

## Cereal preservation study

To study the preservation of cereals, Dr. Steinhöfel carried out a series of temperature measurements in test silos in Köllitsch. The study shows that only cereals treated with propionic acid and cereals in silage can be stored without major energy loss. After the silo is opened, silage from cereal remains only stable if biological ensiling agents are added.

### Test procedure

The fresh harvested cereal material had a dry substance content of 77%, which was reduced for the purpose of the test to 60% by adding water. The cereal was preserved with 5 different methods:

1. Storage in a bulk pile, without propionic acid
2. Storage in a bulk pile, without 0.7% propionic acid
3. Storage in a 15-litre silage hose, untreated
4. Storage in a 15-litre silage hose, untreated, opened after 10 days
5. Storage in a 15-litre silage hose, untreated, with organic ensiling agent

### Results

The treatment with propionic acid of the cereal stored in a bulk pile and the storage in 15-litre silage hoses with or without ensiling agent resulted in the best preservation of the material over the test period of 30 days.

Analysing the loss arising from contact with air, which was measured with immersed yield screens, the cereal treated with propionic acid and with organic ensiling agent showed the best results. In these cases, the loss was around 4 to 6%, which is acceptable and indicates that aerobic stability was reached. By contrast, the moist cereal stored without any protection showed losses of 32%.

