

# MELAVITE ThermoSTOP 5%

***Using organic acids and special preservatives to prevent secondary fermentation of feed.***

MELAVITE ThermoSTOP 5% can cost-efficiently improve taste and intake of ruminant animals' feed, meanwhile provides energy by its carbohydrate and organic acid content. Applying the product prevents warming of TMR during distribution and standstill.

## SUMMER PRODUCT – NEW COMPOSITION

- **ANTIOXIDANT EFFECT**
- **OPTIMAL PH DECREASE**
- **PRESERVES TASTE AND NUTRITIONAL VALUE OF FEED**
- **MAXIMUM PROTECTION**
- **SAFE TO HANDLE**
- **NEW, MORE EFFECTIVE COMPOSITION**

Adding 5% (recommended ratio) of the propionic acid based complex acid solution to MelaVite products offers a safer, wider spectrum protection against warming of TMR. Besides sugar content of molasses, organic acid content is also an easy to utilize energy source for the animals that contributes to enhanced milk yield and liveweight gain.

- It is 90% propionic acid or its ammonium salt, which provide great protection against mildew (Fusarium, Aspergillus, Penicillium) blocking its multiplication and metabolism, preventing mycotoxin production.

- Sorbic acid to tackle yeast fungi causing post warming of TMR. Sorbic acid is especially fungicide, its widespread use as a preservative is based on its counter effect on multiplication of yeast fungi.

- Further organic acids (acetic acid, citric acid, L-ascorbic acid, benzoic acid) and lauric acid as palm- and cocoa fatty acid destillatum. Lauric acid is a medium carbon ring length fatty acid, experiments proved – due to its hydrophobic effect – it can connect to cell membrane, altering its behavior. To make use of this, lauric acid – opposed to short carbon ring length acids, such as propionic acid, formic acid, acetic acid – plays an important role against Gram positive bacteria (Streptococcus sp., Staphylococcus sp., Clostridium sp.). Saprophyte bacteria living in soil, butyric acid producing Clostridium ones, yeast and aerobe bacilli can cause problems, since they can thrive on vegetal materials contaminated with soil. (Especially in case of lower, 7-8cm height stubble fields.) Fighting against Clostridium species is very important, because they bring down quality of feed (haylage), just as of milk.

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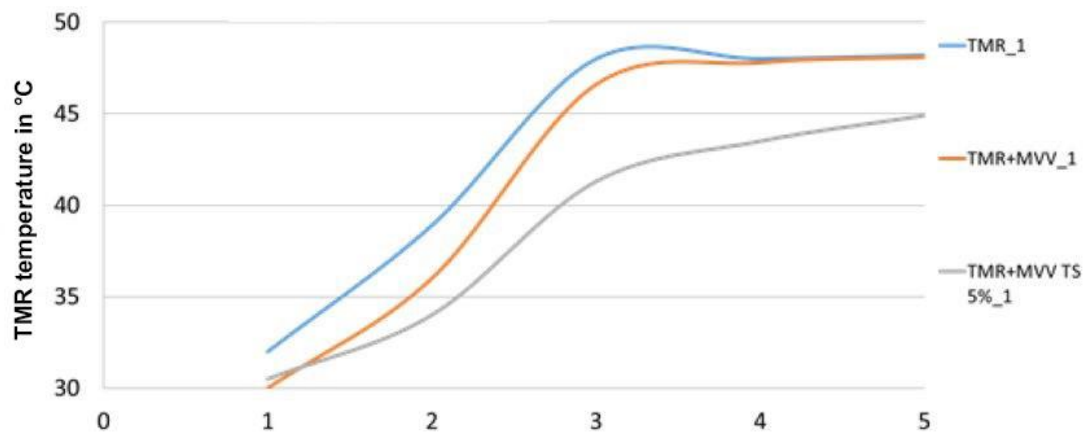


In our laboratory experiments, we analyzed how daily temperature rise in summer affect on temperature of different layers of TMR. We used real-life, fresh, farm made TMR. Readings were taken five times a day, following 1-3-5-7-9 hours after blending samples. Upper, middle and bottom layers of TMR were analyzed, air temperature was also recorded.



Change in temperature of TMR blended with MelaVite MVV ThermoSTOP 5% was the smallest, meaning this product could moderate the most (up to 4°C) warming of feed. With less warming in TMR, microbial activity is also kept lower, less decomposition of valuable content of feed is achieved at the same time.

**Temperatures of TMR lower layers**



	10:30-11:30	13:00-14:00	16:00-17:00	18:00-18:20	19:00-19:20	Change
TMR_1	32,0	38,9	48,0	48,0	48,2	16,2
TMR+MVV_1	30,0	36,0	46,6	47,8	48,1	18,1
TMR+MVV TS 5%_1	30,5	34,0	41,3	43,5	44,9	14,4

TMR with no additives

TMR+MVV\_1: TMR blended with 2,5% MelaVite MVV

TMR+MVV TS 5%\_1: TMR blended with 2,5% MelaVite MVV Thermo Stop 5%