Pilot farm

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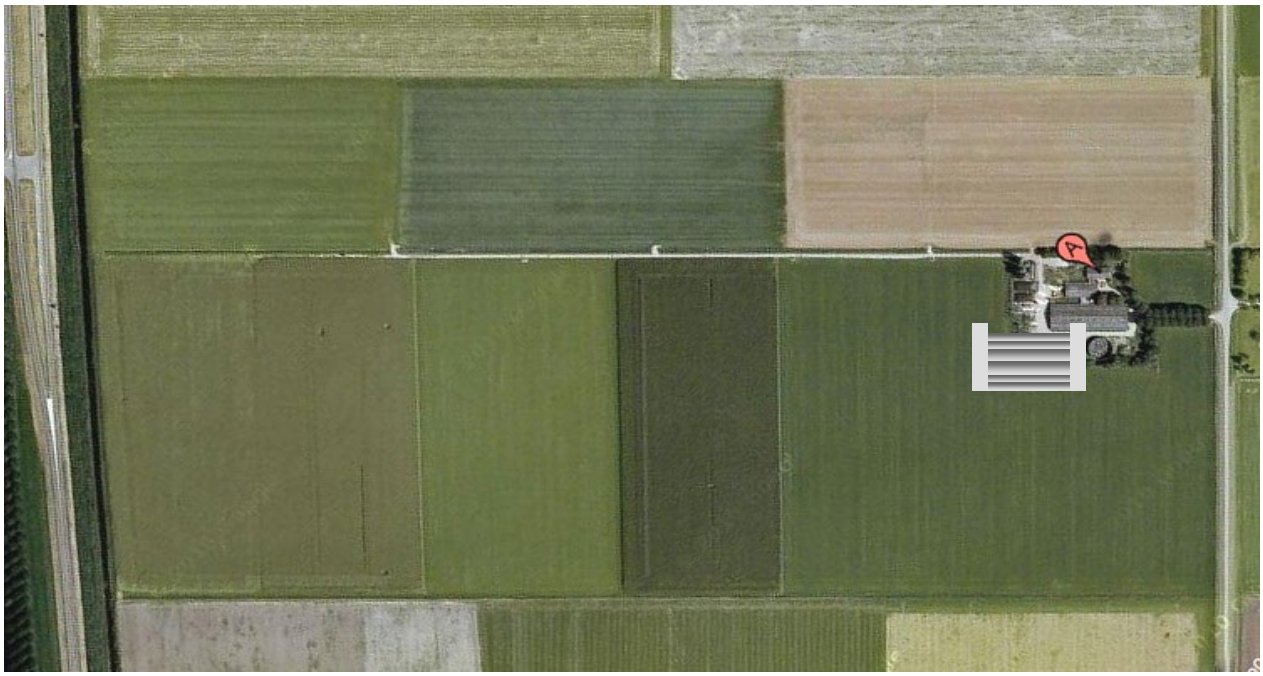


FARM STRATEGY:

- Long term: increase farm size
- Short term: improve animal welfare, increase age dairy cows

"Don't stare at limitations, but look for opportunities."

FARM CHARACTERISTICS (2018):

soil type	clay/sand
grassland (ha)	39,55
maize (ha)	0,0
cows	192
young stock	68
young stock/10 cows	4,6
milk production (kg)	1.730.000
milk production (kg FPCM/cow/yr)	9.300
intensity (kg FPCM/ha)	43704
concentrate use (kg/100 kg milk)	26
milking parlour	40 positions carrousel
stable	sun-lounge + cubicles
other particulars	grazing 3 separate slurry storages

MILESTONES:

1998 - participant project Koeien & Kansen (Cows & Opportunities).

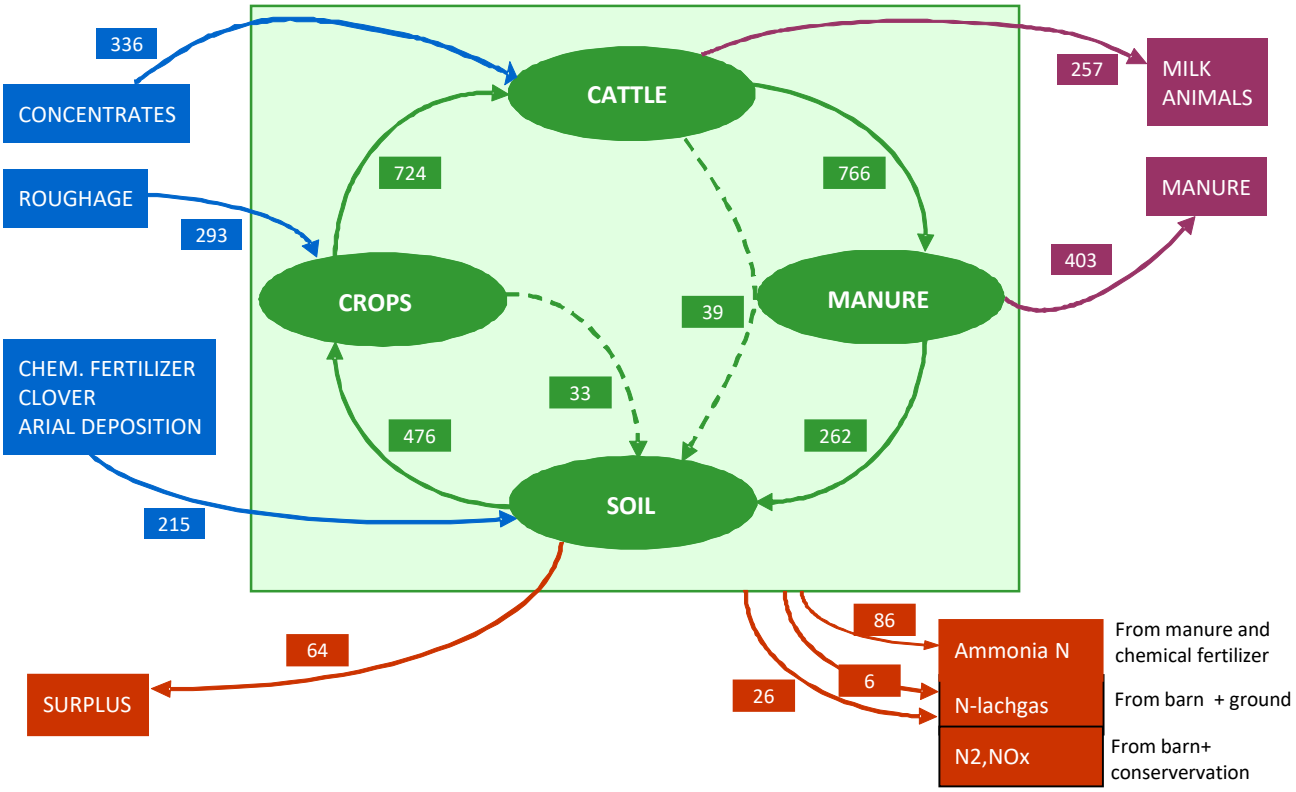
2005 - taking over the farm from father and brother and making plans to upscale the farm including plans for a new stable and milking parlour.

2010 - new stable and milking parlour.

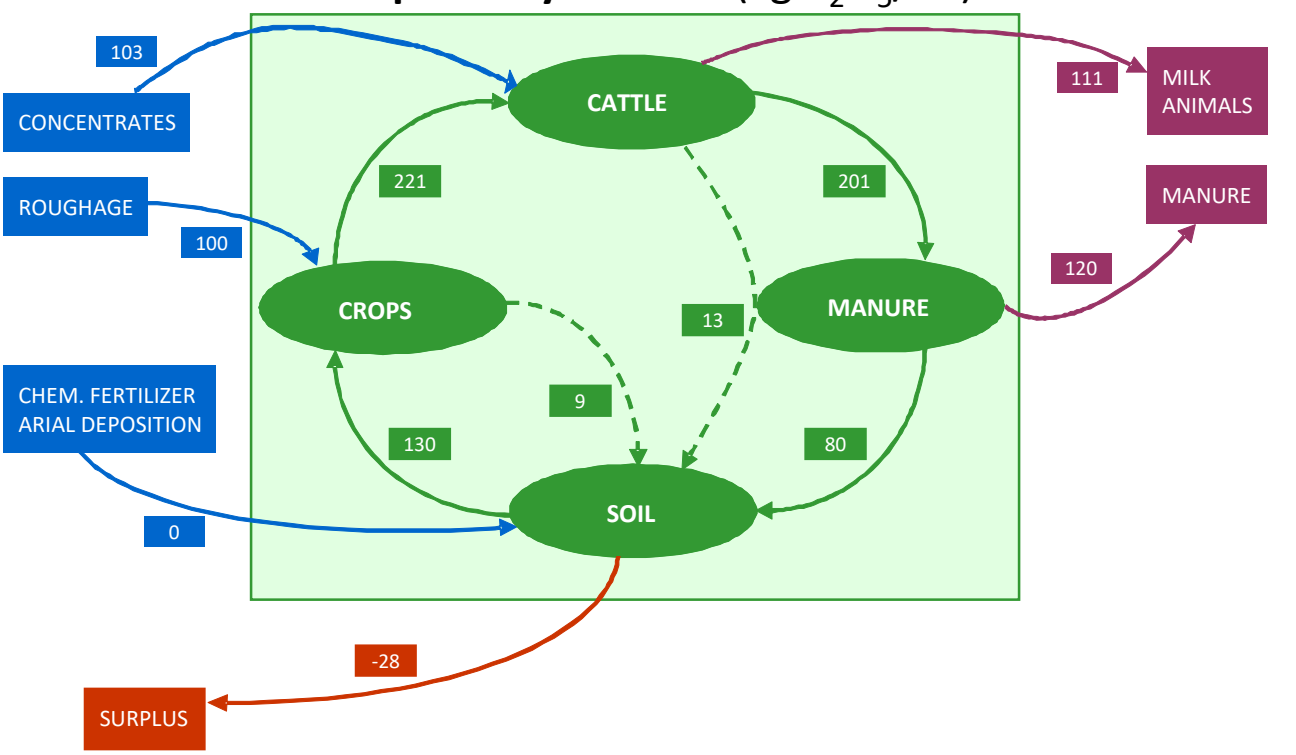
Fertilization 2019

	Grassland			Maize		
(per ha)	m^3	kg N	kg P_2O_5	m^3	kg N	kg P_2O_5
Slurry	77	266	78	-	-	-
Chemical fertil.	-	181	0		-	-
Manure (graz.)	-	58	15		-	-
TOTAL		**506**	**93**		**-**	**-**

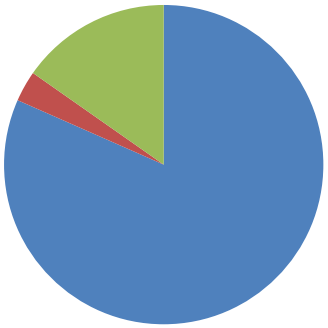
Nitrogen cycle 2019 (kg N/ha)

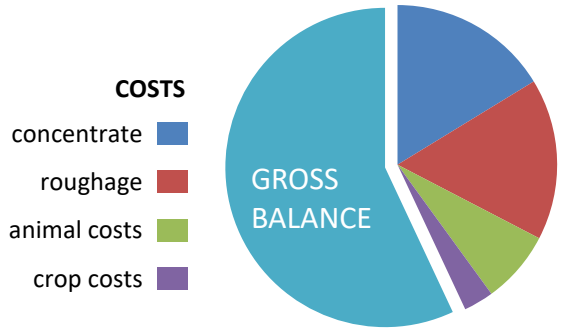


Phosphate cycle 2019 (kg P_2O_5/ha)



Farm economics (2018)

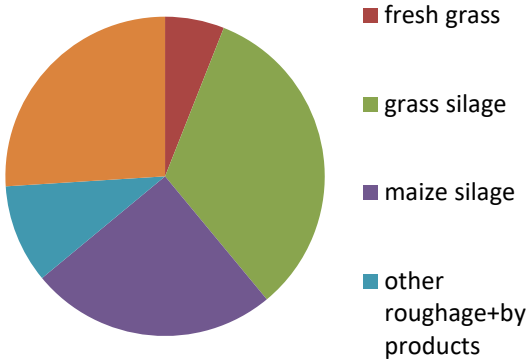




€/100 kg milk	
YIELDS	
milk	40.2
animal	1.5
other	7,5
	49.3
COSTS	
concentrate	7.3
roughage	7.3
other fodders	1.4
breeding	0.6
animal health	1.0
other animal costs	1.0
fertilization	0.5
other crop costs	0.2
Cost for manure disposal	3.2
Other. variable costs	1.4
Total costs	23.8
GROSS BALANCE	**25.5**

Animal Nutrition

Ration characteristics complete herd	
VEM (energy)-content ration (g/kg dm)	968
RE-content total ration (g/kg dm)	163
P content (g/kg dm)	3.5
kg concentrate / 100 kg milk (incl. young)	26
Nitrogen efficiency complete herd (%)	25.1
Phosphate efficiency complete herd (%)	35.7
kg FPCM / kg dm feed intake	1.22
(%)	
fresh grass	6
grass silage	32
maize silage	25
other roughage+by products	10
concentrate	27



Improvement projects

- *Increase farm size to reduce cost price*
- *Minimize obliged slurry removal*
- *Increase mineral efficiency*
- *More grazing on economy*

- *New stable for the cows*
- *Carrousel milking parlour*

- *3 Separated slurry storages*
- *Slurry separation (liquid+solid fractions)*
- *Fertilization on crop demand*
- *Investigate grazing possibilities*

Steps

Period	Action	Improvement
2011	Improve feeding	reduce costs. N-P losses and GHG and increase mineral efficiency
2011	Slurry separation	increase mineral efficiency
2011	Balanced P fertilization	reduce costs and improve soil fertility
2011	More maize	increase N efficiency and reduce costs (higher yields)
2011	Start BES-Pilot	balance P fertilisation
2015	Increase percentage of own protein	

"Slurry separation makes it possible to optimize my fertilization. More organic matter and P to maize with solid fraction and fast working N in liquid fraction to grassland."

Animal Nutrition

6.0 kg DM grass silage
7.0 kg DM maize silage
1.0 kg hay
1.8 kg DM wheat yeast
1.8 kg high protein concentrate
1.8 kg DM potato chips
} Mixed ration
avg 2 kg concentrate in milking parlour

"Sustainable dairy farming needs sustainable environmental policy and thus needs sustainable legislation!"

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).