

MAIZE FOR BEEF



What varieties should I be using to feed beef cattle?

As with maize for dairy cows, harvesting at the optimum dry matter content is key to producing high quality silage for beef cattle.

You should aim to harvest at 30% dry matter to optimise starch content, energy and digestibility.

Harvesting at 30% dry matter has consistently been seen as the optimum to maximise dry matter intake whilst producing high levels of starch (typically 30%+) and retaining a high level of digestibility as the following table shows:



Dry Matter Content of Maize Silage (%)	25	30	35
Daily Intake of Dry Matter (kg/head)	8.9	10.3	10.1
D-Value (%)	73	68	67
Daily Intake of Digestible Organic Matter (kg)	6.5	7.0	6.8

The key to ensuring that maize is harvested at the optimum dry matter is choosing a variety with good cob ripeness and suitable maturity group for the conditions in which it is to be grown. The picture below shows a mature cob ready to harvest however this is only a guide as whole plant DM% will vary depending on how senesced the stem and leaves are.

Maize Producing and Feeding: Wilkinson, Newman & Allen 1998

Crimped maize provides a high energy density feed for finishing



Maize silage and crimped maize grain is now fed efficiently on many beef cattle units across the UK. If you are in an area of the UK that can successfully grow good maize crops then maize silage should be seen as a low cost high energy basis to the ration.

Care must be taken to ensure that the correct variety for your geographical location and rotation requirements is chosen so speak to the experts and call us for further information.

Crimped crop	ME	CP%	Starch %	Oil %	NDF %	DM%
Maize	14.5	10	70	4.5	14.5	70
Wheat	13.5	14	67	2.7	12	65 - 70
Barley	13.2	13	58	2.8	20	65 - 70
Oats	11.8	13.5	45	3.5	37.5	65 - 70
Lupins	15	37	13	6.0	20	65 - 70
Peas	13.2	28	48	2.1	19	65 - 70
Beans	13.9	31	40	3.3	18	65 - 70

Firm Dough

Smallest drop of moisture can be squeezed from grain

Harvest for forage now



Approx. 30%



Grainseed Ltd

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Why feed maize to beef cattle?

The benefits of feeding maize silage to dairy cows has long been acknowledged, however in more recent years maize silage and crimped maize grain has been used extensively in beef production. The low cost/ha of Dry Matter and Energy provided by a good crop of maize is an extremely cost effective way of:

- increasing dry matter intake
- increasing daily performance (live weight gain)
- reducing the number of days to finish
- reducing the amount of feed required to produce a kg of gain (FCE)
- reducing the cost of production
- increasing carcass weight in finishing stock
- improving rumen function
- improving ration efficiency
- Mature maize silage is a better forage to create a finishing ration for beef than grass silage or wholecrop.



With a limit to the amount of grain that can be fed and an inconsistent availability of alternative feeds, along with the volatility of these markets maize can offer a high energy low cost option for feeding beef cattle. From young stock rearing through to finishing, maize silage has been fed efficiently for a number of years and as the table below shows offers a very cost effective way of producing dry matter when compared to alternative forage crops.

	Grazed Grass 10 yearly	Maize Silage	Maize Silage (Grown under plastic)	Wholecrop (No additive)	Kale	Fodder Beet	Grass Silage 3 cuts 7 yearly	IRG cuts 2 yearly
Yield of Fresh Matter (t/ha)	58	42	52	28	50	70	50	53
Typical Dry Matter Content (%)	18.0	30.0	30.0	45.0	14.5	18.0	25.0	25.0
Yield of Dry Matter (t/ha)	10.4	12.6	15.6	12.6	7.25	12.6	12.5	13.2
Total Cost (£/t utilised fresh weight)	11	30	31	47	17	21	27	28
Total Cost (£/t utilised dry matter)	62	100	102	104	116	118	107	112