**Fodder Focus**

**Feeding Tips when Forage is Short**

If you have counted up what you have and you know you are short of fodder start “spinning it out” at housing and don’t delay. You can substitute silage with other fodder and concentrates if you achieve the minimum fibre for animal health.

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**For Spring-calving dairy herds, the primary demand for silage will be for dry cows in late pregnancy. Depending on turnout date and calving pattern, milking cows in early lactation may need high-quality silage. Tables 4 and 5 outline some example diets for herds with silage deficits of 30% to 40%**.

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**If I feed more concentrates, will cows automatically eat less silage?**

Replacing silage with concentrates is a viable option but silage feeding (forage deficit of around 25%) where forage costs are high (e.g. straw prices exceed €25 per bale for feeding).

**In the case of dry dairy cows eating silage ad-lib as the sole feed,**

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**Q What does an animal need to eat in the winter?**

Feeding tips are described in individual situations; for tailored advice contact your local Teagasc advisor.

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- Depending on what feed you have available, animals in the yard, feeding facilities, and options for purchased feed, etc. Show by this Q and A aims to cover the majority of situations; for tailored advice contact your local Teagasc advisor.

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**Q Do I need to make use of limited fodder supplies?**

Do this before the start of winter feeding and again in early January.

- **Weight a sample of silage blocks/bales once per month.**

**Q In practice, how should I feed restricted levels of silage plus meal to dry cows?**

- **A 3-4kg concentrate feeding rate can be used to reduce daily silage feeding by 20-25%**.

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Today’s farm

Q What can I do if I have a forage deficit greater than 25%?

A You will need to buy silage or if available good quality straw or hay to meet fibre requirements. Some practical guidelines on straw and hay feeding:

- Dry dairy cows can be fed up to 4kg straw per day plus meal to balance energy and protein, replacing up to 70% of daily silage requirement.
- High-straw diets will deliver similar performance to all-silage diets for dry cows, provided that total UFL and PDI levels are balanced correctly (Table 1).
- Chopping the straw will reduce feed sorting and wastage, particularly for milking cows on mixed diets. Optimal chop length is 30mm to 50mm. If chopping is not feasible, feed “long form” to dry cows with bales rolled out along the feed barrier.
- Where more than 2.5kg of straw is included in dry cow diets, have soya bean meal in the diet to guarantee adequate protein for late stage foetal growth and improved colostrum quality.
- Straw tends to have relatively low macro-mineral content, particularly K (potassium). This can help prevent milk fever in dry cows. However, K (potassium) is a vital mineral and check the diet’s mineral profile if in doubt.
- Yearling heifers will eat 1% of their liveweight as fibre. Including 1kg straw plus concentrate can replace approximately 40% of their daily silage requirement. Balance for energy and protein.
- Where silage is limited for milking cows, including 1kg of chopped straw helps to meet their minimum fibre requirement of 32% NDF (25% from forage).
- Grass hay will do the same job as straw but has higher UFL/PDI and lower fibre value. A rule of thumb is that 1kg of good-quality hay is equivalent to 0.5kg straw plus 0.4kg of a maize gluten/barley mix. Products such as alfalfa hay have similar UFL but higher protein compared to grass hay. Particle lengths of more than 30mm is required for fibre function.

Q Concentrate ingredients – which to choose?

A Value is determined by UFL and PDI content (Table 6). As said earlier, rations with differing ingredients will perform quite similarly if the total energy and protein values are equal.

Where forage is in short supply, include high-fibre ingredients to reduce the risk of digestive upsets. These ingredients tend to be lower in energy than cereals but have good NDF profiles. Where deficits are 25% or less, products such as cereals, gluten and distillers can be used to fill a 3-4kg intake gap.

The feed values of forages and wet feeds are shown in Table 7. You may need to buy some forage to meet minimum fibre needs. However, if extra fibre is not required and forage costs are much higher than the values in the table, concentrate options may offer best value to fill deficits.

Q Are other fodder stretcher feeds available?

A There are numerous products being marketed as fodder stretcher feeds. Some will represent value, others may have limited use. The key questions when valuing these feeds are:

- What is the dry matter content?
- What is the energy and protein content? This can be difficult to find out.
- What is the NDF value? Remember, feeds with NDF content less than 30% of DM, and/or particle size of <30mm, have limited, to no, value as fibre sources.
- By-product feeds from the food industry, such as bread, confectionery etc, can carry a high risk of acidosis due to their high sugar content. These can replace concentrates but not forage. Consult your Teagasc advisor/nutritionist before purchasing and feeding any novel feeds, particularly where fodder is in short supply.

Q If I switch her to a more concentrate-based diet, will her performance suffer?

A If she has similar total energy and protein intake, then performance should be approximately the same.

Q Does the cow’s feed requirement change over the winter?

A Naturally as the cow’s pregnancy progresses, her requirements grow, but the balance of protein, energy and fibre needed does not change over the winter. The dry cow group will have the biggest total demand (tonnes) for silage but moderate DMD material should be fine. The best-quality silage should be kept for cows in early lactation, i.e. when they have started milking.

Of course, grazed grass is even better than silage.

Table 6: Value of concentrate ingredients relative to barley (£210/t) and soya bean meal (£360/t)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Value (£/t)</th>
<th>UFL</th>
<th>PDI</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>210</td>
<td>1.16</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Maize meal</td>
<td>230</td>
<td>1.22</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Maize gluten</td>
<td>217</td>
<td>1.04</td>
<td>125</td>
<td>Moderate energy and protein</td>
</tr>
<tr>
<td>Distillers</td>
<td>245</td>
<td>1.16</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Rapeseed meal</td>
<td>240</td>
<td>1.05</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Citrus pulp</td>
<td>200</td>
<td>1.14</td>
<td>91</td>
<td>Not a fibre source, low in P, high energy</td>
</tr>
<tr>
<td>Beet pulp</td>
<td>210</td>
<td>1.14</td>
<td>110</td>
<td>Hi fibre and energy, excellent fodder stretcher</td>
</tr>
<tr>
<td>Hulls</td>
<td>200</td>
<td>1.02</td>
<td>107</td>
<td>Excellent fibre source, moderate energy</td>
</tr>
<tr>
<td>Palm kernel</td>
<td>210</td>
<td>0.84</td>
<td>131</td>
<td>Very hi-fibre, fodder stretcher, poor palatability</td>
</tr>
<tr>
<td>Oats</td>
<td>185</td>
<td>1.03</td>
<td>84</td>
<td>Moderate energy ingredient</td>
</tr>
<tr>
<td>Wheat</td>
<td>215</td>
<td>1.16</td>
<td>106</td>
<td>High energy feed, acidosis risk</td>
</tr>
<tr>
<td>Molasses</td>
<td>135</td>
<td>1.0</td>
<td>68</td>
<td>75% DM product, cereal replacement, no fibre</td>
</tr>
</tbody>
</table>

Table 7: Value of common other feeds relative to barley (£210/t) and soya bean meal (£360/t)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Value (£/t)</th>
<th>UFL</th>
<th>PDI</th>
<th>Max kg as fed</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brewers</td>
<td>58</td>
<td>0.90</td>
<td>181</td>
<td>8-10 (2kg DM)</td>
<td>Good fibre levels</td>
</tr>
<tr>
<td>Fodder beet</td>
<td>45</td>
<td>1.12</td>
<td>88</td>
<td>8-10 (2kg MD)</td>
<td>High energy, low protein, low fibre</td>
</tr>
<tr>
<td>Potatoes</td>
<td>51</td>
<td>1.20</td>
<td>103</td>
<td>6-8 (2kg DM)</td>
<td>To replace cereals, no fibre value</td>
</tr>
<tr>
<td>Maize silage</td>
<td>55</td>
<td>0.80</td>
<td>68</td>
<td>-</td>
<td>Assuming 30% DM</td>
</tr>
<tr>
<td>Barley straw</td>
<td>87</td>
<td>0.44</td>
<td>40</td>
<td>3-4kg</td>
<td></td>
</tr>
<tr>
<td>Good hay</td>
<td>130</td>
<td>0.68</td>
<td>70</td>
<td>4x4 bales have feed value of €14</td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>215</td>
<td>1.16</td>
<td>106</td>
<td>4x4 bales have feed value of €34</td>
<td></td>
</tr>
</tbody>
</table>

Key messages

- Most dairy herds are facing a significant winter feeding challenge.
- Market options are limited so early action to stretch forage will be vital.
- A range of feeding solutions can be used to meet herd requirements.
- Finally, consider reducing demand (i.e. early culling) where forage deficits exceed 50%.

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