

# orgacell<sup>®</sup> sc 5/10

## Optimizing ruminal functions with live yeast plus valuable protein



- stabilizes the rumen – especially important if animals are stressed
- reduces the risk of acidosis
- provides a high-quality protein source for rumial microbes
- increases ruminal vitamin and biotin production
- reduces amount of feed residue in the manure
- high amount of live yeast: 2000 x 10<sup>9</sup> CFU/kg
- relieves the liver

### Improves feed conversion and animal health

orgacell sc<sup>®</sup> 5/10 is a high-quality feed supplement with a high live yeast content combined with inactive yeast components. Due to a low proportion of vegetable oil, the product is low in dust.

#### Inactive yeast

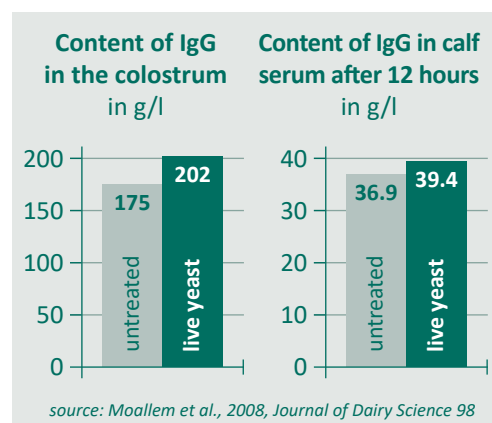
Due to their high binding capacity, yeast cell walls can bind toxins and pathogens and channel them back out of the animal without causing any harm.

#### Live yeast

In orgacell sc<sup>®</sup> 5/10, the live yeast *Saccharomyces cerevisiae* supports the rumen by binding O<sub>2</sub> there and stabilizing the pH value. This enables the beneficial bacteria to better digest fibers. The high-quality microbial protein in the yeast

makes more usable protein available to the cow, which has a positive effect on milk yield.

Trials also showed that feeding live yeast increases the immunoglobulin content in colostrum. As a result, the calves immediately take up more IgG with the colostrum and have a detectably higher IgG content in the blood after 12 h (see graph).



#### Feeding

**Dairy cattle:** 20 g per animal per day  
Feed throughout the whole lactation starting 4 weeks before calving. Mix it with other dry components in the daily feed ration.  
**Should be increased in stress situations to 30 g per animal per day.**

**Beef cattle:** 35 g per animal per day

**Calves for rearing:** 10 g per animal per day

**Packaging:** 20 kg bag



### A practical test from the Czech Republic showed the following results

All measured values have improved significantly: Less lactate and more fatty acids indicate a reduction in the risk of acidosis and an optimization of rumen processes. At the same time, the increase in fatty acids ensures a higher energy yield from the feed. Together with the increased glucose content, this leads to more milk in the tank. The beta-Hydroxybutyric acid value (BHBA in the blood) provides information about the energy balance. The higher it is, the more critical the ketosis risk. The low value shows that the live yeast has relieved the cow's metabolism.

|                  | Untreated | Live yeast |
|------------------|-----------|------------|
| pH value         | 6.4       | 6.6        |
| lactate          | 16.4      | 9.3        |
| fatty acids      | 104.7     | 112.0      |
| ∅ kg of milk ECM | 37.0      | 39.4       |
| glucose          | 3.2       | 3.3        |
| BHBA             | 0.6       | 0.5        |

## Sieve test

Using the simplest of means, the sieve test provides the easiest way to see the effects of feeding live yeast. Put a sample of manure in a common kitchen sieve and rinse until the water runs clear.

The undigested feed components will remain in the sieve. The amount and type of the residue shows the digestion's intensity.

After 3 - 4 weeks of feeding **orgacell sc® 5/10**, repeat the test.

Through the feeding of live yeast the amount of residues is significantly reduced – especially the amount of undigested maize kernels is significantly reduced.



feed ration **without** live yeast



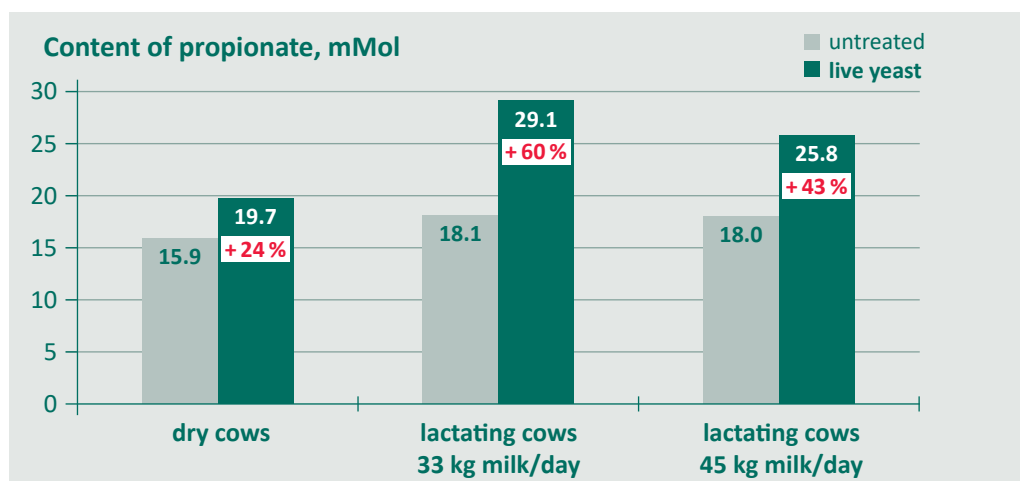
feed ration **with** live yeast

## Effects of the live yeast *Saccharomyces cerevisiae* on the rumen

### Consumes ruminal oxygen

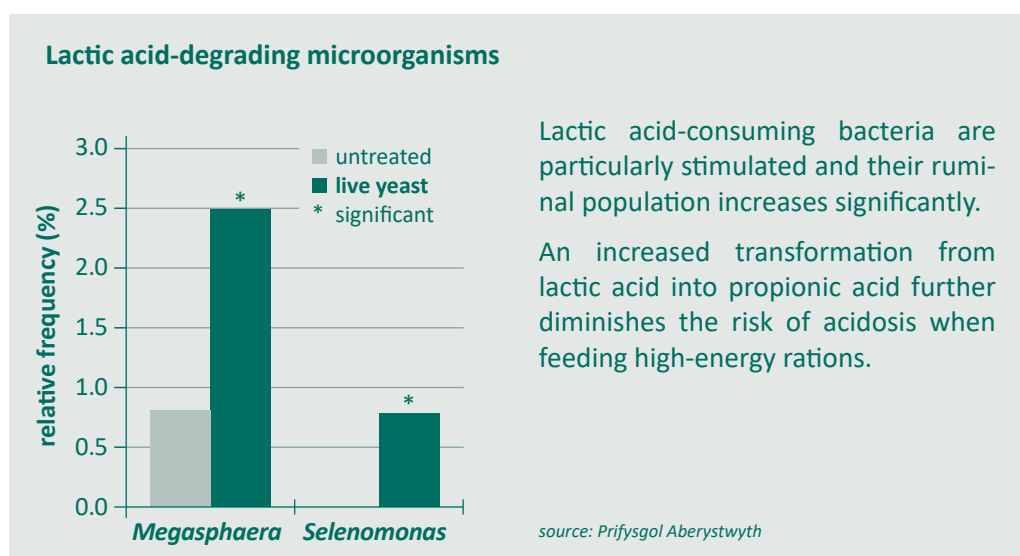
Oxygen is toxic for the most significant ruminal microorganisms. Live yeast reduces oxygen, so the number of cellulose-degrading microorganisms increases. This may be observed in the animals' manure after just a short period of time (see pictures on the left): fibre and kernel residue is reduced. As live yeast binds the oxygen, a higher

amount of free hydrogen will be available for the formation of propionic acid. In the liver, this acid is subsequently transformed into the energy source glucose. In the dry period as well as during lactation, feeding low-energy rations results in an increased production of propionic acid in the rumen.



source: Lesaffre Feed Additives

### Stabilizes the rumen pH value



Lactic acid-consuming bacteria are particularly stimulated and their ruminal population increases significantly.

An increased transformation from lactic acid into propionic acid further diminishes the risk of acidosis when feeding high-energy rations.

source: Prifysgol Aberystwyth

In high-energy rations, stabilizing the rumen pH is of special significance (see chart). If the milk yield is low, a high-fibre feed ration will satisfy the cow's energy requirements (see upper curve).

A rise in the level of performance requires high-energy rations containing starchy feedstuff / concentrate. These result in an increased production of lactic acid in the rumen and a subsequent lowering of the

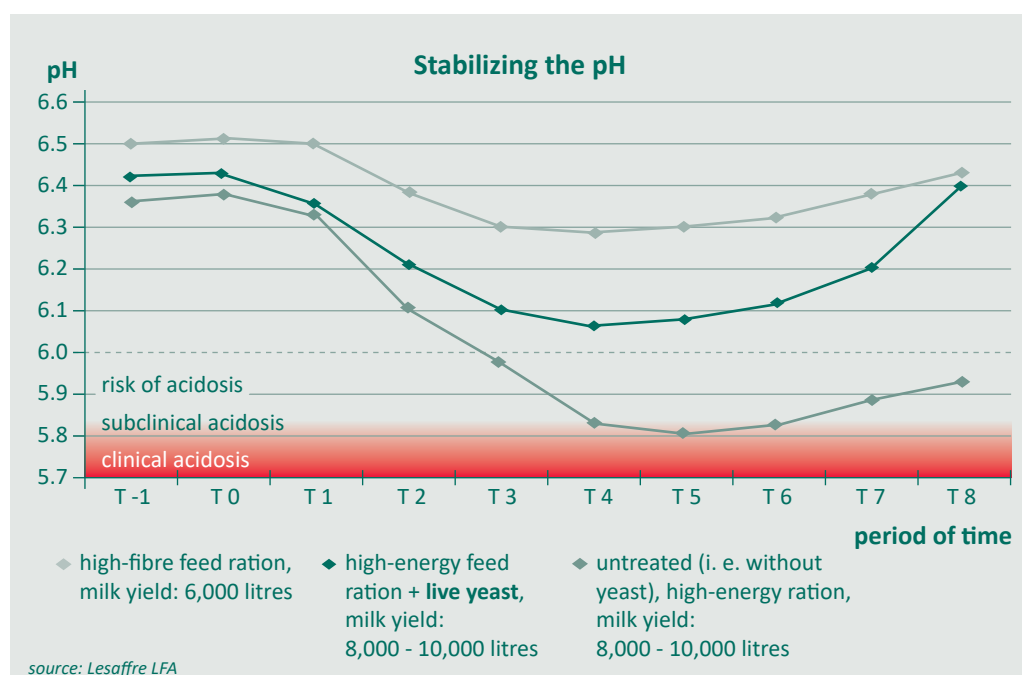
pH when starch/carbohydrates are degraded (see lower curve). If the pH in the rumen drops below 5.8, the rumen villi are in danger of being irreversibly damaged by the acid and at the same time many bacteria die.

The middle curve shows how the live yeast stabilizes the rumen pH despite high milk yield.

## Protecting the bacteria

A well-functioning rumen is the basic prerequisite for a healthy, high-performing cow. The microorganisms in the rumen work anaerobically. The more microorganisms are active in the rumen, the better the feed conversion. Consequently, the goal of every feeding must be to provide an optimal rumen environment for the bacteria.

**orgacell sc® 5/10** supports the rumen microbes and increases microbial activity. This allows the feed to be converted more effectively and also the feed intake increases.



## Please note: detoxification function ceases!

If the pH drops below 6, a vital function of the rumen will falter: The degradation of toxins by single cell organisms like protozoa. Protozoa degrade complicated molecules such as mycotoxins but require a higher pH level for maintaining their vital functions. Thus, a rumen with frequently low pH levels bears the high risk that toxins are not degraded; and further on in the intestinal tract, will get into all organs via the bloodstream.

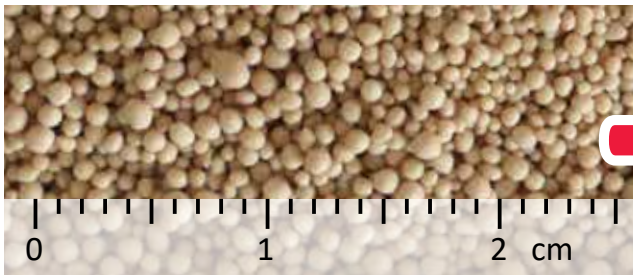
### Double protection against toxins

**orgacell sc® 5/10** stabilizes the rumen pH and thus keeps the rumen villi healthy. These help to render possible toxins harmless. In addition, the yeast cell walls bind toxins and pathogenic germs, which are then discharged from the animal without causing harm.

A high-capacity rumen features a dense "lawn" of villi. Low pH values can really burn the rumen villi due to acid, so that the "lawn" gets holes and feed digestion deteriorates.

## Sum of effects

### Live yeast



Live yeast is activated by moisture and warmth. To guarantee this activation only in the rumen and not already on the feed table, our yeast is equipped with a protective coating.

#### In the rumen itself, live yeast has many effects:

- more effective fiber utilization
- less lactic acid stabilizes the rumen pH
- more propionic acid provides more energy
- relief from (heat) stress
- increase of rumen microbes due to O<sub>2</sub> binding
- increase of colostrum quality

### Inactive yeast

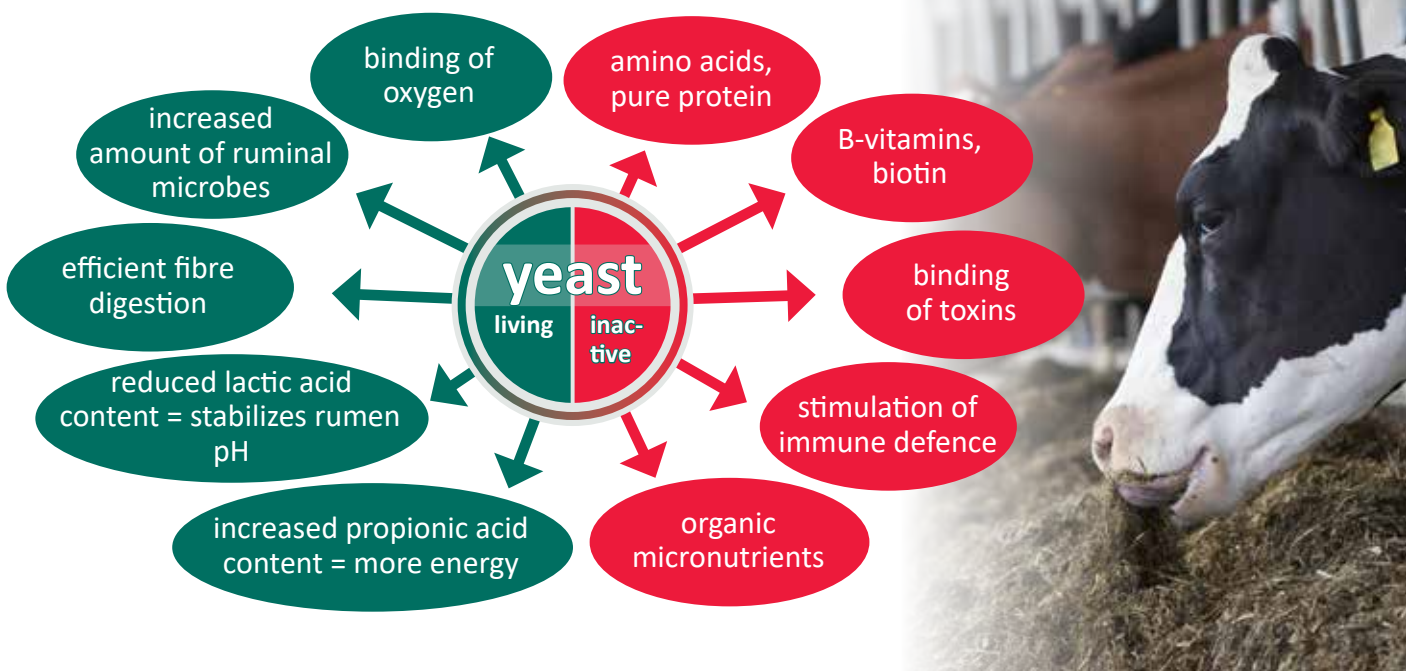


#### Inactive yeast is also more than just a protein supplier:

- trace elements organically bound to amino acids
- B-vitamins and biotin
- binds toxins and pathogens
- stimulates the immune defenses

#### Each yeast source has its advantages, but both together form an unbeatable team:

- feed intake is increased
- animal health is improved
- animal can perform better



#### Distributor:

Tel.: +49 4262 - 20 74 -913 ▪ Fax: +49 4262 - 300 98 19 ▪ int@jbs.gmbh ▪ www.jbs.gmbh  
joachim behrens scheessel gmbh ▪ Celler Straße 60 ▪ D-27374 Visselhövede