

On-farm silage and TMR spoilage risk checklist

Silage visual inspection – colour

- Pale green / straw yellow – Normal for wilted grass silage
- Light green to green-brown – Normal for grass, cereal, maize silages
- Light amber brown – Mature grass/cereal or bottom of wet silage; may have fruity/sour smell
- Dark olive green / brown – Normal for wilted legumes
- Very dark olive green – Weather-damaged, wet silage; poor fermentation
- Brown – Heating occurred; possible spoilage during storage/feed-out
- Dark brown – Severe heating; poor compaction/sealing; high spoilage risk

Silage smell assessment

- Mild, pleasantly acidic or yoghurt-like – Normal; good lactic fermentation
- Slightly sweet, very little smell – Wilted silage; low fermentation activity
- Sweet, fruity, alcoholic – Yeast activity; risk of instability during feed-out
- Sour, vinegar – Poor fermentation; acetic acid dominance
- Rancid butter / putrid – Clostridial fermentation; butyric acid present; wet/slimy texture
- Tobacco / caramel / burnt sugar – Heat-damaged silage; low nutritional value
- Musty or mouldy – Mould presence; poor aerobic stability; likely rejection by cows

Silage temperature assessment

- Long probe warmer than short probe – Stable clamp
- Long probe 3-5°C cooler than short probe – Medium aerobic spoilage
- Long probe >5°C cooler than short probe – Significant spoilage; plan immediate action

Silage pH testing (based on crop and dry matter percentage)

- Maize silage: pH 3.6-4.2 – Good
- Corn silage: pH >4.2 – Risk of spoilage
- Grass silage (30-50% DM): pH 3.8-4.2 – Good
- Grass silage (30-50% DM): pH >5.5 – Poor fermentation
- Grass silage (>50% DM): pH 4.8-5.5 – Acceptable; higher pH found with higher DM
- pH <3.7 or >5.5 – Red flag; test further



Silage lab fermentation profile

Dry Matter: Appropriate for ration design

Ammonia-N: 1-5% = Good; >10% = Poor fermentation

Total Fermentation Acids: 8-12% DM = Optimal

Lactic Acid: 7-10% DM = Good; >80% TFA = Excellent

Butyric Acid: 0% DM = Ideal; <0.5% DM = good; ≥0.5% DM = Poor fermentation

TMR temperature assessment

TMR outer layer vs. internal: Temp difference <5°C – Stable TMR

Temp difference >5°C – Heating and microbial activity present

Bucket method (6-24h): TMR temp increase >5°C – Spoilage risk

Microbial counts (aerobic stability test)

Risk Level	Yeast (CFU/g)	Moulds (CFU/g)	Enterobacteria (CFU/g)
Excellent	<100,000	<10,000	<300
Moderate	100,000 - 1,000,000	10,000 - 100,000	300 - 1,000
High Risk	>1,000,000	>100,000	>1,000

Feeding hygiene

Feed passage cleaned daily

No old feed residues present – check also the joints and cracks

No visible mould or odour in feed passage

Moisture management

Moisture added to TMR

Feed-out and timing

Silage face exposed <48h before use

TMR prepared fresh and fed promptly

Feed-out adjusted during hot weather or slow intake

Recommendations

If any of the conditions above are present or if your farm is operating in high-risk conditions (e.g., warm climate, extended feed-out times, or addition of water to TMR), consider integrating Selko-TMR into your feeding programme.

For best results, consult with your Trouw Nutrition representative to determine the correct application rate and strategy for your specific situation.

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