

Top Spoilage Affects Bottom Line

Silage stored in bunkers and piles is commonly covered with plastic and tires to seal out water and air. The benefits of covering silos are well documented. Research at Kansas State University found that Organic Matter (OM) losses in the top 4 feet of an uncovered silo are 65%, compared to 12% in a covered silo. The amount of spoilage can vary depending on the size and shape of the silo, adding up to thousands of dollars in losses.

Top spoilage is noticed as a black layer on the top of the silage. Producers sometimes mistakenly believe that only the black silage is spoiled, when in fact, more feed is tainted beyond the black layer. Spoilage also occurs far beneath the black layer. This spoilage represents excessive dry matter loss, decreased available protein and reduced fiber digestibility.

Top spoilage occurs mainly due to the silo lacking coverage from plastic and tires. However, spoilage can occur even when the silage is covered, if the forage is dry and of low density.

Reducing top spoilage can be achieved by:

- Harvesting silage at optimal moisture;
- Thoroughly packing the top layer;
- Applying a chemical preservative (propionic acid based products, sodium benzoate, salt) to the top layer immediately after filling the bunker;
- Covering the silo airtight immediately after filling.

When top spoilage occurs and a black slimy layer is visible, it is important not to feed this to animals. Research shows that consumption of spoiled feed partially destroys the rumen mat and thus reduces animal performance. Spoiled silage should be composted to 130-160°F for 3-4 days and then spread onto fields. This kills the spoilage organisms so they cannot grow on future crops and cause spoilage in the next year's silage.

Taking the proper steps to eliminate top spoilage is an important management tool that will add to your bottom line!