

Dairy cows professional feeding



FEEDING WITH SYSTEM

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Drying points

Calving

Start phase

Lactation

BERGOPHOR®

safety components



*A prebiotic obtained as a natural fermentation product of *Aspergillus oryzae*.*

Digest forte

Benefits for dairy cows:

- increase in fungal and bacterial growth in the rumen
- stabilization of the rumen pH value
- increase in NDF and protein digestion
- improved microbial protein synthesis in the rumen
- increase in the formation of volatile fatty acids in the rumen
- increase in nutrient absorption
- increase in dry matter intake
- higher milk yield



A special variant of vitamin D₃ in the form of 25-hydroxycholecalciferol (rumen-protected).

25-hydroxycholecalciferol

“Normal” vitamin D₃ undergoes two metabolic processes in the body, first in the liver and then in the kidneys, before it is available in a bioavailable form. Vitamin D₃ in the form of 25-hydroxycholecalciferol makes it possible to bypass these first metabolic processes. This leads to a faster and more efficient absorption of vitamin D₃, which increases the vitamin D level in the blood.

Vitamin D₃ in the form of 25-hydroxycholecalciferol is one of the most modern and safest sources of vitamin D.

Vitamin D₃ in the form of 25-hydroxycholecalciferol is largely protected from degradation in the rumen and can therefore be absorbed directly from the small intestine into the blood.



*A rumen-optimized live yeast (*Saccharomyces cerevisiae* CNCM I-1077 (4b1711)) with high dosage of oxidation protection.*

Live yeast

- ruminant-specific live yeast with optimized effectiveness in the rumen
- strong encapsulation through a dead yeast protective layer for very high stability in mineral feed
- increase in NDF digestibility and improvement in feed efficiency
- stabilization of the rumen pH value and thus a reduced risk of acidosis
- increase in the amount of fiber-degrading bacteria and fungi in the rumen
- less body weight loss in the first 30 days of lactation*

*Source: Summary of various commercial trials with *S. cerevisiae* CNCM I-1077 in dairy cows around calving on milk production and body weight loss (Bach A., IRTA, Spain, 2012; Schwarz. F.J. and Ehle T., University of Weihenstephan, Germany 2002; Temim S., Veterinary School of Algiers, Algeria 2009)

BERGOPHOR®

safety components



Vitamins in rumen-protected form are only broken down to a small extent in the rumen.

Vitamin-Complex A-D₃-E

The new concept of the fat-soluble vitamins A, D₃ and E in a rumen-available and rumen-protected form guarantees an optimal supply of the rumen flora and, through rumen protection, a direct supply of the vitamins in the small intestine and thus a significantly higher effectiveness of the sensitive vitamins in the metabolism.

The supply recommendations for vitamin D₃ have been increased by the GfE. This makes a lot of sense in terms of the effect on immunity and fertility.



An individually synchronized combination of vital substances.

Macrominerals & trace elements

Highly available macrominerals (Ca, P, Mg, Na) and trace elements (Zn, Mn, Cu, Co I, Se) cover the need and ensure animal performance.

Vitamins

An optimized and highly effective vitamin provision strengthens the body defense and lowers the morbidity risk.



A special combination of highly active, herbal polyphenols in water soluble form.

Natural polyphenols

- reduce the formation of free radicals in the metabolism and therefore also have anti-inflammatory properties
- reduce the metabolic load in stressful phases

BERGOPHOR® Zellschutz Milchvieh (cell protection dairy cow)



A special combination of natural polyphenols from various plant extracts. The active ingredients in the **BERGOPHOR® cell protection dairy cow** are protected against degradation in the rumen by a special fat coating. They are available for metabolism directly in the small intestine.



A special combination of essential oils and plant extracts that significantly improve rumen metabolism and positively influence the composition of the rumen flora.

Essential oils

- the feed protein is degraded more slowly in the rumen, creating more rumen-stable protein
- ammonia- and methane-forming bacteria are deliberately suppressed
- significant increase of propionic acid formation in the rumen to stabilize the blood sugar level and improve the energy supply
- active liver protection and effective ketosis prevention
- improvement of crude fiber digestion (NDF)
- more rumen-stable starch
- higher milk yield due to higher feed intake and improved feed conversion



An ideal combination of a rumen-protected and a rumen-available selenium compound to improve the availability and absorption of added selenium in the organism.

Rumen-protected sodium selenite

The rumen-protected sodium selenite passes the forestomachs undegraded and reaches the small intestine, the place of absorption. Selenium is released and absorbed.

An improved and efficient supply of selenium is the result. The rumen-available sodium selenite ensures optimum selenium supply of rumen flora.



A special combination of a rumen-protected and a rumen-available selenium compound included a highly effective organic selenium source in form of selenium yeast.

Highly effective selenium source

In selenium yeast the selenium is integrated into sulphur-containing amino acids. Thus selenium becomes highly usable and is resorbed easily and quickly. The protective functions of selenium (antioxidant, cell protection) take real effect. The selenium source is stored in the tissues and is set free increasingly with high metabolic performance.

- improvement of fertility, less complications after birth
- improved selenium provision of the unborn calf, less embryonic losses, higher resistance
- higher level of immunoglobulins in the colostrum, support of udder health
- strengthen the antioxidative and immune system



Drying points	Dry standing	Calving
START	- 8 WEEK	START

BERGO CuraDes

KULMIN® LEINEX Dairy (Page 17) &

KULMIN® ProVit HL m. line (Page 22)

KULMIN® MFV Digest, KULMIN® MFV PI
KULMIN® MFV komplett (Page 12)

KULMIN® TocoBolus S + L (Page 15)

KULMIN® V
(Page 12)

KULMIN®
Bolus (Page 12)

KULMIN®
S + L (Page 12)

100 g per animal

500 g per animal

or

1 kg per animal



KULMIN® plus® (Page 11)

KULMIN® Digest forte 100 (Page 20)

KULMIN® &

KULMIN® ProVit HL marketing line (Page 22)

KULMIN® Vital-Drink
(Page 14)

KULMIN® Ca + D
(Page 14)

KULMIN® TocoBolus
(Page 15)

KULMIN® Toco forte 100 2.0 (Page 18 - 19) - 200 g per animal

KULMIN® Lacto HL 50 (Page 16) - 1 kg per animal

or

KULMIN® Lacto HL 100 (Page 16) - 2 kg per animal

Selective drying

Reduce the use of antibiotic drying agents and strengthen the immune system with the

BERGOPHOR® concept

To identify **udder-healthy** and **udder-diseased** cows, it is important to look at the individual animal cell count at the last **milk performance test** before drying off!

Based on the cell count, the cows can be subdivided as follows and proceed accordingly:

under 100.000
cells



Udderly healthy cows

California mastitis test is negative

- ✓ drying without antibiotics
- ✓ use of an internal teat sealer
- ✓ support for the immune system

100.000 to 200.000
cells



Udder stable cows

California mastitis test is negative

- ✓ drying without antibiotics
- ✓ use of an internal teat sealer
- ✓ support for the immune system

California mastitis test is positive

- ✓ dry spots with antibiotic
- ✓ use of an internal teat sealer
- ✓ restoration of the immune system

over 200.000
cells



Udder sick cows

Important: Develop a concept with the farm vet!

- ✓ Mastitis diagnostics - quarter milking samples 2 weeks before drying off to analyze mastitis pathogens (environmental/cow-borne)
- ✓ dry spots with antibiotic
- ✓ use of an internal teat sealer
- ✓ restoration of the immune system

BERGOPHOR[®] concept

for selective drying

DRYING POINTS

START
TROCKENSTELLEN

KULMIN[®]
TocoBolus
S + L (Page 15)
1 bolus each



- 8 WEEK



(Page 18 - 19)
100 g per animal

CALVING

KULMIN[®]
Ca + D Bolus
(Page 14)



KULMIN[®]
TocoBolus
S + L (Page 15)
1 bolus each



KULMIN[®] Toco forte 100 2.0
200 g per animal

BERGO CuraDes plus[®] (Page 11) - 100 - 150 g per m²

START PHASE

1 WEEK

2 WEEK

WITHOUT HYGIENE

it doesn't work!

Hygiene during drying off is

essential to avoid

new infections during the drying off period. User hygiene during the application of the internal teat sealant plays a particularly important role.



If **hygiene standards** are **not observed**, there is a risk of actively introducing pathogens into the udder and promoting **infection**.

HYGIENIC

APPLIKATION



- 1 wear clean disposable gloves during work



- 2 perform milking as usual (pre-milking, udder cleaning, milking process)



- 3 checking the empty udder



- 4 clean teat tip, especially teat canal opening, with disinfectant wipe (1 wipe per teat)



- 5 teats away from the user first to avoid re-contamination of the teats close to the body



- 6 allow disinfectant to dry briefly



- 7 place the internal teat sealant on the teat (do not place in the milking parlor, do not preheat in water)



- 8 remove the protective cap on the tip with your fingers



- 9 do not touch the injector tip



- 10 close the teat at the base of the teat with your fingers



- 11 slowly introduce teat sealant into the teat = ensure proper filling of the teat



- 12 post-dip with teat disinfectant, then rinse out the dip cup

Hygiene for dispersion

BERGO CuraDes plus®

Item no. 60#6

Trading unit:

Bag 20 kg, BigBag 400 kg / 1.000 kg

BERGO CuraDes plus® is a highly alkaline hygiene bedding powder made from various mineral components. It helps the bedding to dry out quickly and raises the pH value. When used continuously, the pH value in the lying area is kept constantly in the highly alkaline range above pH 12. However, many pathogenic germs require a pH value between 4 and 9 in their environment. **BERGO CuraDes plus®** therefore has a germ-reducing effect and thus ensures optimum hygiene in the stable. The continuous use of **BERGO CuraDes plus®** has been proven to kill up to 99 % of germs.

- binds moisture and reduces ammonia emissions
- can be excellently processed with all bedding machines or by hand
- is residue-free in biogas plants
- is listed in the german input list for organic farming

DLG Quality Seal

BERGO CuraDes plus® has been awarded the DLG seal of quality for hygiene bedding and bedding materials. The DLG Quality Seal includes tests in the laboratory and in practice.

BERGO CuraDes plus® is tested for:

1. hygienic effect
2. material compatibility
3. dust formation
4. water absorption capacity
5. slip resistance

BERGO CuraDes plus® met all the requirements. These tests are repeated on an ongoing basis.

Use biocides safely. Always read the label and product information before use!

Hazard statements:

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

Precautionary statements:

P102 Keep out of reach of children.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of water

P310 Immediately call a POISON CENTER/doctor

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.



DANGER



Drying points

Dry risers ingeniously supplied



KULMIN® MFV komplett

item no. 0508

Trading unit:

Bag 25 kg, BigBag 500 kg

Special product for the preparation feeding of the dry cow.

- to reduce the risk of milk fever
- supports the immune system in the high-stress phase „birth-near period“
- promotes the development of a vital calf
- has a clearly positive effect on the postnatal phase and the start of lactation
- effective ketosis prophylaxis even before calving
- targeted inflammation management in the period close to birth

Special ingredients:

Digest forte

25-HYD



SECUSE plus



-vital substances

*Contains **Digest forte** in the concentration recommended for dry cows.*

Recommendations for use:

3rd to 4th week before calving until calving
1.0 kg - 1.5 kg per animal and day

KULMIN® MFV Plus

item no. 0354

Trading unit:**Bag 25 kg, BigBag 500 kg**

Special product for preparation of dry cows within last 4 weeks before calving to reduce the risk of milk fever. For ideal rumen conditions at the beginning of lactation and with special liver protectants.

Special ingredients:

Contains **Digest forte** in the concentration recommended for dry cows.

Recommendations for use:

1st to 4th week before calving
100 - 200 g per animal and day

**KULMIN® MFV Digest****NEW!**

item no. 0101

Trading unit:**Bag 25 kg, BigBag 500 kg**

Special product for preparation of dry cows within last 4 weeks before calving to reduce the risk of milk fever. For ideal rumen conditions at the beginning of lactation.

Special ingredients:

Contains **Digest forte** in the concentration recommended for dry cows.

Recommendations for use:

1st to 4th week before calving
100 - 200 g per animal and day



Drying points

Dry risers ingeniously supplied



KULMIN® Phos

item no. 0340

Trading unit:

Bucket 20 kg, Tub 70 kg

Licking material fully vitaminised and high in phosphor, for diets high in calcium or respectively to prevent hypocalcaemia within last three to reduce the risk of milk fever in the last 3 - 4 weeks before calving.

Special ingredients:



-vital substances

Recommendations for use: dairy cows 100 - 200 g per animal and day
young cattle up to 100 g per animal and day



KULMIN® Phos Vital HL

item no. 0510

Trading unit:

Bucket 20 kg, Tub 70 kg

Licking material fully vitaminized and high in phosphor with organically bound trace elements, selenium yeast and a special biotin dose for diets rich in calcium and low in phosphor or respectively to prevent hypocalcaemia. In the last three to four weeks before calving. For optimal supply of dry cows.

Special ingredients:



-vital substances

Recommendations for use: dairy cows 100 - 200 g per animal and day
young cattle up to 100 g per animal and day

KULMIN® Phos-OLB

item no. 0403

Trading unit:

Bucket 20 kg

Highly pressurised mineral feed rich in phosphor to provide vitamins, minerals and trace elements, especially for steaming up dry cows in the last 3 - 4 weeks before calving (to prevent hypocalcaemia).



Special ingredients:

 -vital substances

Recommendations for use: dairy cows 100 - 200 g per animal and day
young cattle up to 100 g per animal and day



KULMIN® Phos-OLB is suitable for ecologic production of agricultural products of animal origin according to EU Eco Regulation (EC) No. 2018/848 and 2021/1165. Certified by QAL GmbH DE-ÖKO-060, and manufactured according to the requirements of Bioland e. V. Listed on the FiBL-list of organic farming products in Germany.

Calving

Safety after calving



KULMIN® Ca + D Bolus

item no. 0566

Trading unit:

1 Pack = 4 Boli à 175 g

Dietary supplementary feed in bolus form for dairy cows to reduce the risk of milk fever and subclinical hypocalcaemia.

Milk fever or hypocalcaemia (low calcium levels in the blood) is a metabolic disease in dairy cows caused by calcium deficiency in the blood around calving and at the beginning of lactation. Multiparous high-yield cows are often affected. Cows that have already had milk fever in a previous lactation are at high risk of becoming ill again.

KULMIN® Ca + D Bolus enables a continuous increase in the calcium blood level for 8 - 12 hours after administration and is an ideal supplement to a calcium infusion administered by the veterinarian.

Recommendations for use:

Give a **KULMIN® Ca + D Bolus** to the cow immediately after calving. Give a second bolus within 12 hours. From the first signs of labor until two days after the calf is born.



KULMIN® Vital-Drink

item no. 0474

Trading unit:

Bucket 8 kg, Bag 15 kg

Special preparation for cattle to reduce the risk of metabolic disorders, hypocalcaemia and for quick regeneration after calving. Simply mix in the bucket and prepare as a potion after calving. Contains a quickly absorbable and tasty energy package made from glucose, whey and baby milk powder.

Recommendations for use:

1 kg of **KULMIN® Vital-Drink** must be dissolved in at least 20 l of warm water (20 - 25 °C), i. e. 50 g/l water. It is also important that the cows do not have taken up water before the **KULMIN® Vital-Drink**.

Support the immune system quickly

KULMIN® TocoBolus S + L

item no. 0558

Trading unit:

1 Pack = 12 Boli
each 6 Boli KULMIN® TocoBolus S à 90 g
each 6 Boli KULMIN® TocoBolus L à 130 g

Special supplementary feed in bolus form for dairy cows and cattle, consisting of a combination of two boluses to be administered together.

- provide the cow with important components to protect the cells, especially in the transit phase before and after calving as well as in stressful situations - the metabolism is protected from free radicals
- specifically support the natural immune defense
- are suitable for dry cows to support the body's own defenses



Special ingredients:

Recommendations for use: A dose always consists of two boluses (1 x *KULMIN® TocoBolus S* and 1 x *KULMIN® TocoBolus L*).

selective dry cow treatment

1 dose on the day of dry cow treatment. For every cow, regardless of whether an antibiotic dryer is used or not.

prophylaxis in other stressful situations (husbandry stress, heat stress, change in feed)

Administer one dose each

Notice:

transit prophylaxis

1 dose each shortly after calving, as inflammatory processes are to be expected in all cows during this period.

The double bolus inrunner is suitable for entering the *KULMIN® TocoBolus S* and *KULMIN® TocoBolus L* at the same time.

Start phase

Reduce the risk of ketosis



KULMIN® Lacto HL 50

item no. 0362

Trading unit:

Bag 25 kg, BigBag 500 kg / 750 kg

A dietary supplement to reduce the risk of ketosis. With blood sugar-forming substances (propylene glycol, sodium propionate), bypass protein and high levels of active ingredients. Ensures optimal rumen processes and maximum performance with good health and fertility.

Special ingredients:

Digest forte

SECUSEPUS



RumiHYL



-vital substances

Recommendations for use:

To reduce the risk of ketosis

Feeding about 2 weeks before calving, feed 0.75 to 1 kg per animal per day. Feeding 1 kg per animal per day from calving for a period of 3 to 6 weeks.

For convalescence (metabolic support) after acute ketosis

Feeding about 1 kg per animal per day for 4 weeks.



KULMIN® Lacto HL 100

item no. 0363

Trading unit:

Bag 25 kg, BigBag 500 kg / 750 kg

A dietary supplement to reduce the risk of ketosis. With blood sugar-forming substances (propylene glycol, sodium propionate), bypass protein and rumen-protected L-carnitine for active liver protection. Supports metabolic processes and rumen digestion, for good health and fertility in high-yielding cows.

Special ingredients:

Digest forte

SECUSEPUS



RumiHYL



-vital substances

Recommendations for use:

To reduce the risk of ketosis

Feeding about 2 weeks before calving with 1.2 kg per animal and day. Feeding 2 kg per animal per day from calving for a period of 3 to 6 weeks.

For convalescence (metabolic support) after acute ketosis

Feeding about 2 kg per animal per day for 4 weeks.

Support metabolism

KULMIN® LEINEX Dairy

item no. 0597

Trading unit:

BigBag 650 kg

Supplementary feed for dairy cows with particularly highly digestible, extruded linseed and rapeseed meal. The extrusion of the components in **KULMIN® LEINEX Dairy** significantly increases both the overall digestibility of all raw nutrients contained and the amount of metabolically available, essential omega-3 fatty acids. **KULMIN® LEINEX Dairy** maximizes the available energy at the start of lactation and thus makes a significant contribution to supporting metabolism.

→ **high-quality protein**

- high UDP content through patented extrusion process
- small intestine-available lysine and methionine

→ **highly digestible fat**

- increases energy supply and thus contributes to the natural maintenance of liver health

→ **high energy content**

- **KULMIN® LEINEX Dairy** can replace grain in a ratio of 2:1 to 3:1

→ **guaranteed high content of omega-3 fatty acids***

- improve the permeability of the rumen wall and thus lead to an improvement in nutrient absorption
- support fertility and estrus behavior
- increase the natural immune defense in systemic inflammation

→ **higher persistence**

- an optimal course of the lactation curve reduces metabolic diseases and the risk of obesity at the end of lactation

Recommendations for use:

lactation phase:

dry cows

0,4 - 0,5 kg per animal and day

preparers

0,4 - 0,5 kg per animal and day

early lactation

0,7 - 2,0 kg per animal and day

mid lactation

0,5 - 1,0 kg per animal and day

entire lactation

0,8 kg per animal and day



*Source: Zachut et. al. 2011

Start phase

Support metabolism



KULMIN® Toco forte 100 2.0

item no. 0568

Trading unit:

Bag 25 kg, BigBag 500 kg / 750 kg

Special supplementary feed for dairy cows with rumen-protected natural polyphenols to reduce metabolic stress.

In flour form.

By using **KULMIN® Toco forte 100 2.0**, the cows' body's own immune system is significantly supported. Relieving the burden on the metabolism improves milk production and stabilizes udder health.

- contains special develop clay minerals to bind endotoxins
- increases milk performance in the first third of lactation
- scientifically tested*



Special ingredients:

Recommendations for use:

dry cows – 8 weeks before calving

100 g per animal and day

in the first 100 lactation days

200 g per animal and day

from the 100th lactation day

to ensure a high level of performance and
to support a high health status

150 g per animal and day

in exceptional stress situations

200 g per animal and day

For best results it is necessary to use **KULMIN® Toco forte 100 2.0** at least 3 weeks before calving until 100 days after calving.

*Source 1: Practical trials 2022, BERGOPHOR GmbH

Source 2: Archives of Animal Nutrition, 2015, Vol. 69, No. 6, 425-441

KULMIN® Toco forte 100 2.0 P

item no. 0569

Trading unit: Bag 25 kg, BigBag 500 kg / 750 kg

Special supplementary feed for dairy cows with rumen-protected natural polyphenols to reduce metabolic stress.

In pelleted form.

By using **KULMIN® Toco forte 100 2.0 P**, the cows' body's own immune system is significantly supported. Relieving the burden on the metabolism improves milk production and stabilizes udder health.

- contains special develop clay minerals to bind endotoxins
- increases milk performance in the first third of lactation
- scientifically tested*



Special ingredients:

Recommendations for use:

dry cows – 8 weeks before calving 100 g per animal and day

in the first 100 lactation days 200 g per animal and day

from the 100th lactation day
to ensure a high level of performance and
to support a high health status 150 g per animal and day

bei außergewöhnlichen Belastungssituationen 200 g per animal and day

For best results it is necessary to use **KULMIN® Toco forte 100 2.0 P** at least 3 weeks before calving until 100 days after calving.

Start phase

Support metabolism



KULMIN® GlukoMix

item no. 0562

Trading unit:

Barrel 220 kg, Container 1,100 kg

Liquid diet supplement made from isomaltulose molasses, glycerine, sodium propionate solution and propylene glycol to reduce the risk of ketosis that has been specially optimized for palatability and to increase feed consumption (attractant feed). Pure glycerine (99.9 % purity) effectively stimulates feed intake and, as an attractant, can help to optimize the milking frequency (attractant feed). At the same time, part of the high-quality glycerine serves as energy for the rumen flora.

KULMIN® GlukoMix makes a significant contribution to compensating for the energy deficit in high-performance cows during early lactation and to reducing the strain on the metabolism and, in particular, the liver. This makes it easier for the cow's carbohydrate and fat metabolism to return to normal. The cows give more milk with less strain on the metabolism.

KULMIN® GlukoMix is a tasty energy mix for transponders and AMS feeding technology. Cows like to come to the liquid dispenser and to be milked. **KULMIN® GlukoMix** can also be fed with the feed ration. Also ideal for dry cows. Can also be rotated if necessary.

Recommendations for use:

KULMIN® GlukoMix consists of highly effective, tasty glucoplastic substances that support the liver metabolism (gluconeogenesis) and for nutritional support of the metabolic processes subclinical and clinical ketosis. Thanks to its particularly tasty formulation, it can be used successfully as a bait in the milking robot.

To reduce the risk of ketosis

- start feeding from 2 weeks before calving or
- from calving on, feed 670 g per animal and day for a period of 3 - 6 weeks

For metabolic support after acute ketosis

- feed approx. 670 g per animal per day for 4 weeks

During administration of calcium or sodium propionates at the end of pregnancy, an assessment of mineral balance associated with the risk of postpartum hypocalcaemia should be made.

Trading unit:**Barrel 220 kg, Container 1,000 kg**

Liquid supplementary feed comprised of propylene glycol, sodium propionate solution, isomaltulose molasses and glycerin to reduce the risk of ketosis (acetonemia).

Propylene glycol is absorbed very quickly in the rumen and is then directly available to the intermediate metabolism as a blood glucose-forming substance (glucose precursor). Sodium propionate as a natural precursor of glucose also very effectively supports the production of blood sugar, entering the citric cycle from an different pathway. The enzymatically modified sugars contained in the isomaltulose molasses provide the rumen bacteria with fast and slowly available sugars.

KULMIN® ProLac 40 particularly reduces the amount of ketone bodies, e.g. beta hydroxy butyrate (BHB), free fatty acids derived from the body fat metabolism in the blood and the content of triglycerides in the liver in the early lactation. **KULMIN® ProLac 40** significantly contributes to compensate for the energy deficit of high-performance cows in the early lactation and to reduce the burden on the metabolism and in particular the liver. The carbohydrate and fat metabolism of the cow can thus normalize more easily. The cows give more milk with less stress on the metabolism.

KULMIN® ProLac 40 is a tasty energy mix for transponders and AMS feeding technology. Cows like to come to the liquid dosage machine and milking. **KULMIN® ProLac 40** can also be fed via the mixing wagon. Also ideal for dry cows. Can also be drenched in case of need.

**Recommendations for use:***To support metabolic disorders*

After calving, feed with 370 - 500 g per animal per day for a period of 3 to 6 weeks.

For metabolic support after acute ketosis

400 g per animal per day, feed for approx. 4 weeks.

During administration of calcium or sodium propionates at the end of pregnancy, an assessment of mineral balance associated with the risk of postpartum hypocalcaemia should be made.

Lactation

KULMIN® ProVit HL marketing line

With the new mineral and active ingredient concentrates of the **KULMIN® ProVit HL marketing line**, **Bergophor®** offers a unique opportunity to provide high-performance cows with an optimized supply of minerals and vital substances.

Special ingredients:

- Rumen-optimized **Live yeast** with oxidation protection in a high dosage
- **Digest forte** - a prebiotic obtained as a natural fermentation product from *Aspergillus oryzae*
- a combination of rumen-available vitamins A, D₃ and E and rumen-protected vitamins A, D₃, **25-HYD** and E

The new conception of the fat-soluble vitamins A, D₃ and E in rumen-available form guarantees an optimal supply of the rumen flora. Vitamins A, D₃, **25-HYD** and E with rumen protection are available undegraded directly in the small intestine and therefore have a direct and greater effect on the metabolism.

*All products in the **KULMIN® ProVit HL marketing line** also contain the ingredients:*

- **SECUSEP^{plus}** - rumen-available, rumen-protected sodium selenite and additionally a highly effective organic selenium source in the form of selenium yeast
-  - vital substances - organically bound trace elements and B vitamins
- **Biotin**

*We recommend using 1.2 % of the daily ration (DM) for all products in the **KULMIN® ProVit HL marketing line**.*

Amount of milk	Dry matter intake	Recommendation
15 kg milk	15 kg DM	180 g per animal per day
25 kg milk	17 kg DM	200 g per animal per day
35 kg milk	21 kg DM	250 g per animal per day
45 kg milk	25 kg DM	300 g per animal per day

KULMIN® TMR-ProVit HL Digest

NEW!

item no. 0103

Trading unit:

Bag 25 kg, BigBag 500 kg / 1,000 kg

Special mineral feed for the production of partial or **total mixed rations (TMR)**. Suitable for high-performance cows.

*Contains **Digest forte** in the concentration recommended for lactation cows.*

KULMIN® CA-ProVit HL

item no. 0358

Trading unit: Bag 25 kg, BigBag 500 kg / 1,000 kg

For low-calcium rations based on grass silage, with medium proportions of maize silage.

*Contains **Digest forte** in a low concentration to support live yeast.*

KULMIN® FG-ProVit HL

item no. 0373

Trading unit: Bag 25 kg, BigBag 500 kg / 1,000 kg

For rations low in calcium and phosphorus with high maize silage content.

*Contains **Digest forte** in a low concentration to support live yeast.*

KULMIN® TMR-ProVit HL

item no. 0303

Trading unit: Bag 25 kg, BigBag 500 kg / 1,000 kg

Special mineral feed for the production of partial or *total mixed rations (TMR)*. Suitable for high-performance cows.

*Contains **Digest forte** in a low concentration to support live yeast.*

KULMIN® Rumi-ProVit HL

item no. 0455

Trading unit: Bag 25 kg, BigBag 500 kg / 1,000 kg

Special mineral feed and active ingredient concentrate for high-performance cows. Stimulates the rumen flora, lowers the risk of rumen acidosis and reduces protein breakdown in the rumen for more usable protein. It helps to stabilize blood sugar levels, reduces body mass loss after calving and optimizes milk yield and milk components.

*Contains **Digest forte** in a low concentration to support live yeast.*

KULMIN® Rumi-CA-ProVit HL

item no. 0528

Trading unit: Bag 25 kg, BigBag 500 kg / 1,000 kg

Special mineral feed and active ingredient concentrate for high-performance cows with less calcium. Stimulates the rumen flora, lowers the risk of rumen acidosis and reduces protein breakdown in the rumen for more usable protein. It helps to stabilize blood sugar levels, reduces body mass loss after calving and optimizes milk yield and milk components.

*Contains **Digest forte** in a low concentration to support live yeast.*



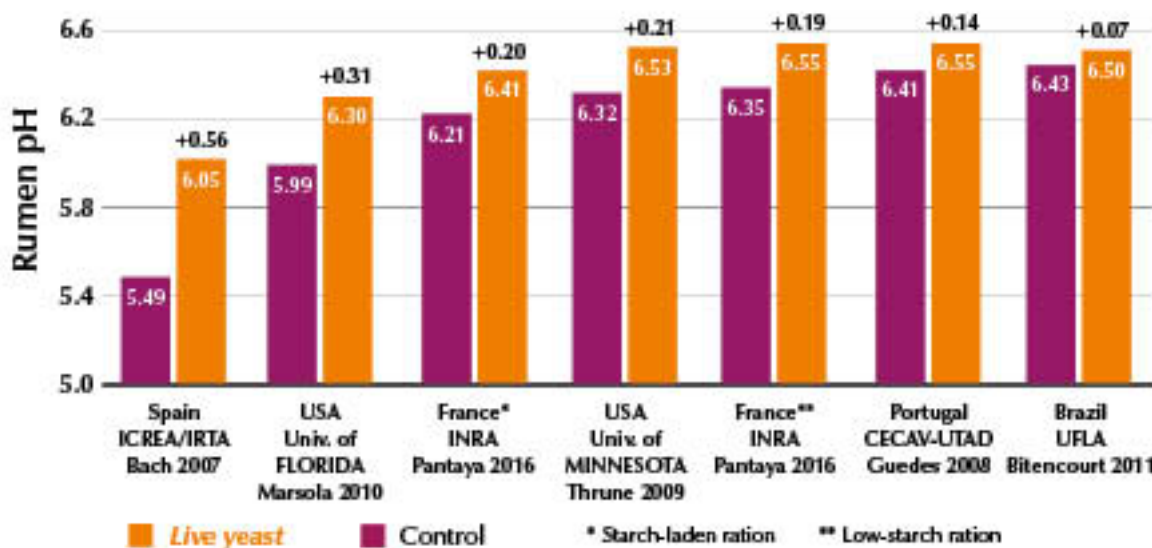


Advantages of live yeast (*Saccharomyces cerevisiae* CNCM I-1077 (4b1711)) **in the KULMIN® ProVit HL marketing line:**

- ruminant-specific live yeast with optimized effectiveness in the rumen
- strong encapsulation through a dead yeast protective layer for very high stability in the mineral feed
- increasing NDF digestibility and improving feed efficiency
- stabilization of the rumen pH value and thus a reduced risk of acidosis
- increasing the amount of fiber-degrading bacteria and fungi in the rumen
- less body weight loss in the first 30 days of lactation*
- proven effects in studies and in practice

Stable rumen pH value

Effect of live yeast (*Saccharomyces cerevisiae* I-1077 (4b1711)) **on rumen pH**

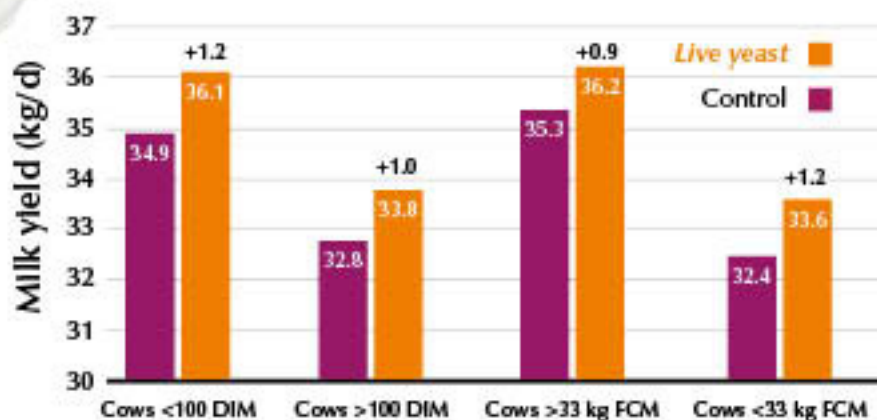


Live yeast increases the rumen pH and reduces the duration in which the rumen pH is in a critical range. This effect is particularly important when using higher amounts of concentrate in the transit phase.

*Source: Summary of various commercial trials with *S. cerevisiae* CNCM I-1077 in dairy cows around calving on milk production and body weight loss (Bach A., IRTA, Spain, 2012; Schwarz. F.J. and Ehle T., University of Weihenstephan, Germany 2002; Temim S., Veterinary School of Algiers, Algeria 2009)

More milk

Effect of live yeast (*Saccharomyces cerevisiae* I-1077 (4b1711)) **10 billion CFU cow/day** according to lactation stage DIM (Days in Milk) and milk yield 3.5 % FCM (Fat-corrected Milk)



Source: Adapted from De Ondarza et al : 2010, Prof.Anim. Sci. 26: 661-666

The use of live yeast results in an average increase of 1.0 kg of milk per cow per day.

The described effect of the live yeast is based on a worldwide meta-analysis of 14 studies with 1,615 dairy cows.*

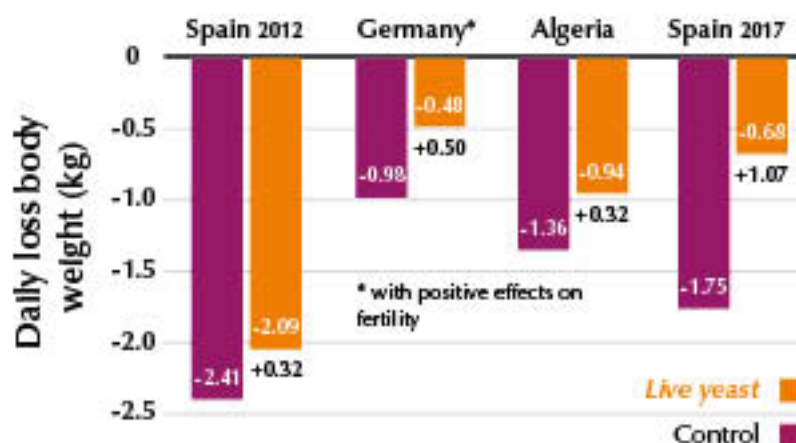
The cows under 100 days of lactation (cows <100 DIM) produced 1.2 kg more milk and those over 100 days of lactation (cows >100 DIM) produced an average of 1.0 kg more milk. The same applies to cows over 33 kg (+ 0.9 kg) or under 33 kg (+ 1.2 kg) of FCM milk.

The effect is based on an increase in NDF digestibility and the stabilization of the rumen pH value in the optimal range.

*Source: The Professional Animal Scientist 2010; 26: 661-666 (De Ondarza MB, Sniffen CJ, Dussert L, Chevau E, Sullivan J, Walker N. 2010. Multi-study analysis of the effect of live yeast on milk yield, milk component content and yield, and feed efficiency.)

Less body mass loss

Effect of live yeast (*Saccharomyces cerevisiae* I-1077 (4b1711))
on post-calving body mass loss



Source: Summary of various commercial trials with *S. cerevisiae* CNCM I-1077 in dairy cows around calving on milk production and body weight loss (Bach A., IRTA, Spain, 2012; Schwarz F.J. and Ehle T., University of Weihenstephan, Germany 2002; Temim S., Veterinary School of Algiers, Algeria 2009)

The use of live yeast reduces the daily loss of body mass by an average of about 550 g.

Fewer cells, more power

Influence of live yeast (*Saccharomyces cerevisiae* I-1077 (4b1711))
on cell count, milk yield and feed efficiency

	Control	Live yeast
Energy corrected milk (ECM) kg/day	29.1	30.9*** (+ 6.2 %)
Feed efficiency (kg ECM/kg T intake)	1.16	1.23 (+ 6.0 %)
cell count / ml x 1000	245	137 ** (- 44.1 %)

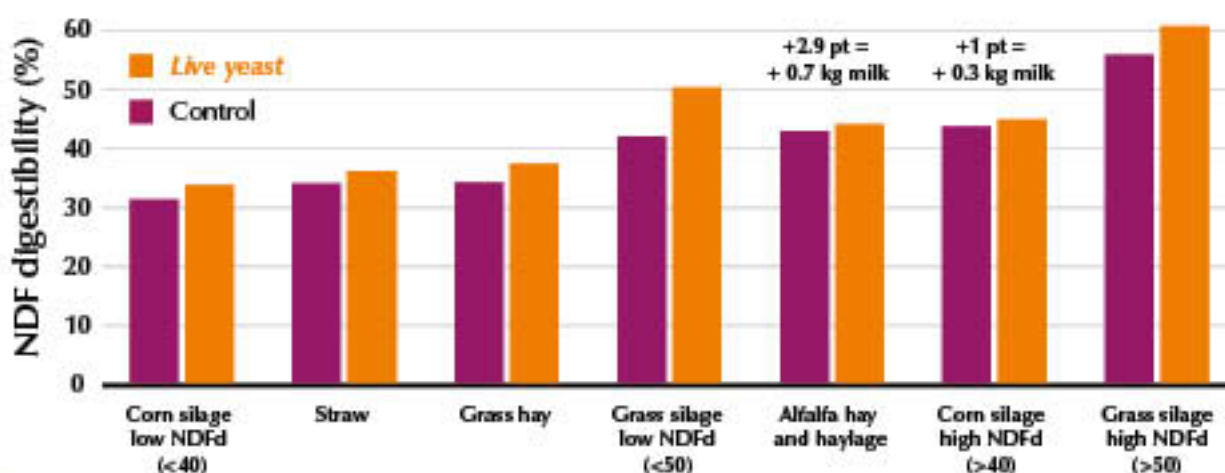
p < 0.05 *p < 0.001

Source: Trial with 38 HF cows from the 115th day of lactation over 120 days. Ration NDF 35.7%, crude protein 15.9%, starch and sugar 25.1%, average feed intake 25.1 kg DM/day, Agriculture College of Toulouse Purpan, France, 2015

The use of live yeast reduced the cell count in the trial, even when the udder was in good health. In addition to the reduction in the cell count, the trial also achieved an increase in ECM milk and feed efficiency.

Better fiber digestibility

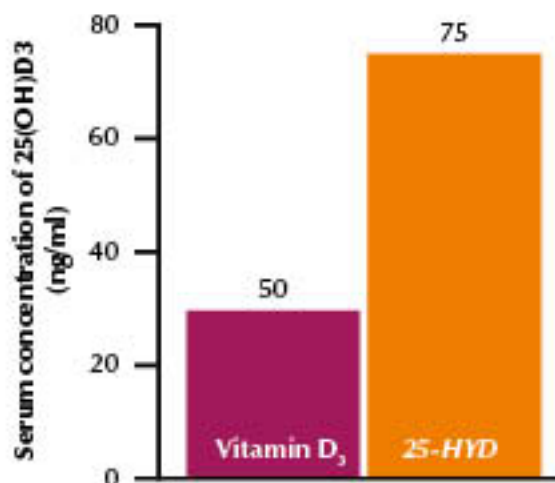
*Effect of live yeast (Saccharomyces cerevisiae I-1077 (4b1711))
on the digestibility of NDF in dairy cows*



Source: Oba M. & M.S. Allen, 1999. Evaluation of the importance of the digestibility of neutral detergent fiber from forage: Effects on dry matter intake and milk yield of dairy cows. *J. Dairy Sci.* 82:589-596

Live yeast increases the digestibility of NDF in dairy cows. This leads to an increase in the amount of milk from the forage and improved feed efficiency.

The effect of 25-HYD supplementation on the amount of vitamin D₃ [25(OH)D₃] in the blood of dairy cows



25-HYD - Vitamin D₃ in the form of 25-hydroxycholecalciferol is largely protected from degradation in the rumen and can thus be absorbed directly from the small intestine into the blood.

Source: Poindexter et al., 2020 - Journal of Dairy Science

Lactation

Optimize digestibility, promote performance



KULMIN® Digest forte 100

item no. 0595

Trading unit:

Bag 25 kg, BigBag 500 kg / 1,000 kg

Special supplementary feed for dairy cows **to improve the nutrient digestibility** of the total ration with **Digest forte**. Contains a prebiotic produced by microbial fermentation (**Digest forte**), which serves as a selective food source, in particular for bacteria and fungi that digest raw fibre.

These therefore multiply more, which increases the production of enzymes for digesting fiber carbohydrates and the formation of volatile fatty acids in the rumen.

The increase in bacterial mass leads to a corresponding increase in microbial protein in the rumen.

The supply of usable crude protein in the small intestine with an ideal amino acid composition is thus increased.

By increasing the enzyme activity in the rumen, the cow has around 10 g more phosphorus available per day through the breakdown of phytin-P.

- improvement of the overall digestibility of the ration by approx 10 %*
- improvement in the digestibility of crude fiber (NDF) by approx 12 %*
- increase in dry matter intake by approx. 500 g per cow and day*
- more usable crude protein in the small intestine*
- higher milk yield*
- higher phosphorus utilization*
- improved nutrient absorption from the intestine*

Special ingredients:

Digest forte

Recommendations for use:

In order to achieve the desired effects, an adaptation phase of the rumen flora of 4 - 8 weeks from the start of feeding is necessary.

dry cows

50 g per animal and day
(from 3 - 4 weeks before calving)

lactation cows

100 g per animal and day

fattening cattle

25 - 50 g per animal and day

*Source: Summary of 8 published research studies: Nocek, J., 2011., Nocek, J., 2009., Chen, C.R., 2004., Varel, V.H., 1993., Beharka, A.A. and T.G. Nagaraja., 1993., Westvig, R.M., 1991., Gomez-Alarcon, R.A., 1991., Gomez-Alarcon, R.A., 1990.

Digest forte

Digest forte as a driver



Increase in **milk yield** in early lactation by an average of

+1 kg/day or plus 4 %

Increase in **feed intake** by an average of

+0,5 kg/DM day or + 6 % DM intake in % of live weight

Better fungal growth

Digest forte stimulates the fiber-degrading fungal and bacterial population naturally occurring in the rumen to increase growth and metabolic activity.

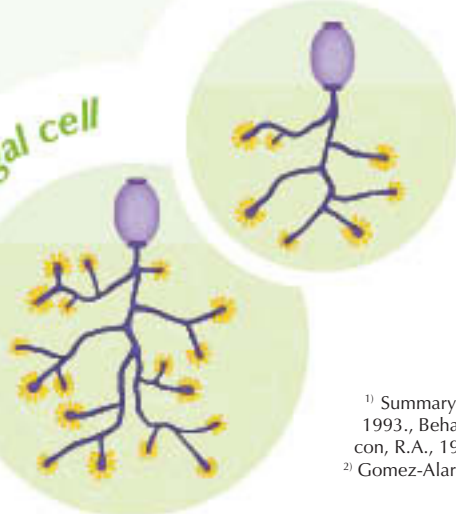
Digest forte leads to a fourfold increase in fungal growth in the rumen. The resulting increase in the size of the fungal mycelium increases the digestibility of the ration.

- Increase in NDF digestibility + 17 % ¹⁾
- Increase in protein digestibility + 10 % ²⁾

¹⁾ Summary of 8 published research studies: Nocek, J., 2011., Nocek, J., 2009., Chen, C.R., 2004., Varel, V.H., 1993., Beharka, A.A. and T.G. Nagaraja., 1993., Westvig, R.M., 1991., Gomez-Alarcon, R.A., 1991., Gomez-Alarcon, R.A., 1990.

²⁾ Gomez-Alarcon, R.A., 1991.

Growth of a fungal cell



	Control	Digest forte
Tribe*	73.4	84.9a
Branch*	17.6	78.8a
Total area*	91.0	163.7a
Trunk/branch ratio	4.17	1.08a
Sporangia* (fungal spores)	68.2	81.5a
Number of branches	3.7	14.1a

*Area in square micrometers

Significant indices are within the same column, P < 0.05

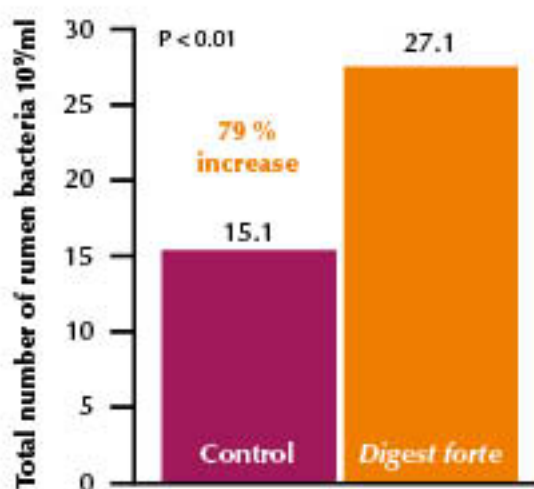


281% or 4 times more branches

Table source: Chang, J.S., E.M. Harper, and R.E. Calza. 1999. „Fermentation Extract Effects on the Morphology and Metabolism of the Rumen Fungus *Neocallimastix frontalis* EB 188“. J. of Appl Microbiology 86:389-398

More rumen bacteria

Digest forte increases the total number of rumen bacteria

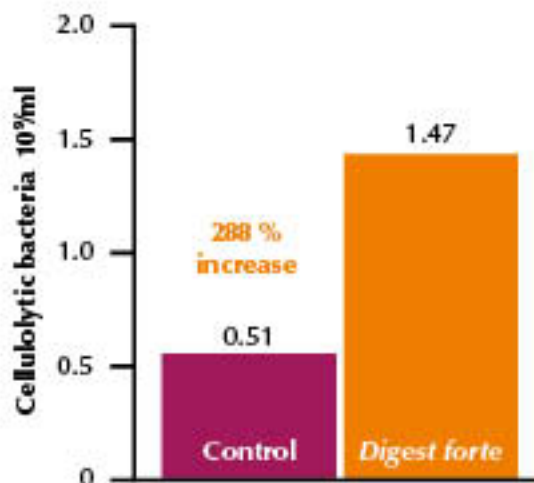


Digest forte resulted in a 79 % increase in the total number of rumen bacteria and a 288 % increase in the number of cellulolytic bacteria with a 45 % reduction in the number of protozoa compared to the control treatment without *Digest forte*.

An increased amount of rumen bacteria increases the overall digestibility of the ration and the amount of bacterial protein.

The reduction in protozoa means less methane is produced in the rumen.

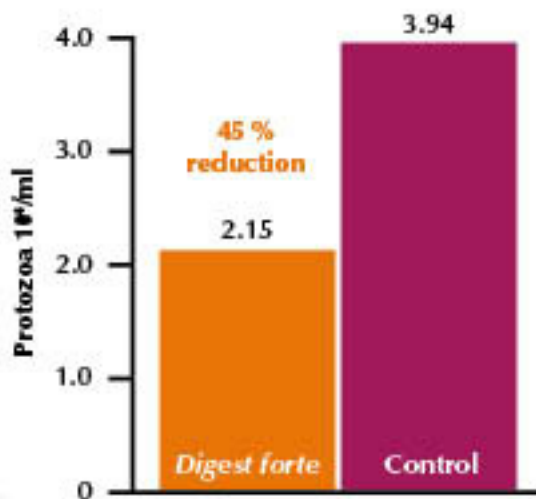
Digest forte increases the total number of crude fiber-degrading bacteria in the rumen



Source graphics: Frumholtz, P.P., C.J. Newbold and R.J. Wallace. 1989. "Influence of *Aspergillus oryzae* Fermentation Extract on the Fermentation of a Basal Ration in the Rumen Simulation Technique (Rusitec)." J. Agric. Sci (Camb.) 113:169–172.

Fewer protozoa

Digest forte reduces the number of protozoa in the rumen



In contrast to bacteria, protozoa are not vital for the COW.

A reduction in the ruminal protozoa density is associated with a reduction in methane emissions per kilogram of dry matter intake

Source graphic: Frumholtz, P.P., C.J. Newbold and R.J. Wallace. 1989. "Influence of *Aspergillus oryzae* Fermentation Extract on the Fermentation of a Basal Ration in the Rumen Simulation Technique (Rusitec)." J. Agric. Sci (Camb.) 113:169-172.

Better feed intake & digestibility

Digest forte promotes feed intake and the overall digestibility of the ration

Digest forte promotes the feed intake of dairy cows and improves the overall digestibility of the ration.

Digest forte leads to an increase in DM intake by an average of **0.5 kg per cow per day** or by **plus 6.3 % DM intake** in % of live weight

	Control	Digest forte	Difference
DM intake in % of live weight	3.95	4.20*	6.3 %
Digestibility %			
DM	64.0	71.9*	12.3 %
Organic matter	65.3	72.9*	11.6 %
XP	70.5	77.6*	10.1 %
NDF	50.7	57.1*	12.6 %
ADF	40.3	48.6*	20.6 %

*P < 0.05

Source: Gomez-Alarcon et al., 1991. J. of An. Sci. 69:1733-1740

Digest forte

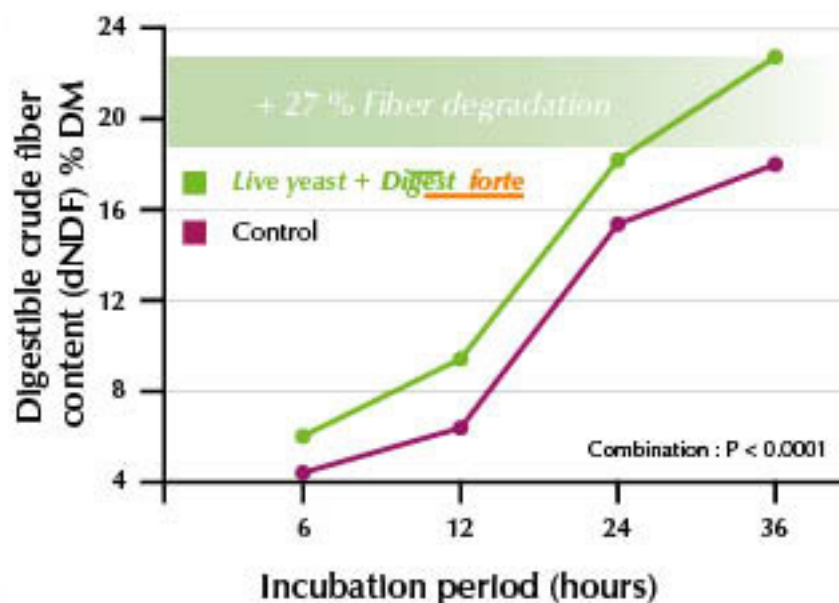
&

Live yeast

Optimized NDF digestibility through perfect synergy

Effect of the combination of live yeast

*(Saccharomyces cerevisiae I-1077 (4b1711)) and Digest forte
on NDF digestibility in the rumen*



Live yeast in combination with Digest forte has a synergistic effect on NDF digestibility in the rumen. The amount of digestible crude fiber increases highly significantly ($P < 0.0001$).

Digest forte

Live yeast

Notes

[illegible]



Livestock-friendly concepts.
Healthy growth.
Ecological responsibility.
Economic success.



FEEDING WITH SYSTEM

Bergophor GmbH

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