

Harvest Upon Us

With harvest upon us (it looks as though early drilled crops will be ready this week, and later drilled crops in two weeks time), maize this year does need to be more thoroughly checked for the dry matter of the crop than ever before, due to the record rainfall in August and high average temperatures. The cob is now ready, but the leaf has remained green and lush for much longer than normal.

Therefore the dry matter needs to be accurately assessed, and I have detailed below methods to test the dry matter of the crop using either an oven or a microwave.

Sampling Maize to Assess Dry Matter

To gain an accurate indication of dry matter of a field of maize, plants must be sampled from at least 5 points across the field. At each point select a row of ten plants and choose the plant from that row that looks most representative. Cut the stem approximately 6 to 8 inches above the ground.

Take your five plants and chop them into inch long sections. The cob needs to be cut down its length before being cut into inch sections. Then thoroughly mix the chopped maize in a bucket.

There are two methods for assessing the dry matter: in a microwave or in an Aga or Rayburn.

Microwave Method

Weigh out 500 grams of the chopped maize into a microwave safe bowl. On a setting of 600 watts, heat the maize for 10 minutes. stir and then repeat. stir again and then heat for a further 5 minutes. At this point, weigh the

sample. If the maize feels very dry return it to the microwave for only a minute or two before weighing again. If it is moist, heat for a further 5 minutes. During these last 10 minutes keep a close eye on the maize as if it dries too much it will start to smolder. Remember that the more mature a crop is, the less time it will need to be heated for.

Aga/Rayburn Method

For this method again weigh out 500g of the chopped maize, this time into a baking tin. Place overnight in the bottom oven and weigh again the next morning when the sample has completely dried out.

Calculating the Dry Matter

The dry matter of the sample is the final weight of the dried maize as a percentage of the original weight.

Example: If the original sample weighed 500g and the dried sample was 150g then:

$$(150g / 500g) \times 100 = 30\%$$

Or, more simply, double the final weight and divide by 10

CHOP LENGTH AND HARVESTING HEIGHT

With high yielding crops this year, unless you are very short of food, please cut higher, the bottom 10 cm of the stem of a maize plant contains little feed benefit, it makes the clamp wetter, and you get more effluent as much of the juice of the plant is in this bottom part of the stem.

Chop length relates to fibre requirements, the greater the chop length the more fibre, but generally slightly poorer quality feed. Chop length therefore will really depend upon what you require.

However from feed value alone chop length no greater than 5 cm is considered to be best.

ENSILING MAIZE

The art of any good silage is consolidation and maize is no different to any other crop, and as the crop gets drier consolidation becomes even more important.

Please consolidate as much as possible, and once done the areas which are most difficult to consolidate (the shoulder and corners of the clamp) treat with Salt at ??? to ensure less spillage.

Maize too wet

Where the maize is too wet, then consolidation is not a concern, but the main problem is effluent. Wet maize silage will also reduce the dry matter intake of the animal and hence the end milk yields. Care must also be taken with the pH balance of the feed as wet maize silage can be very much more acidic.

Maize which is too wet means that not all the sugars in the maize plant have been converted to starch. This leads to a loss in digestibility of the maize silage as the valuable sugars, which themselves are very digestible, are lost in the effluent that is produced.

If you have to harvest the crop wet (under 25%) put something else in the silage to 'mop up' the sugars that are produced - sugar beet pulp layered in amongst the maize silage works very well. Chopped barley straw, or better still caustic treated wheat straw placed at the base of the clamp can also work. Do ensure though that good consolidation is achieved if using this method.

Maize too dry

With 50% of the feed value in the leaves and stover of the newer varieties severe reductions in both the yield and quality can be expected from crops which have a dry matter higher than 35%.

Where high dry matter maize silage is harvested good consolidation of the clamp is almost impossible to achieve and additives should be considered to help stop spoilage. As the dry matter gets drier the chop length gets even more critical as the longer the

pieces, the more difficult it will be to achieve good consolidation.

The maximum chop length should be no greater than 1cm with the majority of the material no greater than 0.5cm. For this to be achieved the knives need to be continually sharpened.

There are some indications that where high levels of maize silage are fed then chop length should be slightly longer to help increase the amount of fibre in the diet. This cannot be done where the dry matter content of the maize silage is high.

If you have any queries on harvesting please do not hesitate to contact the office.

