

MOLASSES

FUELS FEEDING EFFICIENCY

Molasses is a multi-purpose sugar source that plays an important role in increasing feeding efficiency of all livestock. It may be used as a silage additive, livestock dietary component and health enhancer.

AS A SILAGE ADDITIVE

It acts as a sugar source to accelerate fermentation and minimise dry matter digestibility [DMD] loss.

TABLE 1

Silage DMD and its Effect on Milk Output in Cows and Live Weight Gain in Cattle

DMD	Dairy Cows Litres / day	Weanlings Kg / day	Finishers Kg / day
75	13.6	0.58	0.83
65	6.8	0.25	0.45
10	6.8	0.33	0.38
1	0.68	0.033	0.038

Based on Table 1, over a 150 day winter, a 1.8 unit DMD increase in silage quality from using molasses as a silage additive [Teagasc Trial Result], will boost milk output in a winter milk herd by 182 litres [40 gallons] for an investment in molasses of €18. Trials conducted by ED & F Man in 2012 and 2013 are similar to the Teagasc findings.

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AS A LIQUID FEED

When included in complete diet feeds, molasses has a lower substitution effect than alternative dry feed components. As a consequence, dry matter intake [DMI] is boosted.

TABLE 2

Molasses in Complete Diet Feeds [Kg / head / day]

Molasses - [% of DMI]	0	5	10	15
Molasses - DMI kg	0	0.83	1.74	2.73
Other Feeds - DMI kg	14.80	15.77	15.66	15.47
Total Feed - DMI kg	14.80	16.60	17.40	18.20

Source: Murphy, JJ 1996 –
Animal Feed Science and Technology, 78: 189 - 198

In the above trial, the inclusion of molasses at a 5% of DMI rate had a zero substitution effect. Feeding 0.83 kg of molasses dry matter [DM] led to almost 1kg of other feed DM intake. This happened because, as a liquid feed, molasses:

- (a) Fills the gaps in the rumen left by solid feed. Hence, a liquid may be fed when the rumen would otherwise be full with solid feed, and
- (b) Improves the texture and palatability of mixed feeds and has a synergistic effect.



AS A HEALTH ENHANCER

In complete diet feeds, molasses reduces sorting. In doing so, it reduces rumen acidosis in cows that are predisposed to overindulging on the concentrate portion of their diet. Furthermore, it improves the fertility of timid cows that would otherwise be left to make do with the more fibrous and less nutritious diet components.

SUMMARY - KEY BENEFITS OF MOLASSES

- » It is a good energy source.
- » Increases overall dry matter intake (DMI), leading to increased milk yield and beef LWG.
- » Raises the level of milk solids.
- » Improves herd health and herd fertility by:
 - reducing sub-acute acidosis and lameness
 - reducing the 'sorting' of feed ingredients
- » Increases fibre digestion - making greater use of forage in the total diet.
- » As a silage additive, it accelerates fermentation and increases DMD of silage.
- » Reduces or eliminates feed wastage



