

The abundance of affordable maize silage this autumn has resulted in a lot of farmers having larger stacks than usual. The low pasture covers have also meant that most people are feeding out their maize now. So here are some tips for managing the maize stack to minimise losses and reduce the risk of problems in your cows like abortions.

When a silage stack is opened up for feeding out it is exposed to air. In the presence of air spoilage organisms such as yeasts, moulds and bad bacteria can start to grow. The more acid tolerant ones get going first and break down the lactic acid present in silage which causes the pH to rise. As the pH on the face steadily rises, more spoilage organisms start to grow.

If a silage stack is well compacted at the start then when the stack is opened up the air will not be able to penetrate very far into the face and spoilage will be reduced. Stacks that crumble away freely at the face are at higher risk of spoilage. When removing material from the face it is important to keep the face as tight as possible, and try not to disturb the area behind the face too much. Also make sure that all spilt material is removed daily, as this can be an ideal area for moulds and fungi to grow on.



A well compacted stack with good management of the face.



A not so well managed stack prone to spoilage.

A large stack face that moves back slowly during feeding out will be more prone to aerobic spoilage. Ideally, stacks should be sized so that the face moves back at least 30cm per day (15cm for grass silage). It is a good idea to calculate how big the silage stack needs to be to allow for optimal management of the face during feeding out. Obviously it is a bit late to worry about stack size, however you can still use that equation to work out the minimum amount of drymatter to remove each day to prevent spoilage on the face. Assume 0.3m depth and a stack density of 225kgDM/m³.

For a stack 4.5m wide and a height of 2m, the amount of drymatter removed each day is;

$$4.5 \times 2 \times 0.3 = 2.7 \text{ m}^3 \times 225 = \sim 600 \text{ kgDM.}$$

For a stack 3m high and 5m wide the equation would be;

$$5 \times 3 \times 0.3 = 4.5 \times 225 = \sim 1000 \text{ kgDM.}$$

This shows how important it is to get the stack size right.

Finally, dropping the sheet down over the face each day after silage removal increases the risk of aerobic spoilage. Under the sheet a warm moist environment is created which is ideal for growing moulds, yeasts and fungi. It is better to leave the stack open or, if birds are a problem, cover it with a net.