

We are on  
your way!



## Energy-Top

Improved Energy Supply in Critical Phases of Milk Production



Stabilisation of physiological digestion  
In case of:

- High somatic cell count
- Decreased milk yield
- Forage quality problems due to toxin contamination

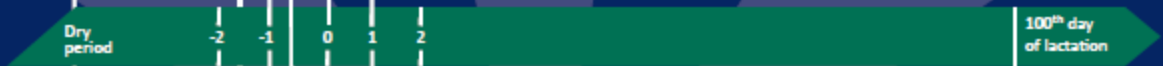
Energy drink after calving

Improved feed intake / against TMR reheating/ energy supply

Fertility problems  
Poor claw quality

Prevention and prophylaxis of milk fever

Prophylaxis and therapy of ketosis



Calci Tonic M

Cal Gel      Keto Gel

Fertility Pack® Cattle

Energy Top

Rescue Kit® ruminant

- >> IMPROVED FERTILITY
- >> HIGH MILK YIELD
- >> BETTER MILK QUALITY
- >> STRONG, VIGOROUS CALVES

June 2014

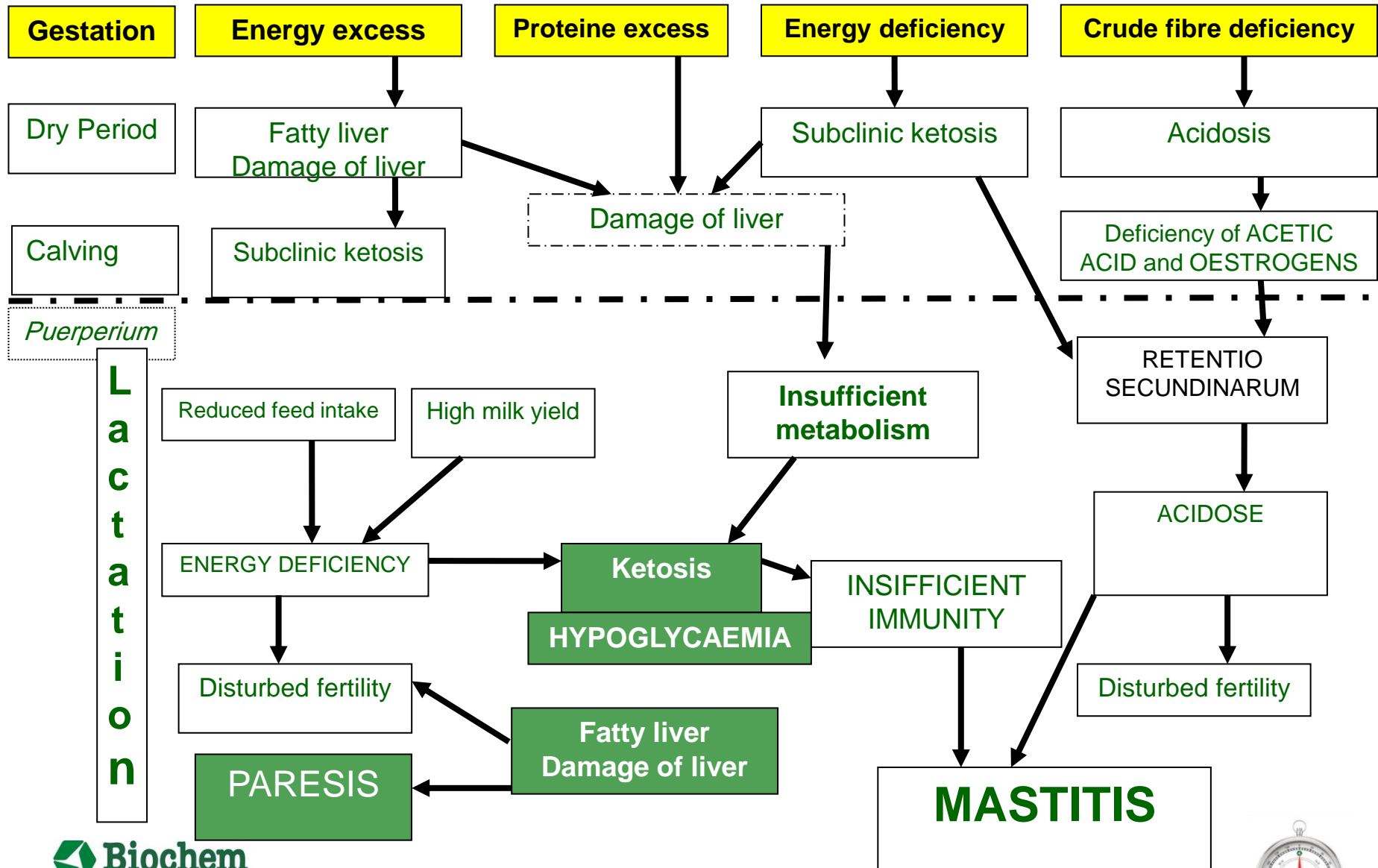
# Energy-Top

Modern dairy farming sets high requirements to you dairy flock

- Targets in dairy production
  - > 9,000 kg milk / cow / production season (305 days)
  - > 3.4% milk protein
  - > 4.2% milk fat
  - > 3.5 lactations / lifetime of cow

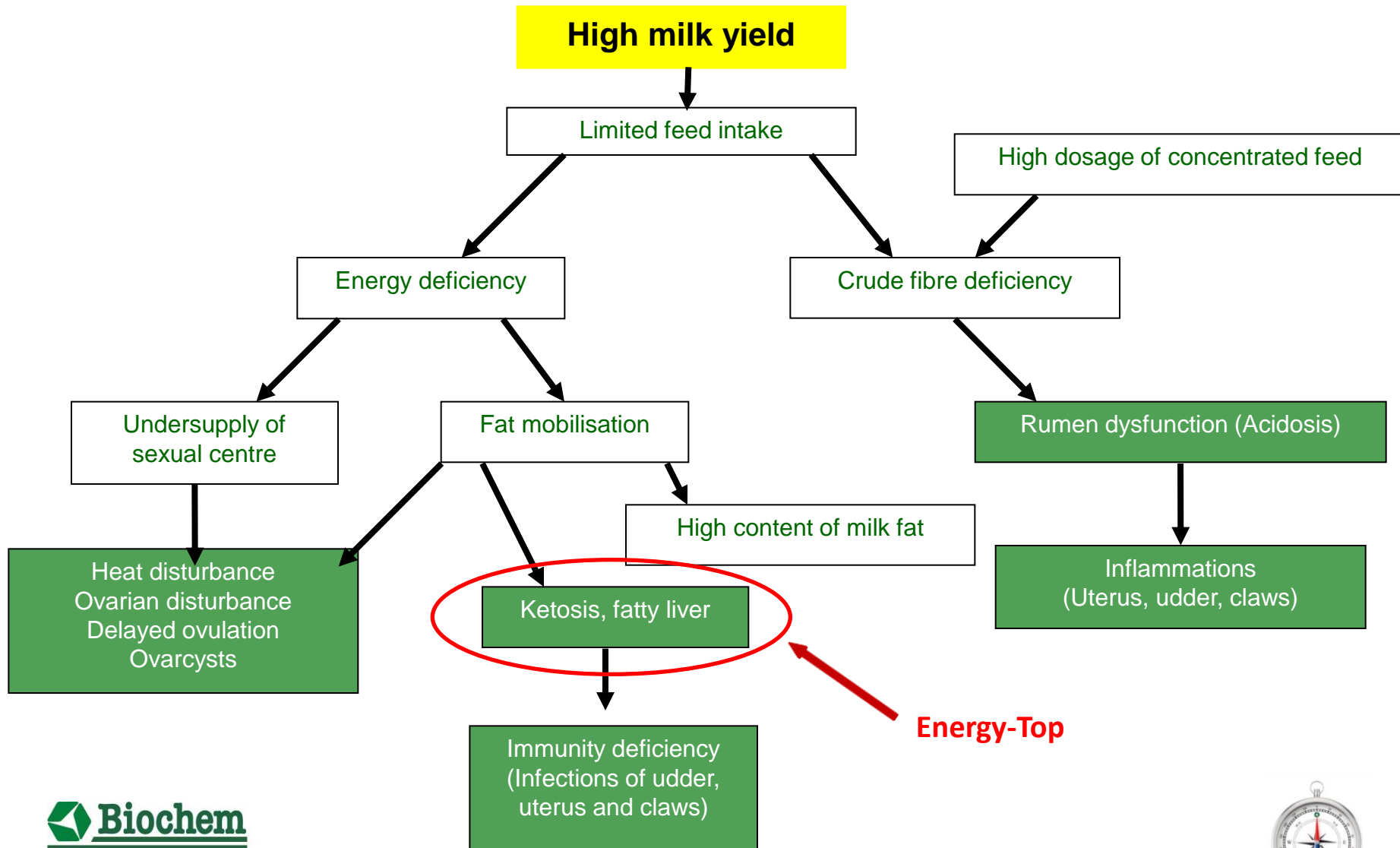


# Importance of prior lactation



# Energy-Top

## High milk yield – Impact on Health and Fertility



# Energy-Top

## Ketosis (Acetonemia)

- **Definition:** accumulation of ketone bodies = acetoacetate,  $\beta$ -hydroxybutyrate, aceton in extracelullar liquids (milk, urine)
- **Incidence:** > 5% in high yielding herds
- **Intensity:** from subclinic to rage attacks
- **Therapy:** glucose infusion
- **Prophylaxis:**
  - Feeding on requirements
  - Usage of glucoplastic energy sources
    - Propylene glycol
    - Propionates
    - Glycerol



# Energy-Top

## Modern dairy farming

- Implemented feeding methods
  - Basic feed + Concentrated feed + Mineral feed
  - Partial TMR + Concentrate
  - TMR
- Main problem which may occur:
  - Reheat of TMR or basic feed
  - Losses of nutrients
  - Decrease of feed intake
  - Decrease of milk yield



# Energy Top

## Reheat of TMR

TMR contains a lot of sugar and starch causing a high risk of reheat

⇒ When silages are instable against reheat

⇒ the risk of „inoculation“ of other components of TMR increases resulting in nutrient losses

⇒ the development of moulds and yeasts starts directly with preparation of the TMR and lasts until feed consumption by the animal

⇒ Liquid feeds are also sensitive for yeasts and moulds

⇒ in case of inadequate cleaning of the feeding system

⇒ in case of long periods between preparation and consumption





# Energy-Top

Solution of these problems

## Energy Top

= Mix of EU approved feed additives to prevent ketosis and reheat of TMR

- ✓ **Characteristic of the product:**
  - ✓ Yellowish liquid with a slight smell of propionic acid
  - ✓ Non-corrosive



# Energy-Top

## Glycerol trial No. 1

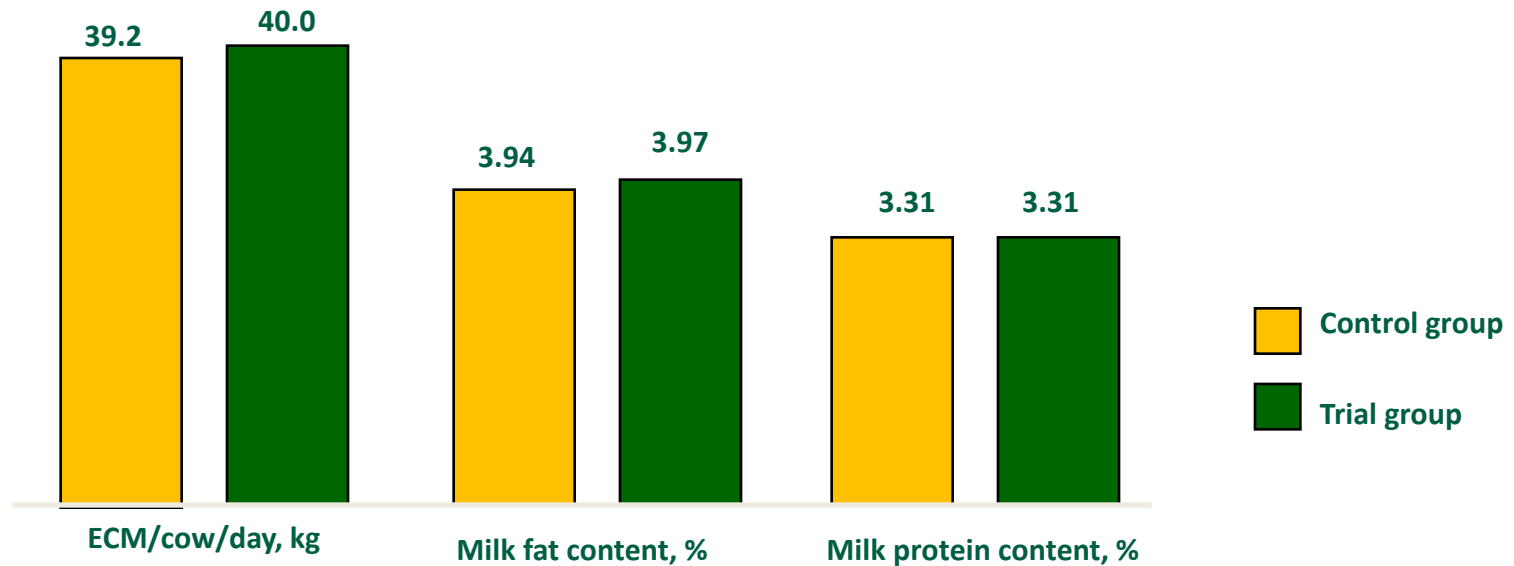
- Trial in Germany
- Glycerol vs. Propylene glycol
- 71 cows divided in 2 groups
- Duration from day 21ap to 100 day pp
- Feeding: Standard TMR  
plus propylenglycol or glycerol
- Dosage (per head and day):
  - Before calving: 150 g Propyl.(99%); 190 g Glyc. (80%)
  - In lactation: 250 g Propyl.(99%); 310 g Glyc. (80%)



# Energy-Top

Glycerol trial No. 1:

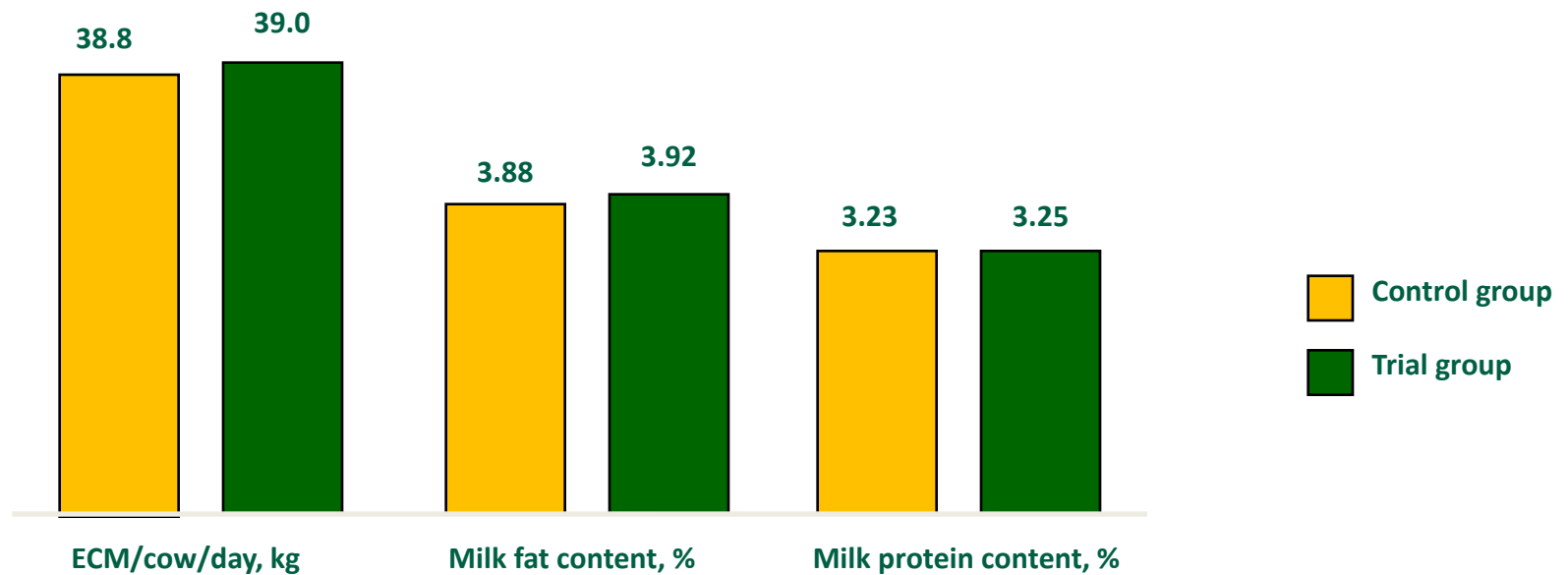
Results: 2<sup>nd</sup> to 8<sup>th</sup> week of lactation



# Energy-Top

Glycerol trial No. 1:

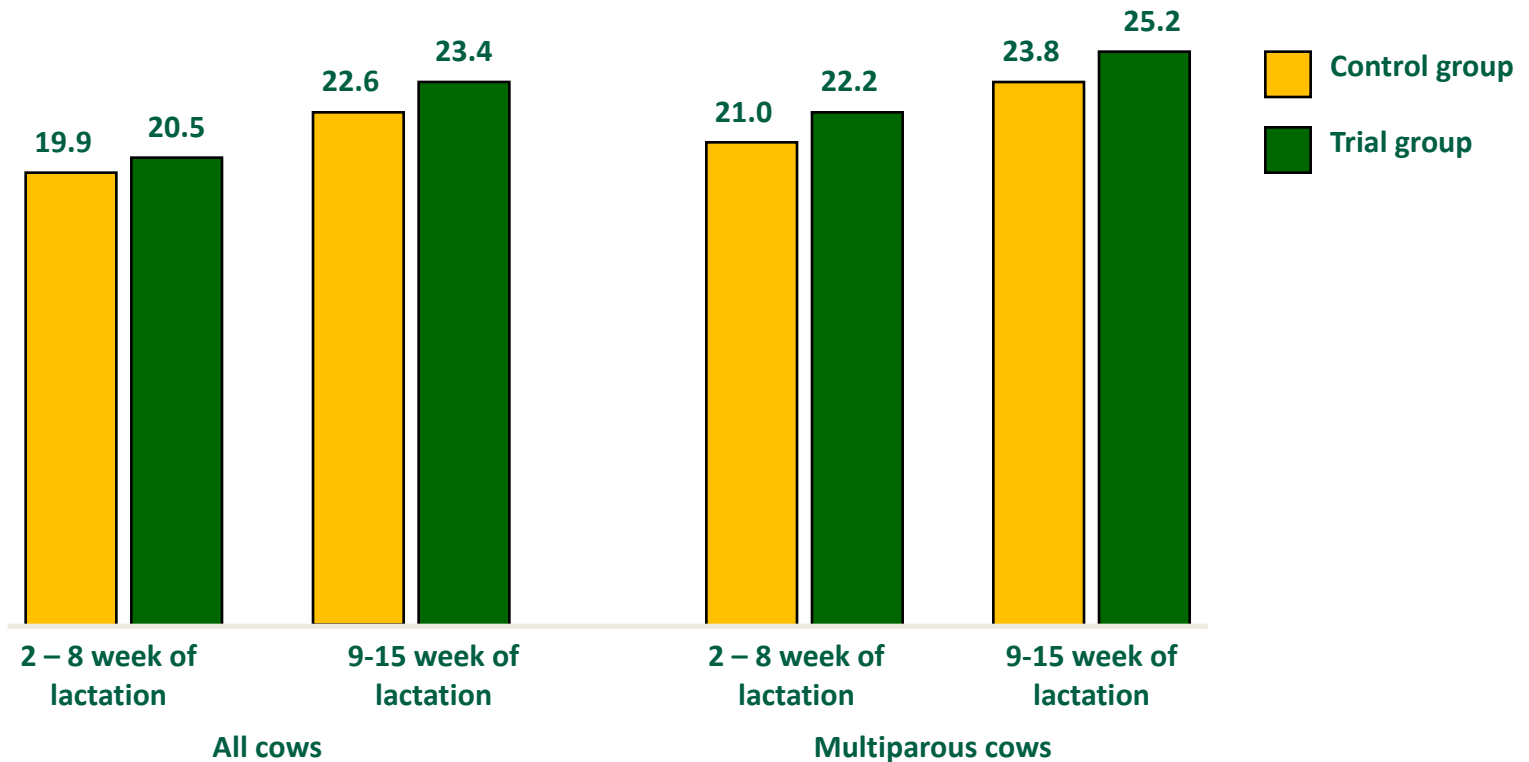
Results: 2<sup>nd</sup> to 15<sup>th</sup> week of lactation



# Energy-Top

## Glycerol trial No. 1

Results: feed intake (kg/cow/day)



# Energy-Top

## Glycerol trial No. 2

- Trial in Germany
- Glycerol vs. Propylene glycol
- 54 cows divided in 2 groups
- Duration from day 7 ap to day 80 pp
- Feeding: all cows received standard TMR

Control group received 250 g Propyl. (99%) / head / day + 0.5 kg add. conc.

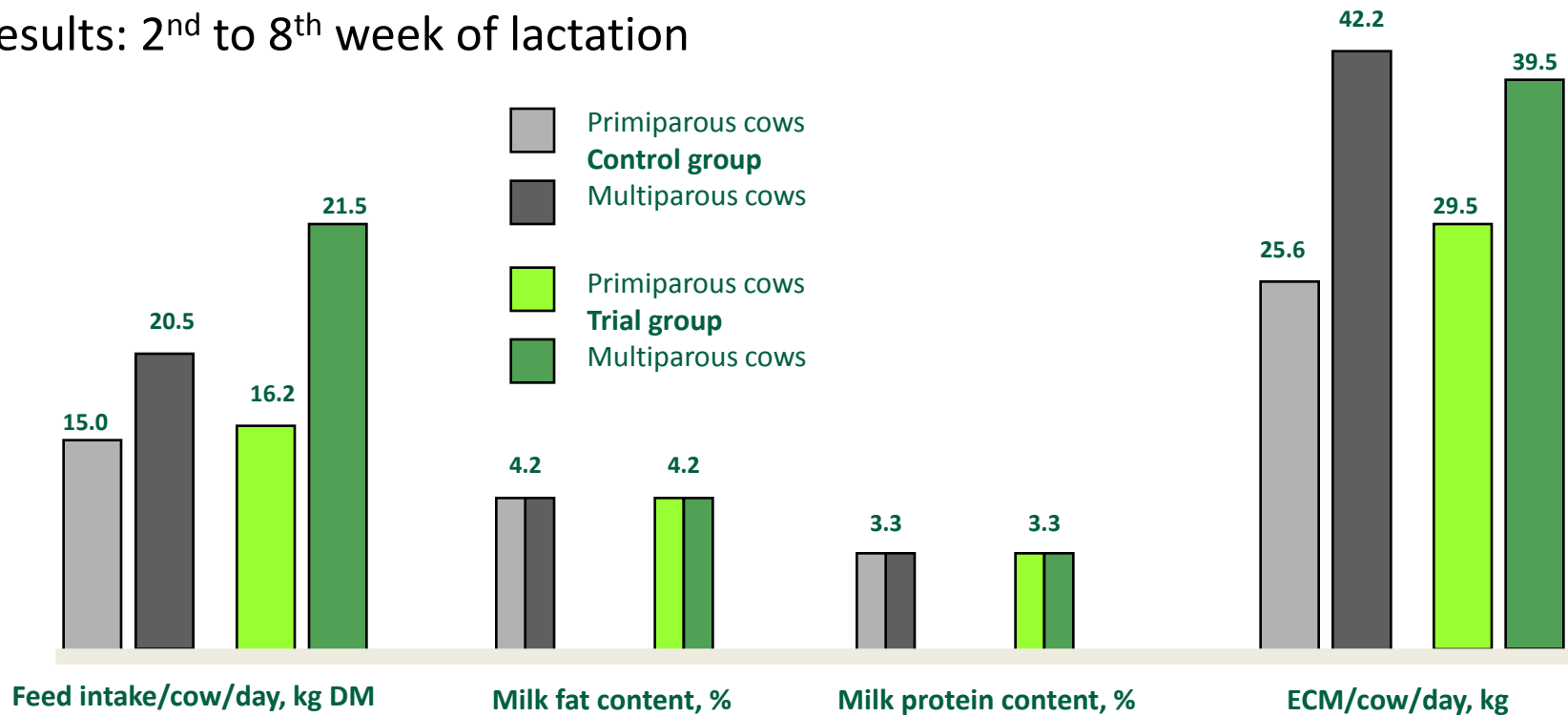
Trial group received 1,000g Glycerol (80%)



# Energy-Top

Glycerol trial No. 2

Results: 2<sup>nd</sup> to 8<sup>th</sup> week of lactation



Fat marked digits = signifikant difference

→ Higher feed intake

→ Same or better production results compared to propylene glycol



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Active ingredients: Betaine

## Ruminants need methyl groups for:

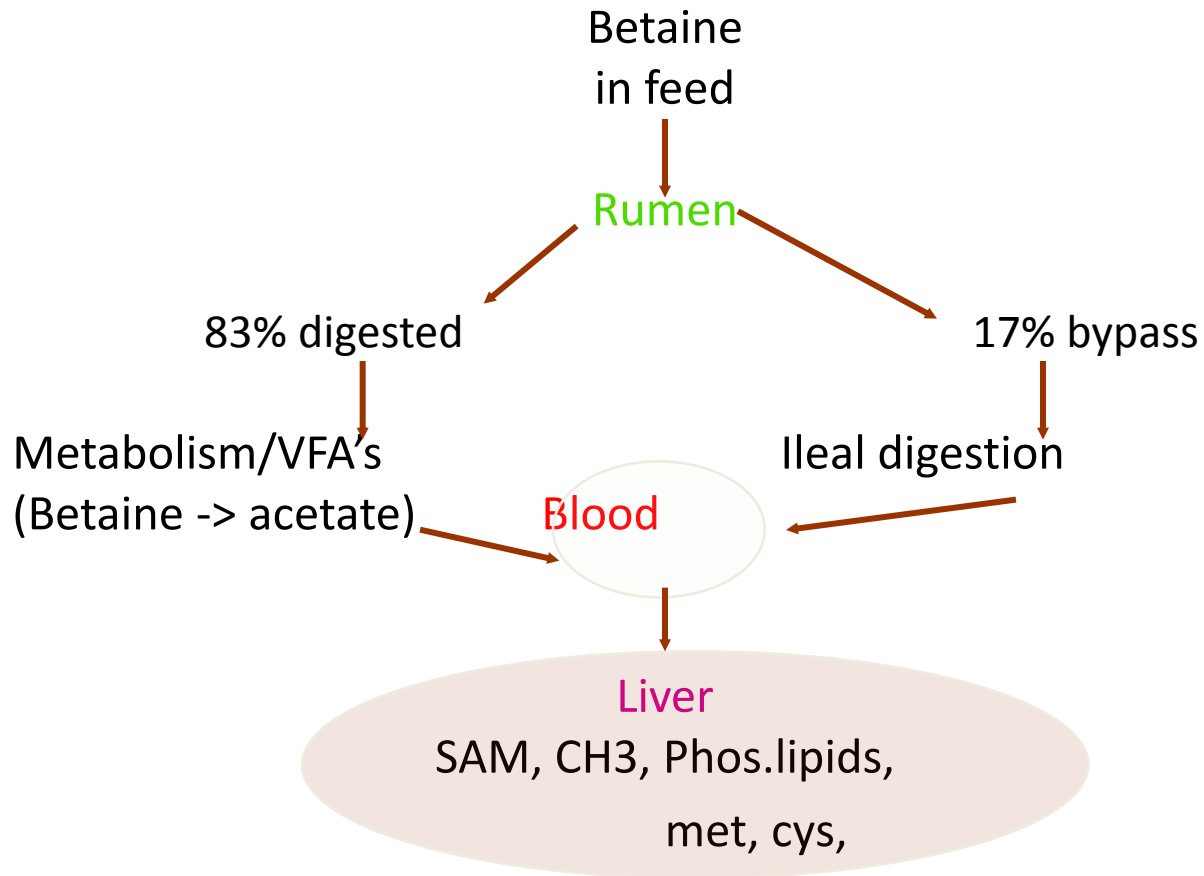
- Cysteine and methionine production for metabolism, meat, coat or wool and milk
- Phospholipids and acetylcholine for growth & nervous system, as well as optimum utilization of fat/lipid stores





# Energy-Top

The active ingredients



# Energy-Top

## Betaine in trials

- Betaine influences the fat metabolism
- Rumen microflora utilises betaine to produce acetate (a VFA). Acetate is a source of energy, and affects fat deposition and metabolism, and can influence fat/lean meat deposition and milk fat content.
- Betaine has faster effect on methionine synthesis than methionine alone (seen in goats, Puchala et al, 1994)
- Significant increase of production parameters in dairy cows, goats and sheep (milk yield, dry matter and fat content in milk)
- Increase of body weight by up to 4% and feed conversion up to 8% in veal calves



# Energy-Top

## Conclusion

Contains efficient ingredients with the following effects:

- Prevention of moulds and yeasts
- Prevention of ketosis
- Increase of milk yield
- Increase of milk fat content
- Increase of feed intake

The product is easy to handle.



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# Energy-Top for dairy cows

Trial in Serbia  
2009

# Energy-Top

## Trial design

- Private farm
- Start of the trial: September 2009
- Number of animals: 36
- 2 groups
  - Control group: 17 cows, no treatment
  - Test group: 19 cows, 0.2 l / day of Energy Top via TMR
- Trial period: 15 day before calving until day 60 of lactation
- Parameters:
  - Milk yield (day 30 and day 60 of lactation)
  - Amount of fat and protein in milk



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Trial results

## Milk yield [kg/d]

	Control group	Test group
At day 30	39,39	40,32
At day 60	37,47	43,20

A higher milk yield was observed for the test group, at day 30 of lactation and at day 60 of lactation. While the milk yield of the control group decreased after day 30 of lactation the test group showed an increase in milk production in this period.

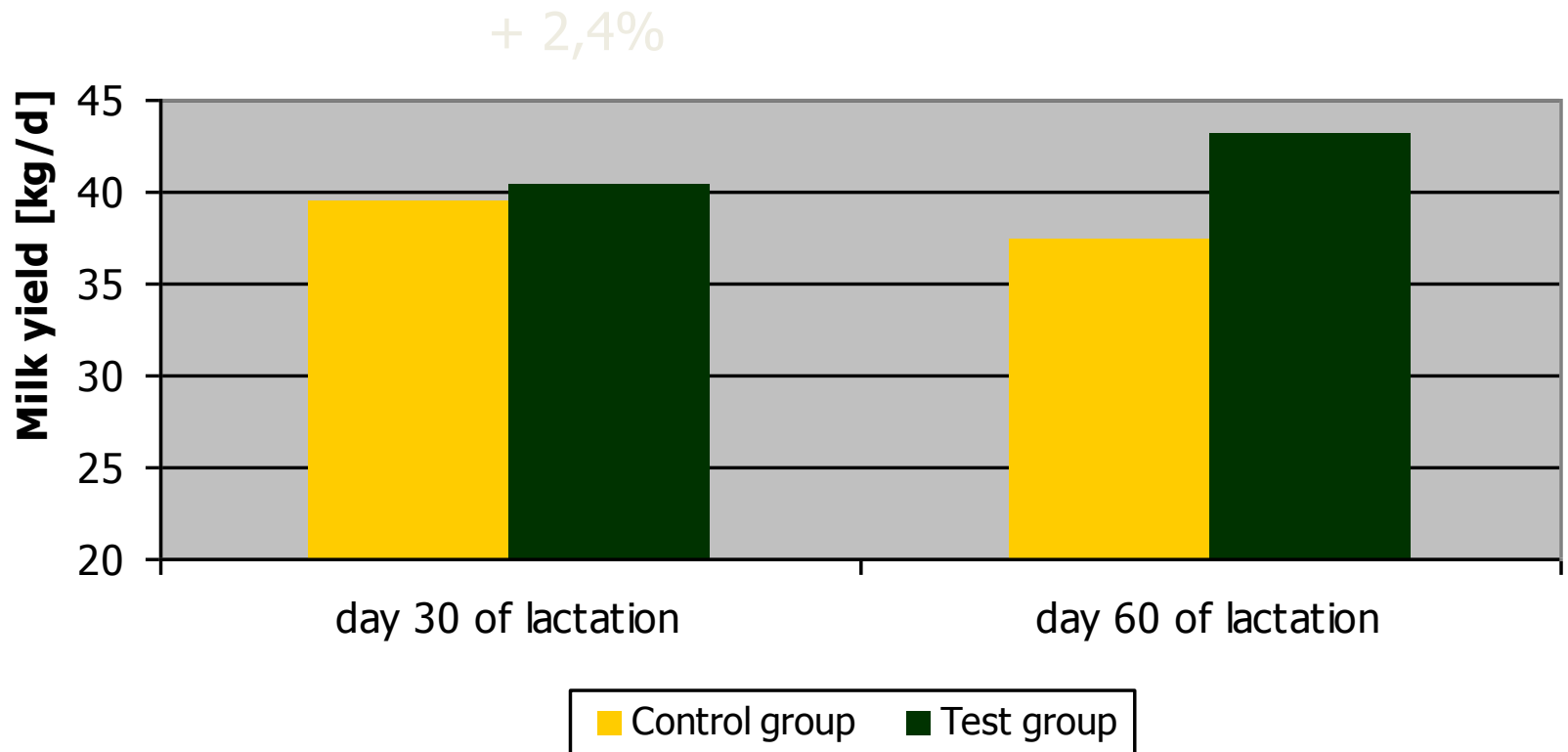


# Energy-Top

## Results

Milk yield [kg/d]

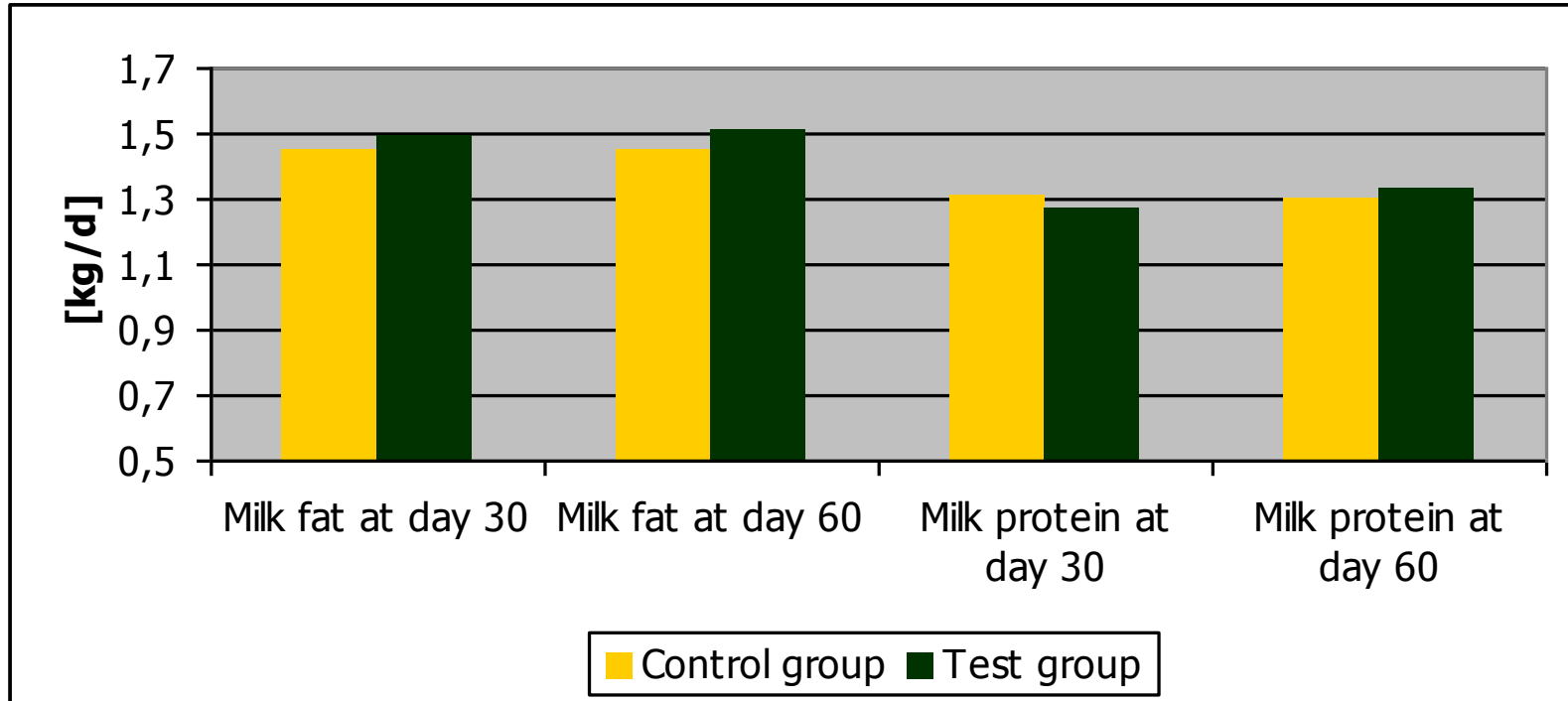
+ 15,3%



# Energy-Top

## Results

### Milk fat and milk protein



Only small differences were observed in the amount of milk protein and milk fat secreted per day.

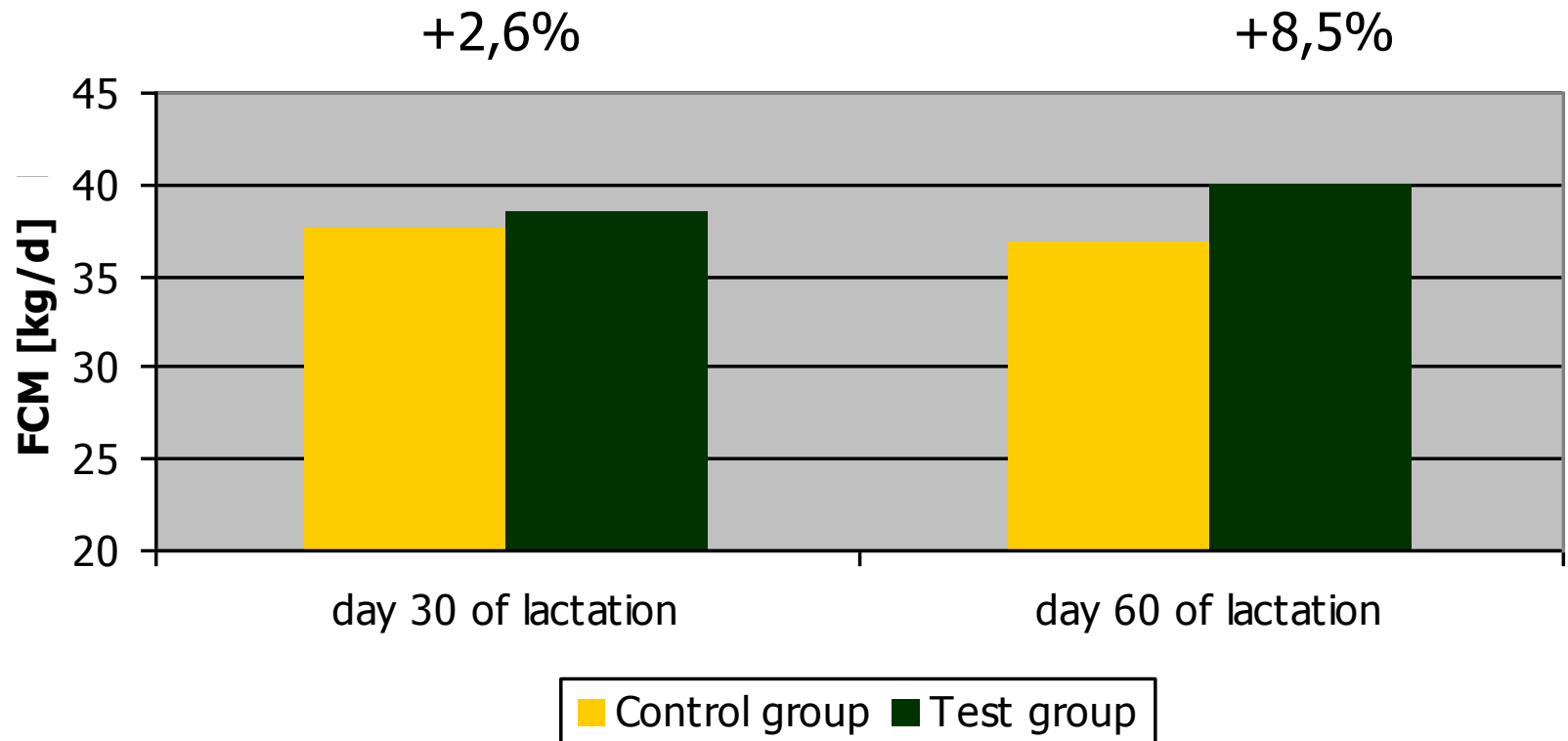




# Energy-Top

## Results

Fat-corrected milk yield [kg/d]



# Energy-Top

## Conclusion

- Cows fed 0.2 l of Energy Top per day (via TMR) showed a clear increase in milk production. Benefits of Energy Top were shown at the 30<sup>th</sup> day in milk and, even more pronounced, at the 60<sup>th</sup> day of the lactation.
- Daily secretion of milk fat and milk protein increased with increasing milk production, so fat-corrected milk yield was favourably effected, too.



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