Pilot Farm ‘De Hulsdonken’

Adrian & Jennifer Houbraken Bergeijk (NL)

FARM STRATEGY:

- Long term: realize high mineral efficiency while maintaining (outdoor) grazing
- Short term: increase cow age, save energy and utilize minerals efficiently

“Sustainability should be in line with farm economics.”

FARM CHARACTERISTICS (2014):

soil type	zand
grassland (ha)	40
maize (ha)	10
other fodder crops (ha)	0,0
forest (ha)	0,0
cows	119
young stock	78
young stock/10 cows	7,3
quota (kg)	1.100.000
milk production (kg/cow/yr)	9.500
intensity (kg milk/ha)	22.000
concentrate use (kg/100 kg milk)	1.947
milking parlour	3-box AMS (Mione) GEA
stable	cubicles
particulars	minerals concentrate

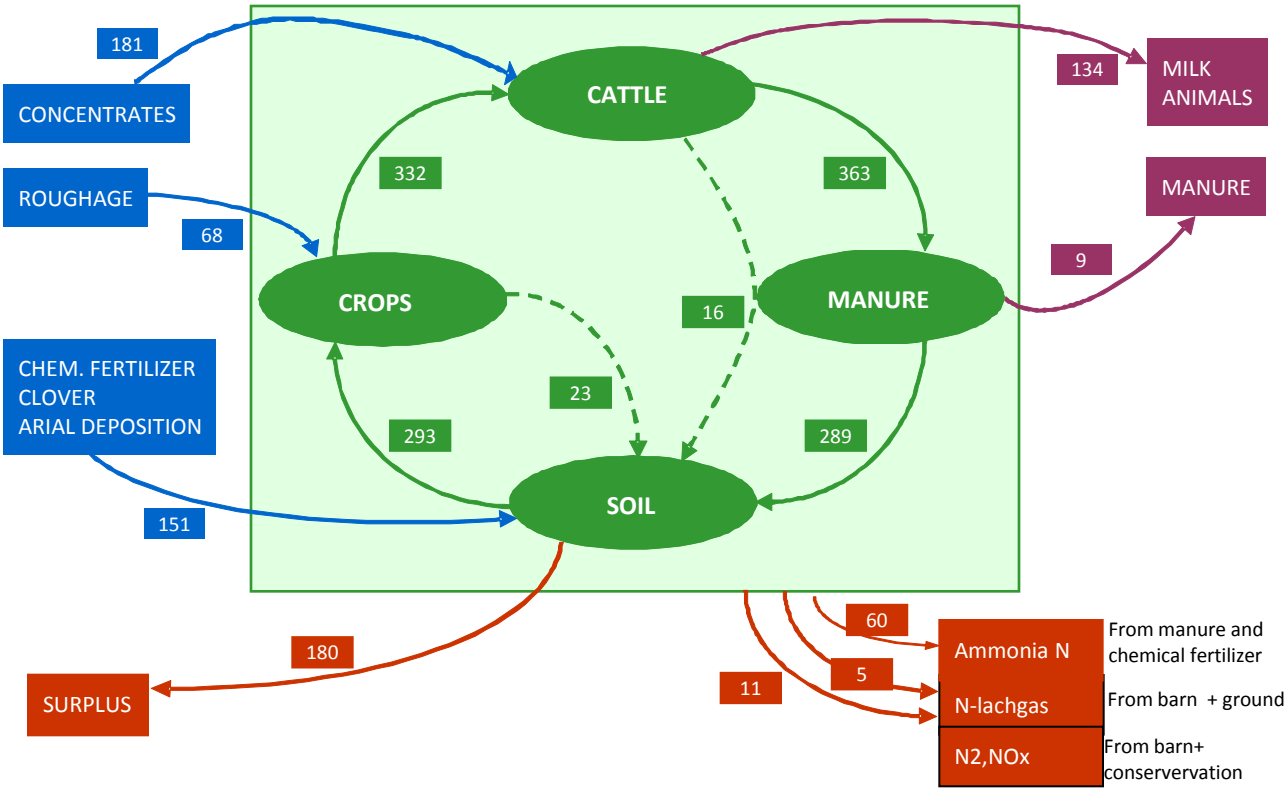
MILESTONES:

- Founded in the 60’s on 14 ha with 40 dairy cattle.
- Extended with 600 pigs for meat production in the 70’s, again reduced to 300 pigs in 2005.
- Gradual growth of the dairy sector over the years until its present size.

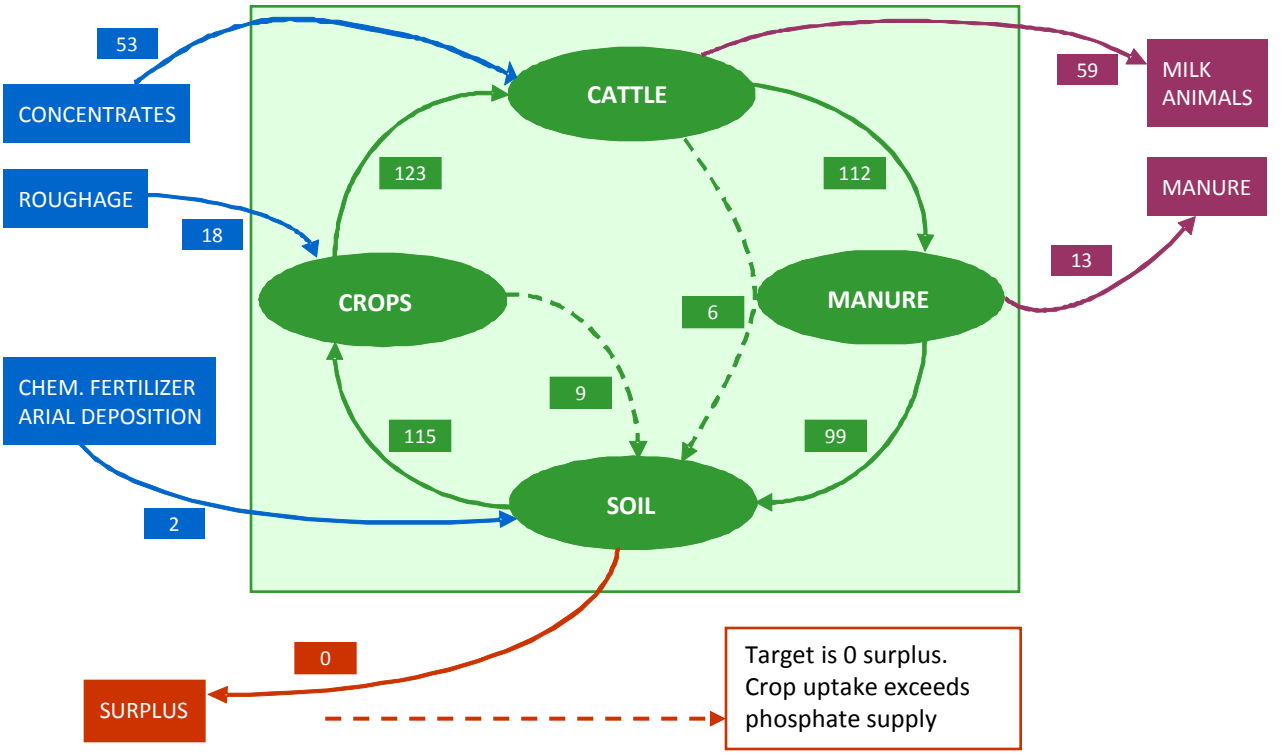
Fertilization 2014

	Grassland			Maize		
(per ha)	m^3	kg N	kg P_2O_5	m^3	kg N	kg P_2O_5
Slurry	81	329	102	37	144	44
Chemical fertil.	-	144	2		0	0
Manure (graz.)	-	54	17		-	-
TOTAL		**527**	**121**		**144**	**44**

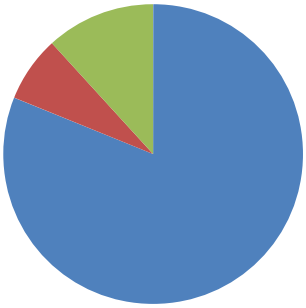
Nitrogen cycle 2014 (kg N/ha)

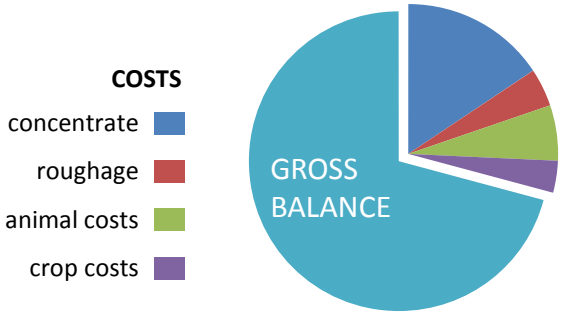


Phosphate cycle 2014 (kg P_2O_5/ha)



Farm economics (2013)

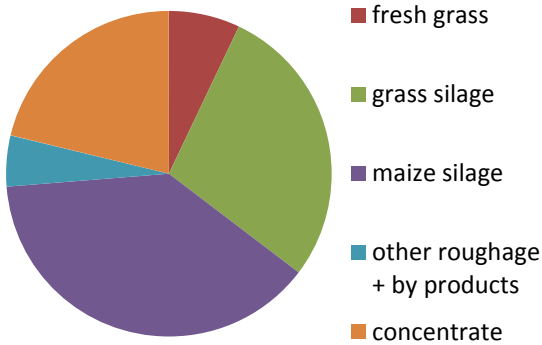




€/100 kg milk	
YIELDS	
milk	**44.4**
animals	**3.9**
other	**6.5**
	54.8
COSTS	
concentrate	**8.3**
roughage	**2.2**
other fodders	**0.8**
breeding	**0.6**
animal health	**1.5**
other animal costs	**0.5**
fertilization	**0.6**
other crop costs	**0.7**
	28.2
GROSS BALANCE	**26.6**

Animal Nutrition

Ration characteristics complete herd	
VEM (energy)-content ration (g/kg dm)	967
RE-content total ration (g/kg dm)	150
P content (g/kg dm)	3.6
kg concentrate / 100 kg milk (incl. young)	23
Nitrogen efficiency complete herd (%)	27
Phosphate efficiency complete herd (%)	34
kg FPCM / kg dm feed intake	1.08



Improvement projects

- *Increase farm size to reduce cost price*

- *Re-arrange farm buildings and yard*
- *Tools: automated milking system and automated milk feeding system*

- *Operate within environmental legislation*
- *Reduce input of chemical fertilizers*
- *Slurry processing (liquid fraction)*

Steps

Period	Action	Improvement
2005	Automated milk feeding system calves	reduce labor
2009-06	Use mineral (slurry) concentrate	reduce costs and chemical fertilizer
2010-11	Use wheat yeast concentrate	reduce cost price

"The more efficient my mineral utilization is, the less slurry I have remove from my farm."

Adrian regards high mineral efficiency while maintaining grazing a major challenge.

"I aim for the highest possible financial yield.
Because we do have to make a living!"

"When the government sets limits for GHG emissions the dairy sector has to come up with solutions.

However, since the contribution of the dairy sector to GHG emissions is not clear, it is useless to set limits at this moment."

Pilot farmers are also members of the Dutch project Cows & Opportunities. In this project 16 dairy famers. KTC De Marke. Wageningen UR and advisory services cooperate. On request of the ministry of Agriculture and the Dairy Board the project evaluates and improves the effectiveness and feasibility of the (proposed) environmental legislation in farm practice and supports the Dutch dairy sector with its implementation. Cows & Opportunities works at a future for neat dairy farmers. The results are found at: www.koeienenkansen.nl (in Dutch).