

# ENERGY Feeds – TYPICAL ANALYSIS PRACTICAL FEEDING INFORMATION

FEED	DM (%)	ME (MJ)	Starch	Sugar	NDF	Oil	BENEFITS	LIMITATIONS	Max Feed Rate (kg)
			(% DM)						
<b>Barley Grain</b>	86	13.3	57	2.5	23.1	2.5	High in starch, which is readily fermentable in the rumen encouraging milk protein. Higher fibre levels than wheat.	Can lead to acidosis if high levels fed. Milling results in fine dusty material, which increases the risk of acidosis and the inclusion rate needs to be lower than indicated. It is low in Calcium and Vitamins A, D & E.	5
<b>Biscuit meal</b>	90	14.2	44	12.5	10.5	5	High energy bi-product from human feed manufacture.	Product can be very variable in quality. Be aware of high oil, high fibre 'cheap' biscuit meal as it can be very low quality. Fine ground product so risk of acidosis if high levels fed.	4
<b>Brewers Grains</b> By-product from distillery industry	24	11.7	5	2	62	7	Ideal as a buffer feed or forage replacer. Very palatable, encouraging intakes. High in digestible fibre and a good source of protein and phosphorus.	High in unsaturated oil, which can reduce milk butterfat content at high feed rates. Feed quality/DM can be variable according to origin. Check with supplier.	20
<b>Citrus Pulp Pellets</b> By-product from citrus industry	92	12.3	0.2	24	21	2.5	Aroma can encourage intake. Better pH and contains more suitable acids minimising acidosis. Useful for increasing butterfats.	May cause refusal of the diet if added or removed too quickly. Avoid lemon pulp that can be acidic.	2
<b>Maize (Crimped)</b>	67	14	65	2	10	5	Concentrated energy source with high levels of bypass starch, so ideal for high yielding herds.	Needs to be well clamped and protected from vermin. Be aware of acidosis risk	7
<b>Maize Distillers Dark Grains</b>	90	13.7	1	1	40	10	Highest energy of the distillers products due to its higher oil content. Can be a good source of copper.	Low in starch and protein and can have low degradability depending on amount of heating. High unsaturated fat level which may reduce fibre digestion & yields if fed at high levels.	6
<b>Maize Germ Meal</b>	88	15	22	7	35	4	High energy feed with good amino acid balance. Belgium product is very good.	Be aware of products with higher oil levels which will be detrimental to rumination.	3
<b>Maize Gluten Feed</b> By-product of starch extraction from the wet milling of maize	90	13	20	1.5	34	4	Relatively cheap source of energy and protein with good levels of digestible fibre and starch. High in Phosphorus (care required if feeding high levels to calves).	Amino acid range is poor. Be wary of inferior supplies (a lot of black meal), which may have been overheated during extraction, rendering a lot of the protein undegradable.	7
<b>Molasses</b> By-product from sugar cane industry	74	12.5	0	64	0	0.2	Highly palatable and can be used to increase intake of other feeds. High in quickly available energy in the rumen.	High in potassium and salt which can cause scours. No fibre. Poor flowability in cold weather. Blended products flow better.	3
<b>Potatoes</b>	20	12.5	62	8	8	0.2	High in starch energy. Very palatable feed.	Low in fibre, high water content, often rotten. If fed in large quantities can give rise to acidosis. Poor source of minerals except potassium. Feed from the floor or chop to avoid choking.	20

See over for more feeds.....

Max feed rate for milking cows (per cow per day)

# ENERGY FEEDS – Continued

FEED	DM (%)	ME (MJ)	Starch	Sugar	NDF	Oil	BENEFITS	LIMITATIONS	Max Feed Rate (kg)
			(% DM)						
<b>Pot Ale Syrup</b> By-product from whisky distillation	45	14.2	1	2	1	1	Inclusion can encourage forage intake. High in energy and rumen degradable protein.	High in copper and potassium (can lead to scouring). Has a low pH 3.5-4.0. Copper toxicity a risk for sheep.	5
<b>Protected Fats</b> (e.g. Megalac)	95	33	0	0	0	84	Ideal for early lactation cows to boost energy intake. The calcium protects the fatty acids from break down in the rumen. They pass intact to the acidic lower gut for digestion.	Can sometimes cause lower butterfat levels in milk. Best used where other energy feeds unable to meet requirements.	0.5
<b>Sugar Beet Pulp</b> (Dried molassed) By-product of sugar industry	90	12.5	1	19	32	1.3	High in FME. High level of digestible fibre providing a rumen buffer. Can be useful to increase butterfat levels.	Highly absorbent. Can be used as a silage additive. Slightly laxative. Low phosphorus and starch content. Unmolassed tends to be less palatable.	4
<b>Sugar Beet Pulp</b> (Wet pressed) By-product of sugar industry	30	13	0.4	6	37	1	Good energy source. Increases overall diet palatability.	Low in phosphorus. Needs to be ensiled if not used within a week. High wastage if not well ensiled.	20
<b>Trafford Gold</b> Wheat distillery co-product produced in the UK	50	13.4	17.5	6.5	21	5	Provides a good source of energy and protein.	Compare on dry matter basis to compare cost effectiveness against brewers grains. Check fibre levels in diet at high feed rates.	12
<b>Wheat Grain</b>	86	13.7	67	4	12	2	High energy and starch levels.	Low in fibre. Can give rise to acidosis, if fed in large quantities or in large single feeds.	5
<b>Wheat (Caustic treated)</b> Grain treated with Sodium Hydroxide	75	13.3	66	4	11	2	High energy and starch (claimed 70% rumen bypass). The sodium hydroxide converts to sodium bicarbonate which acts as a pH buffer in the rumen. Tends to improve milk proteins.	High Sodium content, supplementary minerals should be salt free if significant amount fed. If fed in large quantities can lead to acidosis.	8
<b>Wheat (Crimped)</b>	65	13.7	56	4	9	2.3	Grain to be combined moist, avoiding drying costs. Using a preservative protects a high proportion of the starch against rumen degradation, reducing rumen acidosis and improving milk proteins.	Very palatable feed. Very low in Vitamin E due to the moist storage so supplementation must be given.	8
<b>Wheat Feed</b>	86	11.5	27	7	40	4	Highly digestible and kind on the rumen A good source of phosphorus	Quality varies depending on source Low in calcium, sodium and vitamins	6



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