Hygiene is crucial when using TMR feeding
Arja Seppälä¹, Terttu Heikkilä¹, Harri Miettinen² and Marketta Rinne¹
¹ MTT Agrifood Research Finland, FI-31600 Jokioinen, Finland  ² Kemira Ltd., P.O. Box 330, FI-00101 Helsinki, Finland

Introduction
Total mixed ration (TMR) is an ideal substrate for microbial growth. Spoiling process causes heating in the feed that is normally detected especially during warm weather. The role of hygienic quality of raw materials and propionic acid based preservatives on the aerobic stability of a grass silage based TMR was examined.

Methods
TMR from all fresh raw materials

TMR with 10 % inclusion of one week old TMR (the same recipe)

With or without a stabilizing preservative (solid or liquid)

Measurements of heating process and aerobic stability

Introduction
Hygiene is crucial when using TMR feeding

Temperature changes of the TMR feeds during aerobic exposure

Results
The aerobic stability of TMR was reduced from 66 hours to 9 hours by contamination with a 10 % inclusion of spoiled TMR (P<0.001). All the preservative treatments improved aerobic stability slightly (3.2 hours, P<0.001).

Conclusions
The multi stage chain from field to rumen has many risky steps in regard to feed hygienic quality. Removal of all leftovers from the machinery and the feed bunk is one crucial step in quality control of TMR feeding.