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Compact TMR

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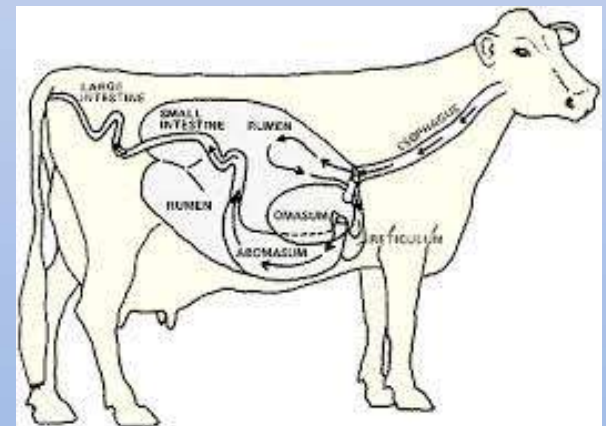
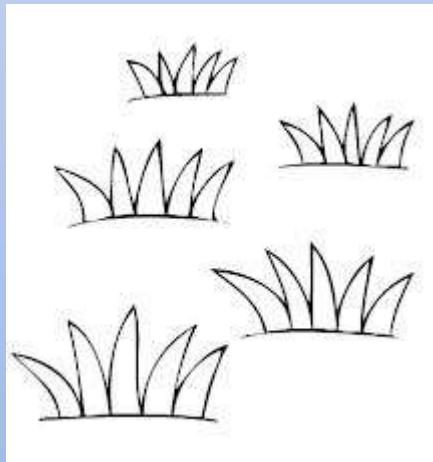
And a bit more.....

Compact TMR

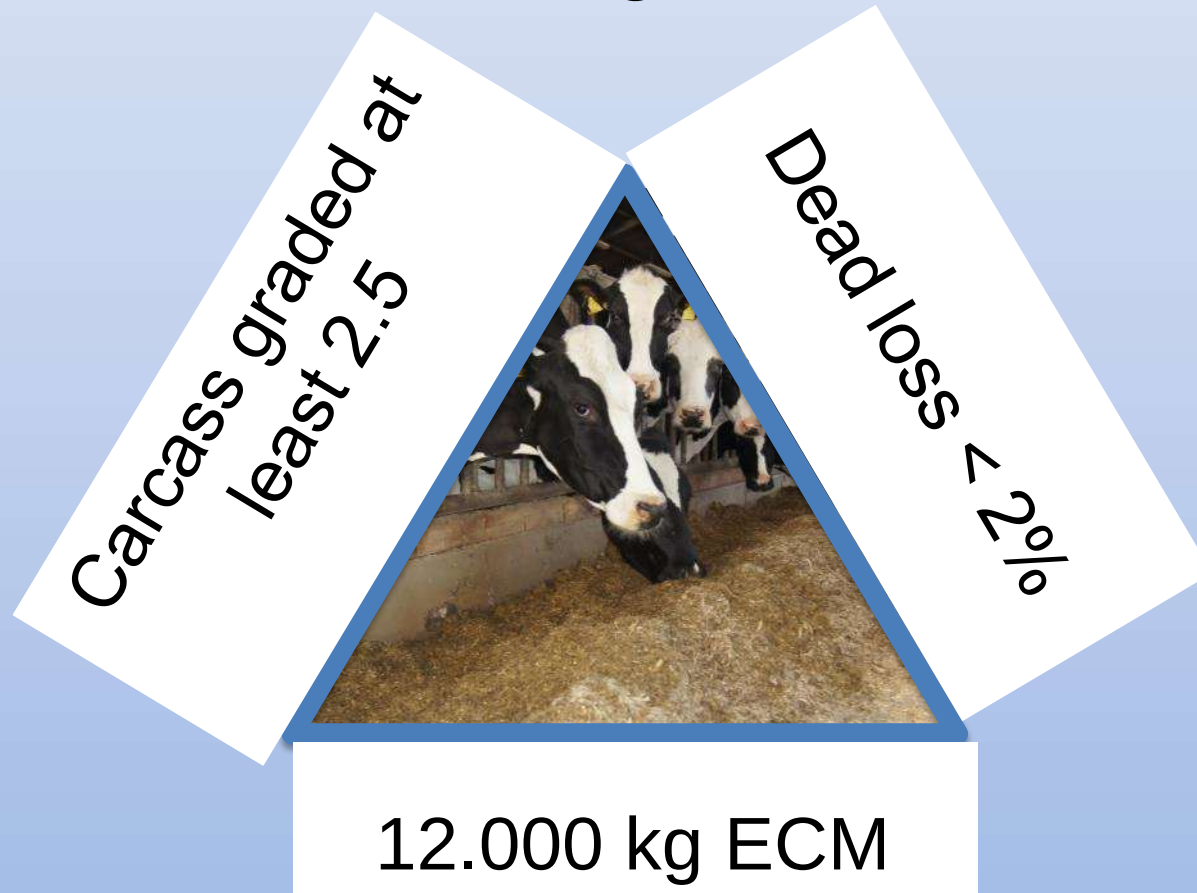
Formulated ration

Feed MIX

Ingested ration



Production at an average Danish herd in 2018?



What is dangerous?

**High
starch level**



**Affects nutrient
composition and
profile of absorbed
nutrients**



**Less dangerous than
typically expected**

**Variation in
starch and protein
concentration**



POISON



Many assumed TMR's have never been mixed!



Long straw

Grass silage

Pellets and
small
concentrate
particles

Corn silage



This has no chance to "find"
the formulated ration



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Many cows think they should eat on the floor



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These cows spend far too many hours standing



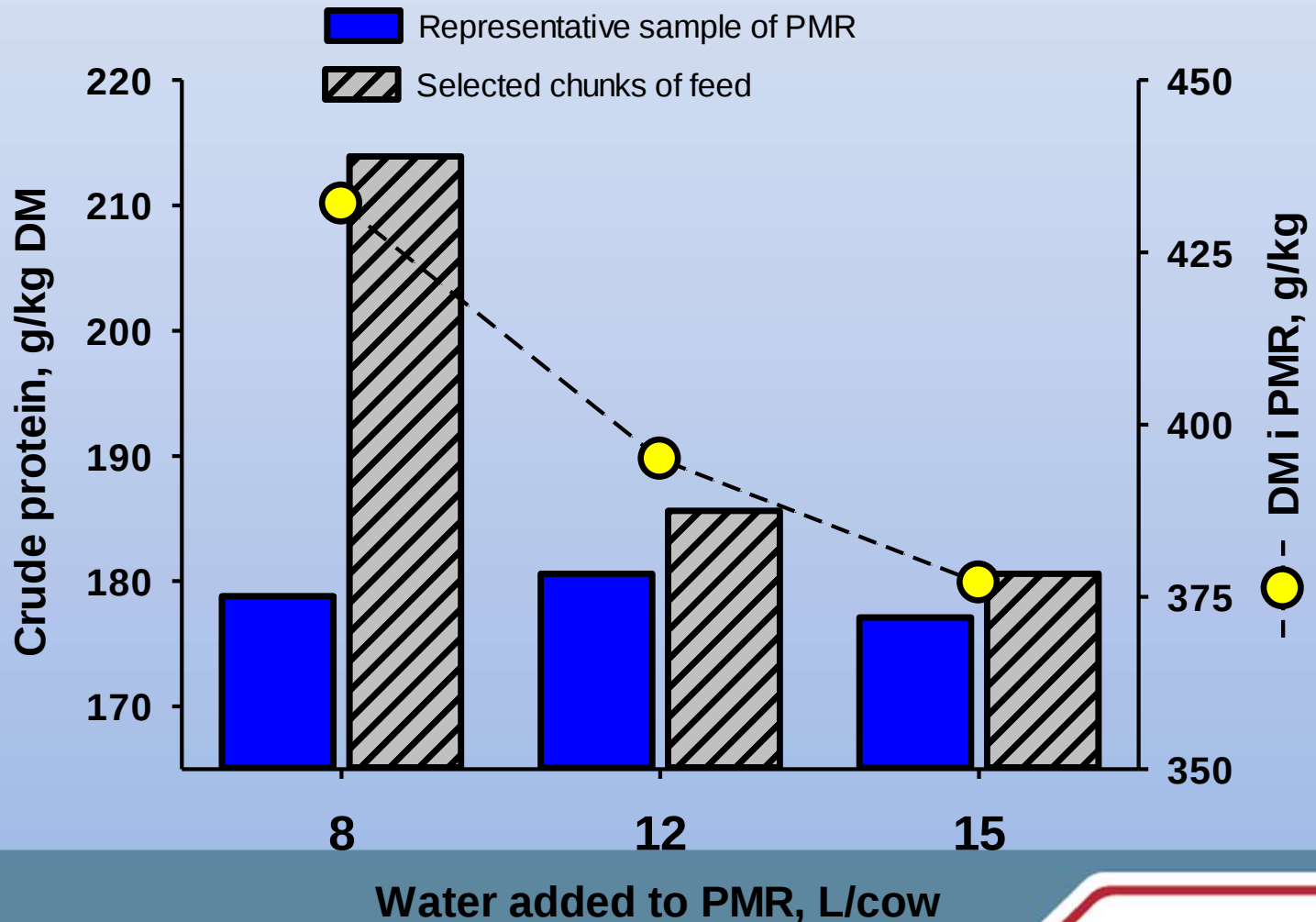
Concept tested in 2013

”Improved feed bunk management

The formulated ration for the entire herd 24 x 7

- Orts minimum 2% (1 kg/cow)
- Compact TMR

Half the way to TMR can be a dangerous "spot"



Important 3 criteria to evaluate implementation of compact TMR

1. Evaluate the feed mix
2. Evaluate the behavior of the cows
3. Evaluate the flow in the mixer

Evaluating the mix in the feed bunk



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- Typical Danish situation with grass silage as the skeleton of the mix
- Grass chunks
- All feedstuffs “disappeared”
- No pellets or small particles on the floor or in the feed
- Moist and adhering mix
- Homogenous and short “skeleton” (max. 25-35 mm)
- Never empty feed bunk

Observe the behavior at and around the feed bunk

- Cows are eating from the top of the pile, not on the floor!
- Feed stays in the pile
- No reaction from cows during feed out
- No reaction from cows when pushing in feed
- Orts and feed mix identical upon inspection

The perfect mix is not only theory!



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The standard protocol – vertical augers



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Phase of mix	Ingredients	Time
I – SOAKING	Pellets, dry ingredients + at least 50% water	+1 hour (Sugar beet pulp pellets)
II – STRUCTURING	Grass silage, other fibrous feed stuffs, and minerals	Mixing time 20 min
III – FINISHING	Corn silage	Mixing time 15 min



Compact TMR

The real danger!



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No flow = danger !



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Be careful, many farmers are not aware of misinterpretation of movement on top of augers



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Entire mix in movement



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Have found mixers in need of basic maintenance



Problem clearing the feed



Trouble and wear!



TMR dynamite !



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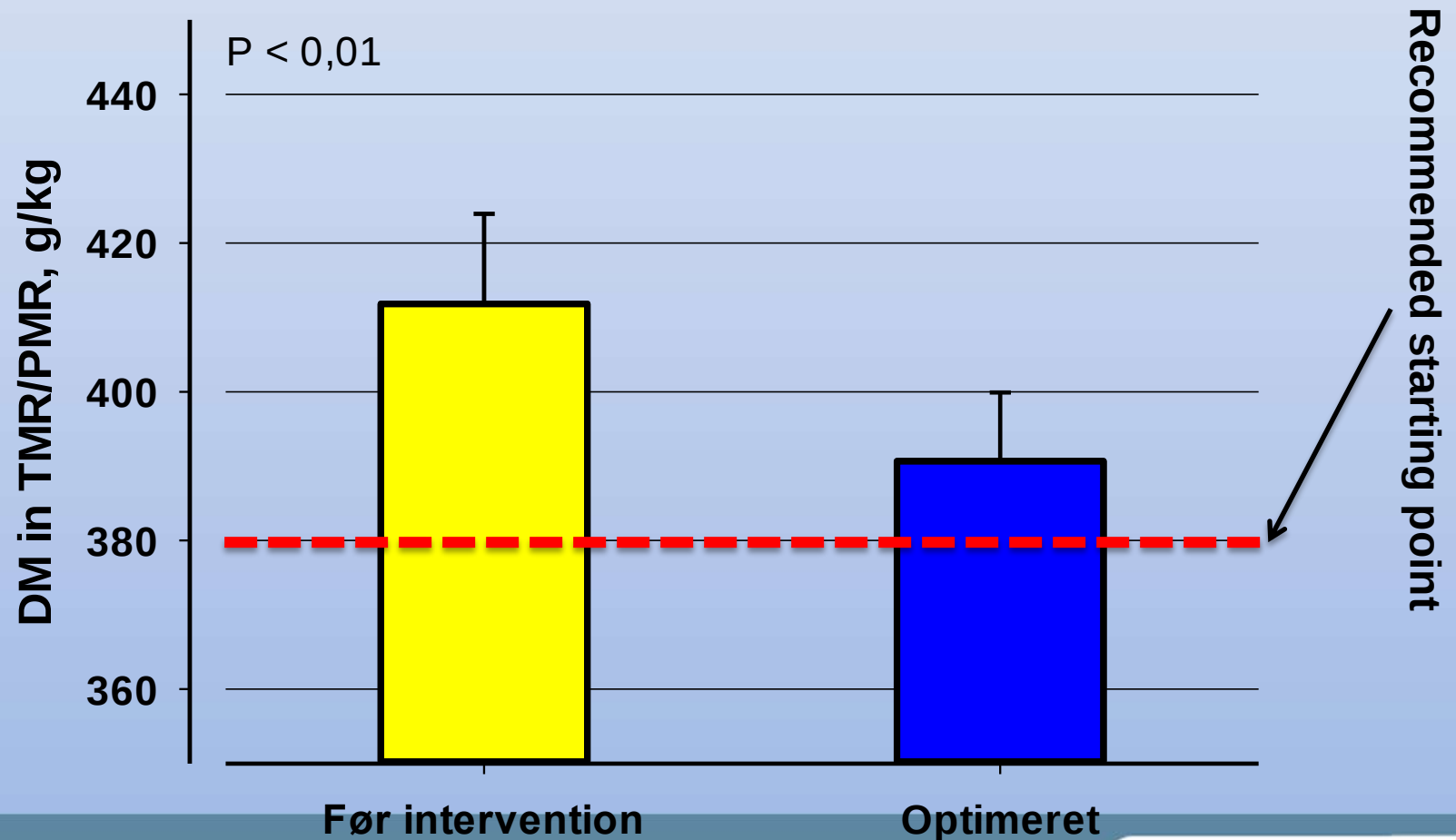


Soaking beets cut in mixer with dry ingredients (2-3:1 / beets:dry ing, +10 min)

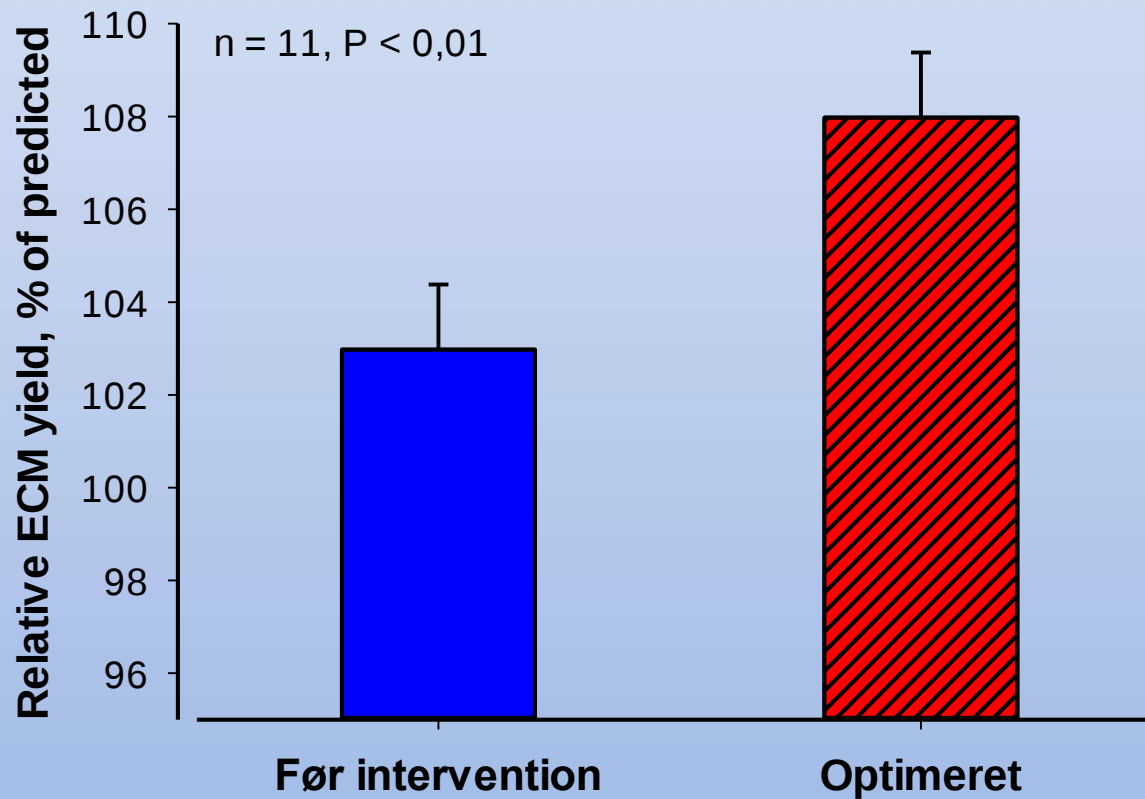


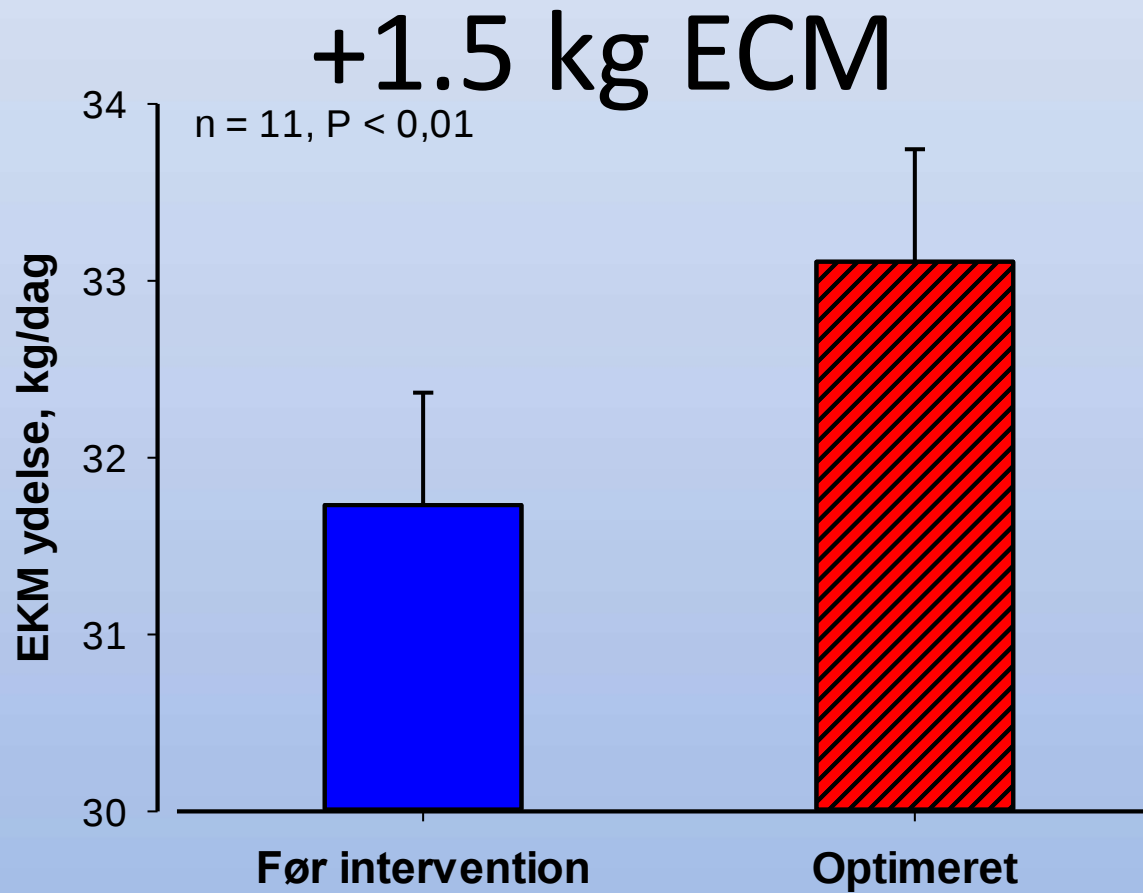
Results from herd based tests in 2013

Compact TMR intervention in **11** herds

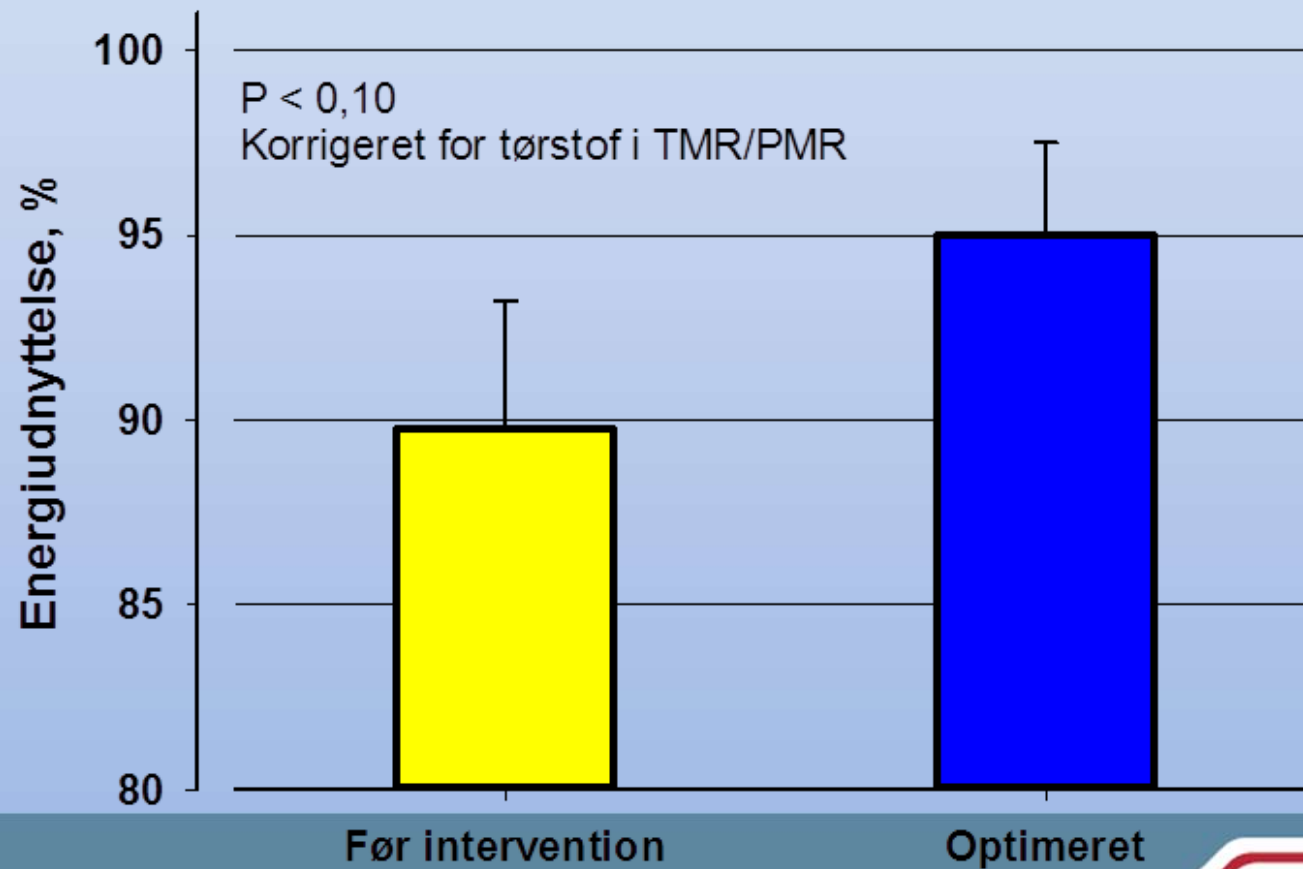


Milk production response approx. 5%

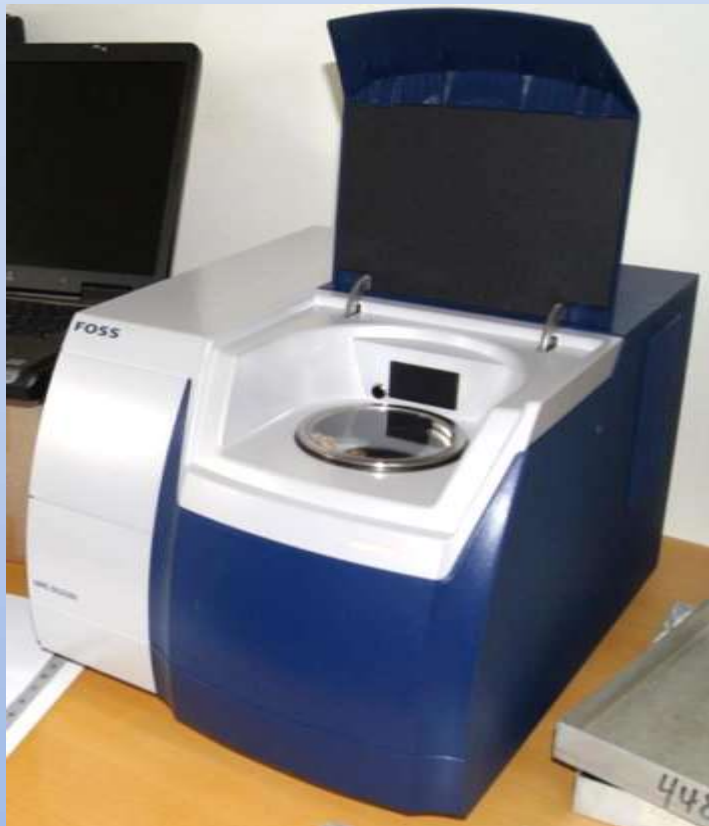




Feed efficiency (NorFor NEL-efficiency)



Fecal samples



Orts



Reduced eating time increased time in stalls – usually a good thing
– however, if cows lay on hard surface there might be negative
side effects



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Overall conclusions

Variable	Effect	Comments
Feed intake	+	
Time budget, stress related to feeding	+++	
Milk production	++	
Feed efficiency	+	Some herds missing body gain in period before intervention has a temporary drop in efficiency
Health	+/(+++)	Few data at present. Generally positive feedback from hoof trimmers
Aerobic stability	-	Not as affected as feared
Wear and diesel	-	

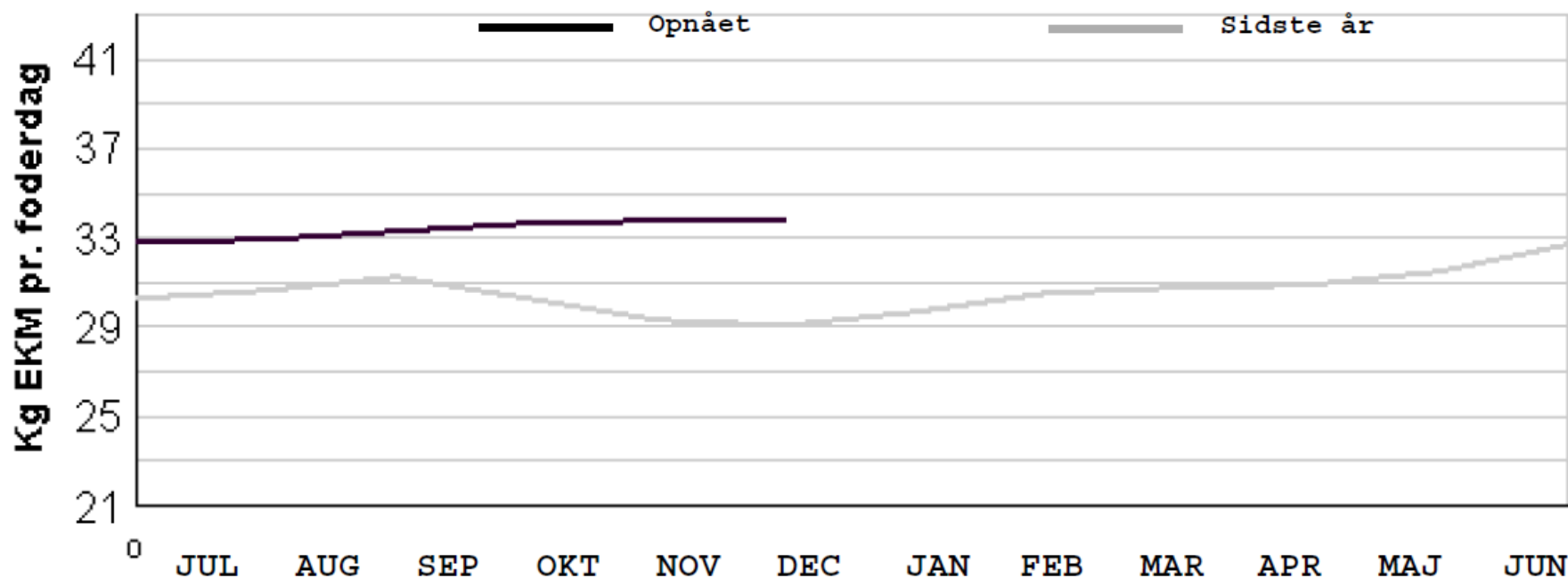
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Compact TMR/PMR might be part of the increase from
11.000 to 12.000 kg ECM/cow



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How do we keep nutrition on target?



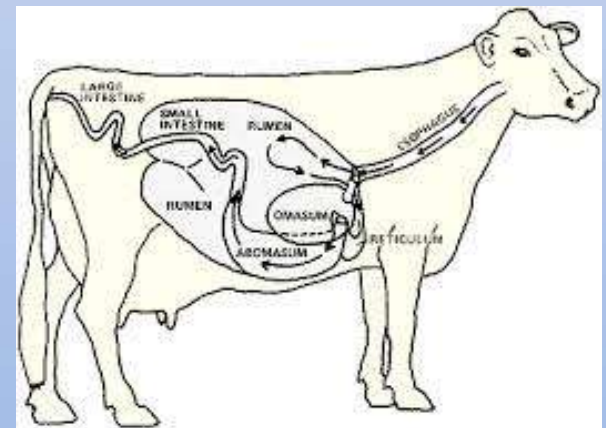
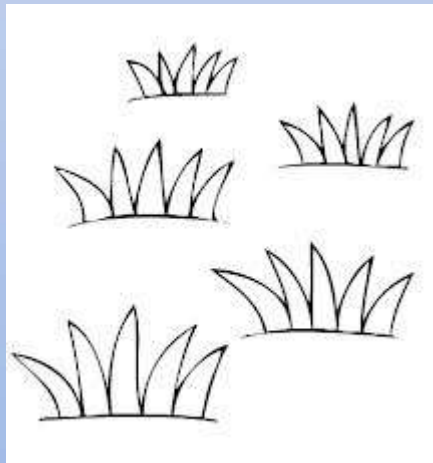
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Compact TMR

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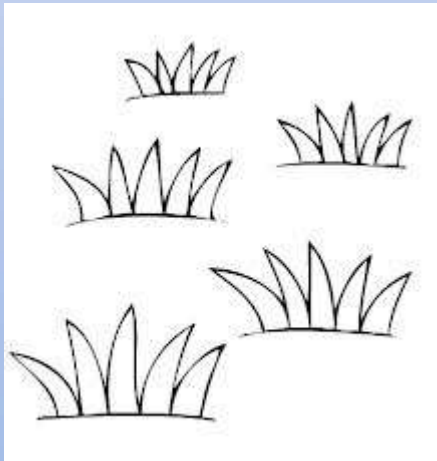


Compact TMR + Dairy Feeder= BMDC-feed

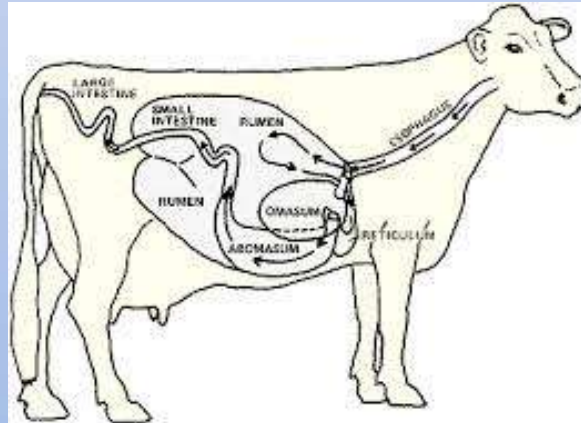


Closing the big nutritional loop in animal
agriculture

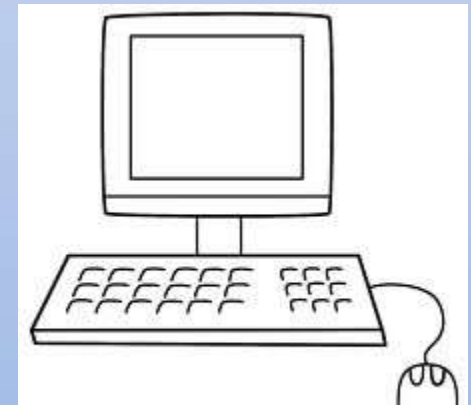
Feed MIX



Ingested ration



Analysis



Compact TMR/PMR

BMDC-feed



Sample



Analysis



Report/follow up

er	DMS værdi	KFL/NIR værdi
g	381	377
g TS	164	164
S	210	189
	309	328
	81	80
	72	73
TS	351	340
	0	3
	0	2
	0	2

Future feed evaluation & nutrition management

Coning and quartering

1. Reduction



2. Reduction



3. Reduction



4. Reduction



60 L reduced to 4 L

Sample logistics organized with RYK (milk testing organization). Innovativ. Erfahren. Stark.

organization)

Preveskema til KMP-fuldfoder
FOR PRØVEKODE
21310032

Følgende oplysninger skal følge foderprøver der indsendes til analyse:

CHR nummer	46513 + 70750 + 45803
Udtageringsdato	19/11 2014
Kontrol dato	14-1-14 09:23

*Kontrol dato angives for prøver der udtages i forbindelse med ydelseskontrol

Bemærkninger vedr. foderet / bemærkninger, prøvetagningen m.v.
Særlig blanding i alle 3 bælter

INDSEND DETTE SKEMA SAMMEN MED FODERPRØVEN
Modtagelsesadresse for foderkøber:
Kvæglingsvej Forsøgs Laboratorium, Agri Food Park 148, 8200 Søborg N