jbs rinderhefe 5/10 ph

Feed supplement containing live yeast and phenol to maintain a solid animal health

improved recipe!

jbs rinderhefe 5/10 ph – live yeast is manufactured in a special drying process; spheres of live yeast are produced by coating the live yeast cells in a layer of inactive yeast. This ensures that the live yeast will stay inactive until it enters the rumen all the while remaining protected from air, moisture and fermentation acids.

Improved recipe!
Our well-tested **jbs rinderhefe 5/10 ph** has been supplemented by phenols, which have the ability to render free radicals harmless. Free radicals have negative effects on animal health and are for example produced, if the animal is exposed to heat, a high level of stress, needs to deliver a high level of performance or is giving birth. Using phenols has shown that less vitamin E and selenium is wasted as radical scavengers (antioxidants). This prevents vitamin E or selenium deficiencies and ensures that these important substances are at the animal's disposal for growth, fertility and other tasks.

jbs rinderhefe 5/10 ph contains: live yeast, calcium carbonate, magnesium oxide, phenol.

Application

Application of **jbs rinderhefe 5/10 ph** should start 4 weeks before calving and continue throughout lactation up to the dry period, administering 20 g per animal per day.
jbs rinderhefe 5/10 ph is also suitable for cattle fattening or for female breeding stock, administering 12 - 24 g per animal per day.

Packaging

20 kg bag

A jbs field trial at which 111 farms of our customers participated also confirmed the general trial results. Daily milk yield increased by an average 0.68 kg on all farms, by an average 1.59 kg on the farms feeding in groups. Positive effects on animal health could primarily be observed in cases of the metabolic disorders acidosis and ketose. 100 % of the farms feeding in groups reported a reduced occurrence of cases of acidosis and ketose. Relating to all farms, 90 % were able to observe positive results regarding acidosis, 80 % in cases of ketose.

Average effects of two trials

1. Field trial in France, 541 dairy cows on 22 farms
2. University of Utrecht, 67 dairy cows

production of milk fat & -protein				milk yield	
milk fat (g/day)		milk protein (g/day)			
untreated	**live yeast**	untreated	**live yeast**	untreated (kg/day)	**live yeast**
1. 1199	1254 (+ 55 g)	894	938 (+ 44 g)	27.1	28.6 (+ 1.5 kg/day)
2. 1360	1380 (+ 20 g)	1170	1230 (+ 60 g)	33.8	35.7 (+ 1.9 kg/day)

source: Lesaffre Feed Additives

jbs
growth & success
for the best agriculture – worldwide

At a glance

- increases contents of fat and protein
- increases milk yield
- stabilizes the rumen, especially if animals are stressed
- reduces the risk of acidosis
- reduces the amount of feed residue in the manure
- strengthens cell membranes

Feed Safety GMP+ Assurance

QS. Ihr Prüfsystem für Lebensmittel.

VLOG verified

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 live yeast, repeat the test. Feeding of live yeast is clearly visible in a reduced amount of residue – especially the amount of maize kernels is significantly reduced.

feed ration **without** live yeast

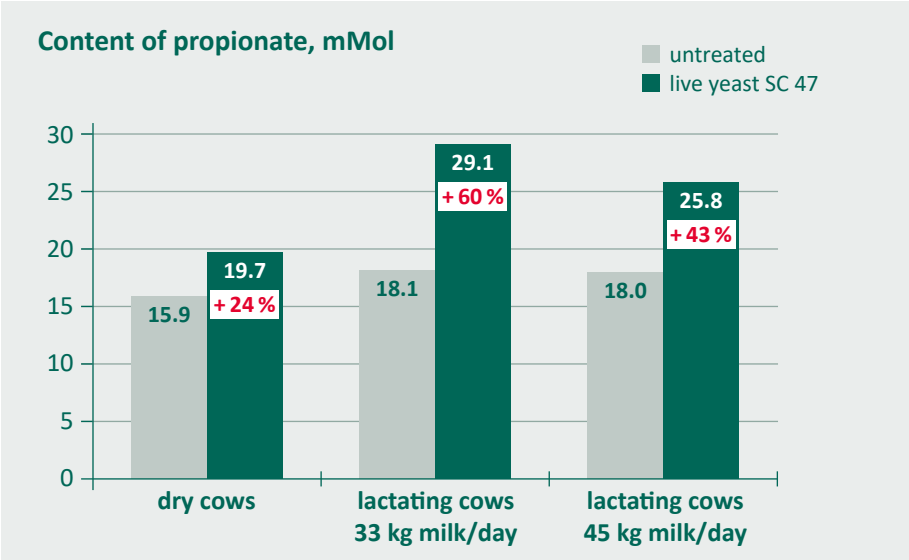
feed ration **with** live yeast

Effects of the live yeast used in jbs rinderhefe 5/10 ph, *Saccharomyces cerevisiae*, on the rumen

Live yeast consumes ruminal oxygen

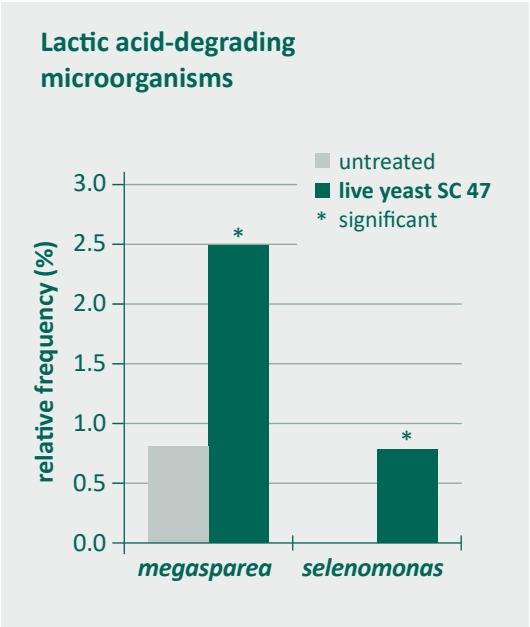
Oxygen is toxic for most ruminal microorganisms. Live yeast reduces oxygen, so the number of cellulose-degrading microorganisms increases. This may be observed in the animals' manure after just a short period of time (see pictures on the left): fibre and kernel residue is reduced. As live yeast binds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

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



source: Lesaffre Feed Additives

Live yeast keeps rumen pH at optimal level



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

Stabilising the rumen pH

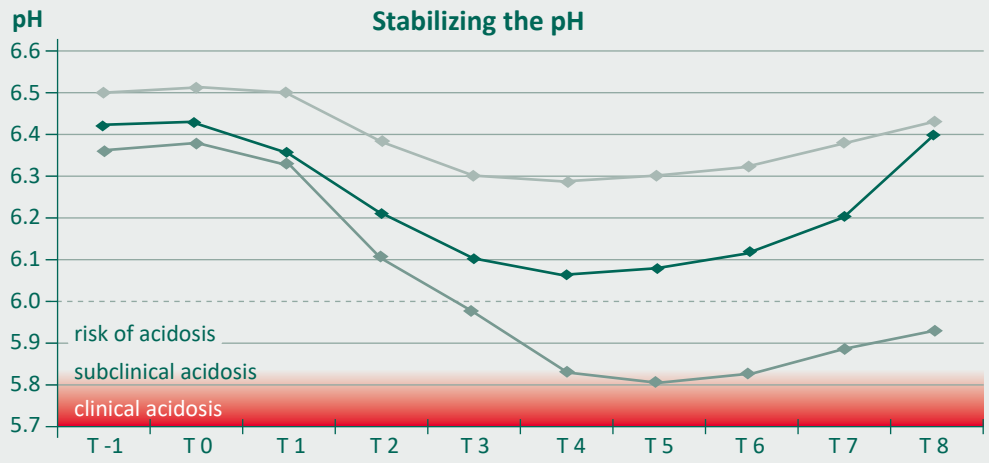
In high-energy rations, stabilizing the rumen pH is of special significance (see graphic). If the milk yield is low, a high-fibre feed ration will satisfy the cow's energy requirements (see upper graph).

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 graph).

A pH-level below 5.8 bears the risk of the acid irreversibly damaging the ruminal mucosa as well as killing a great number of ruminal bacteria. When degrading, bacteria release endotoxins which cause symptoms of poisoning like laminitis. This development may be avoided by feeding live yeast and the pH is kept at a safe level above 6 (see middle graph). This protects both ruminal bacteria and ruminal mucosa.

Ruminal cross-section

A high-capacity rumen features a dense "lawn" of villi.



source: Lesaffre LFA

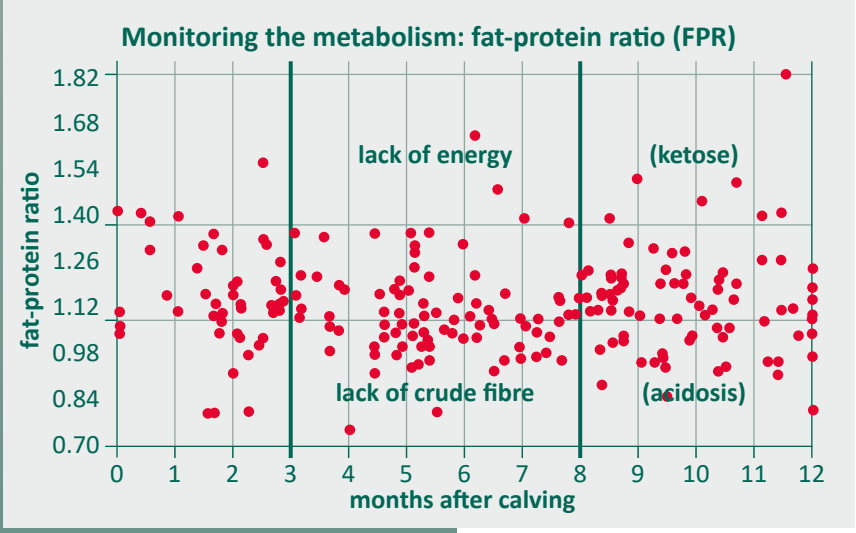
Please note: detoxification function ceases!

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 a high risk that toxins are not degraded and will get into all organs via the bloodstream further on in the intestinal tract.

Improved protein supply

A well-functioning rumen is the basis for healthy, high-yielding dairy cows. The more microorganisms are active in the rumen, the better the feed conversion.

jbs rinderhefe 5/10 ph increases the ruminal microbial population and provides the cow with a better supply of high-quality, easily digestible bacterial protein in addition to improving feed conversion and increasing feed intake. This in turn has positive effects on milk yield.



Milk fat content

The milk fat content depends upon the rumen's acetic-propionic acid ratio.

The higher the content of acetic acid, the higher the content of fat in the milk.

Even though the rumen and therefore the fat content is mainly influenced by the feeding, it is also affected by other criteria such as genetics, breed, season and lactation state as well as by milking equipment and cooling technology.

Evaluating the feeding's success by evaluating milk components

Intensive studies are necessary if specific problems in animal health need to be solved. However, the drawing of samples from the dairy tank as well as the individual results of the analyses required for dairy milk's quality control provide a good data set for a first evaluation of the feeding's success.

Low milk fat content (< 3.6 %)

- shortage of textured crude fibre, reduced rumination (< 40 chewings per bite) → acidosis
- ration's particle size is altogether too small or particles are too big so that the cows are able to sort through the ration and reject certain parts
- too many readily digestible carbohydrates in the ration → acidosis
- too much crude fat (app. > 1 kg/day) results in the formation of conjugated linoleic acid and the inhibiting of the udder's milk fat synthesis
- lack of feed

Increased milk fat content (> 5 %)

- consider the risk of ketose if protein content is simultaneously low (fat-protein ratio ≥ 1,5)
- crude fibre content is too high

Milk protein content

The milk protein content is an indicator for the energy supply. It does not depend as much on the feeding as the milk fat content and is also influenced by genetics, race, season and lactation state. The difference between the protein content in the first and third third of lactation should not exceed 0.6 percentage points per single animal.

Low protein content (< 3.0 %)

- insufficient feed intake
- ration's energy content is insufficient for an adequate performance
- lack of (high quality) protein in the ration

High milk protein content (> 3.8 %)

- amount of concentrated feed / energy components is too high → risk of acidosis
- the protein content tends to be higher if there are problems with udder health

Milk urea content

The milk urea content is an indicator for the feed's crude protein utilization and the functioning of the rumen. It should always be regarded in connection with the protein content (energy supply). Elevated levels of protein in the ration increase the milk's urea concentration. According to milk yield, 300 mg/kg of milk pass for the maximum limit. If the milk protein content is at its normal range (3.2 - 3.6 %) and the urea content is above 300 mg, protein supply should be reduced in order to avoid putting too much strain on the dairy cow's liver.

Always as close as your telephone!

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