XP_{LS} will improve ration palatability therefore helping cows to maintain a consistent dry matter intake. In addition, it is also a rich nutrient source for rumen microbes, with inclusion in the diet optimising the efficiency and functionality of the rumen microbes, which helps improve the digestibility of feedstuffs. Improved digestibility, even with a lower dry matter intake, helps cows get the most out of each feeding – and that helps sustain milk production and prevent further health and reproductive complications as a result of heat stress.

	Relative Humidity, %						
Temperature, °C	**20**	**30**	**40**	**50**	**60**	**70**	**80**
37.8	26	29	30	31	33	34	35
36.7	26	28	29	31	32	33	34
35.6	26	27	28	30	31	32	33
34.4	26	27	28	29	31	32	32
33.3	25	26	27	28	29	30	31
32.2	25	26	26	27	28	29	30
31.1	24	24	26	27	27	28	29
30.0	23	24	25	26	27	27	28
28.9	22	23	24	25	26	27	27
27.8	22	23	23	24	25	26	26
26.7	21	22	23	23	24	24	26
25.6	20	21	22	23	23	24	24
24.4	19	21	21	22	22	23	23
Livestock Safety Index	**Normal ≤23**		**Alert 24-25.5**		**Danger 26-28**		**Emergency ≥29**

[1]Tennis Marx. 2004.

Summary:

Extensive research has shown that feeding XP_{LS} helps cows deal with heat stress by promoting dry matter intake and increasing ration digestibility.

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