

Silage Problem Agents

The following guide details problems that can occur in a silage clamp and why they often occur. The aim of the guide is to act as checklist of points to consider when making silage, to ensure that the end result is the very best it can be...

Problem 1: Heating

Silage heats excessively (> 49°C/120°F) during respiration and fermentation

- High dry matter content
- Long chop length
- Slow fill rate (prolonged respiration)
- Inadequate packing
- Air leaks in silo wall
- Contamination with from old silage, manure, etc.
- Overly mature crop
- Poor distribution
- High ambient temperature
- Rain damage during wilting

Problem 2: Poor Aerobic Stability

Silage feeds out hot or poor bunk life

- Slow feedout rate
- Excessive length of time in feed bunk
- Proliferation of moulds and yeasts due to high initial presence and prolonged exposure to air
- Contamination with old, mouldy silage, manure, etc.
- Warm, humid weather
- Long chop length
- Air leaks in silo wall
- Uneven removal of silage from the face
- Inadequate packing
- Crop damage in field from hail, lodging, insects, birds, etc

Problem 3: Surface Spoilage

Excessive surface spoilage

- High dry matter content contributing to air infiltration
- Long chop length
- Inadequate packing
- Poorly sealed cover
- Cover not waterproof or windproof
- Slow feedout rate
- High surface-to-volume ratio

Problem 4: Spoilage in mass

Spoilage occurring within silage mass

- High dry matter content contributing to poor compaction
- Long chop length
- Poor distribution
- Inadequate packing
- Air leaks in silo wall or around doors
- Contamination from old or mouldy silage, manure, etc.
- Crop ensiled too wet
- Pockets of grass, weeds, or soil



Problem 5: Lower intake, less milk

Reduced intake and production

Feeding poor-quality silage:

- Surface-spoiled silage
- Mouldy silage
- Wet, sloppy silage
- High dry matter silage
- High butyric acid concentration (offensive, putrid smell)
- High ammonia concentration
- High nitrate silage

Management factors:

- Feeding silage before fermentation is complete, or when excessive heating occurred due to prolonged respiration
- Change in feeding schedule
- Change in ration ingredients
- Improper ration balancing
- Change in location of feeding
- Faulty equipment
- Change in crop, i.e., new crop silage

Sudden change in climate

Problem 6: Seepage

Effluent or runoff

- Crop ensiled too wet
- Loss of water-soluble carbohydrates and soluble protein
- Chop length too fine
- High populations of microorganisms in effluent can be an environmental concern around the silo and nearby streams and ponds

The Good Silage Checklist

- Select appropriate crop hybrid and variety
- Follow good agronomic practices
- Make sure the silo structure is in good condition
- Cut and wilt forage during favourable weather
- Harvest crops at recommended moisture and maturity
- Chop forage at the optimum length
- Use a bacterial inoculant for more efficient fermentation
- Apply at recommended rate, using a properly-calibrated applicator
- Ensile forage as quickly as possible
- Distribute forage evenly in the silo
- Achieve a high packing density
- Cover and seal silo structure ASAP
- During feedout, remove recommended amount of silage from the unloading face

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