

Designs of pasture based farm systems

Innovative components for grazing systems

EGF, 3 June, Paul Galama (paul.galama@wur.nl)



Topics

- Challenges
- Innovative components
- Designs



Challenges for new designs

- High milk production with grass
 - High grass production per ha
 - Long grazing period whole day
 - Low grazing losses
- Flexible
 - Grazing plots at a distance
 - Grazing large herds
 - Grazing with milking robots
 - Grazing family herds
- Low cost price
 - Simple housing for winter
 - High milk production per ha



Innovative components

- Mobile milking
- Mobile feeding
- Mobile electric fence
- Mobile roof
- Outdoor bedded pack
- Family herd
- Regional feed centre



mobile robot milking units

Mobile milking robot
in pasture



service wagon

mobile milking parlour





Mobile feeding



Mobile feeding in bedded pack barn



Bedded pack barn in greenhouse
(Farm Havermans)

Mobile electric fence



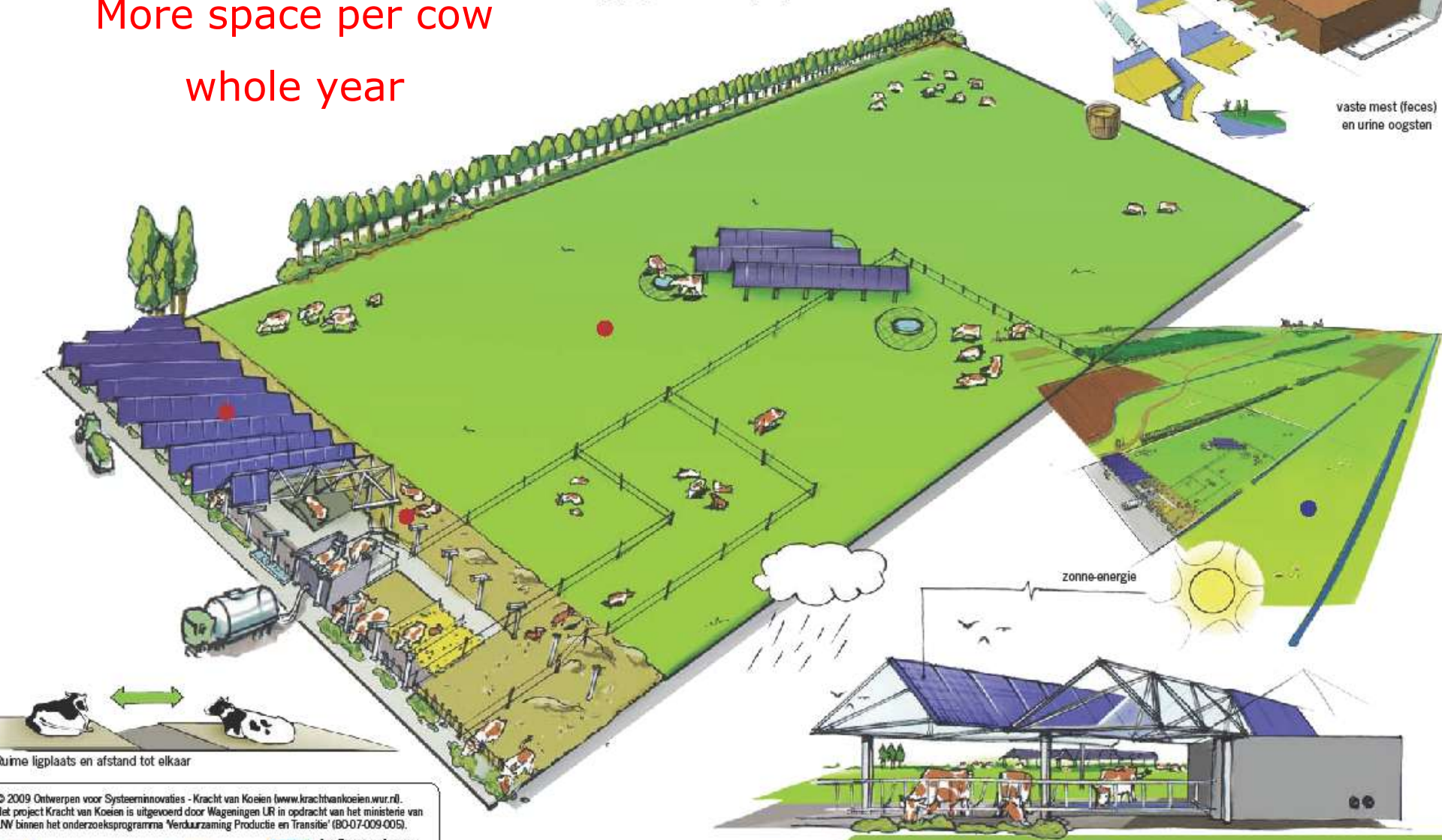
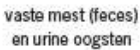
Mobile roof



individuele / mobiele stal voor koeien



More space per cow
whole year



huime ligplaats en afstand tot elkaar

© 2009 Ontwerpen voor Systeeminnovaties - Kracht van Koeien (www.krachtvankoeien.wur.nl).
Het project Kracht van Koeien is uitgevoerd door Wageningen UR in opdracht van het ministerie van
NV binnen het onderzoeksprogramma 'Verduurzaming Productie en Transitie' (BO-07-009-005).

Mobile shelter against sun and rain



Outdoor wintering path (France)

Family herd



Dairy cattle grazing in front



Dairy cattle and dry cows



Young cattle



calves



Central feed storage at industry area

2010/05/25

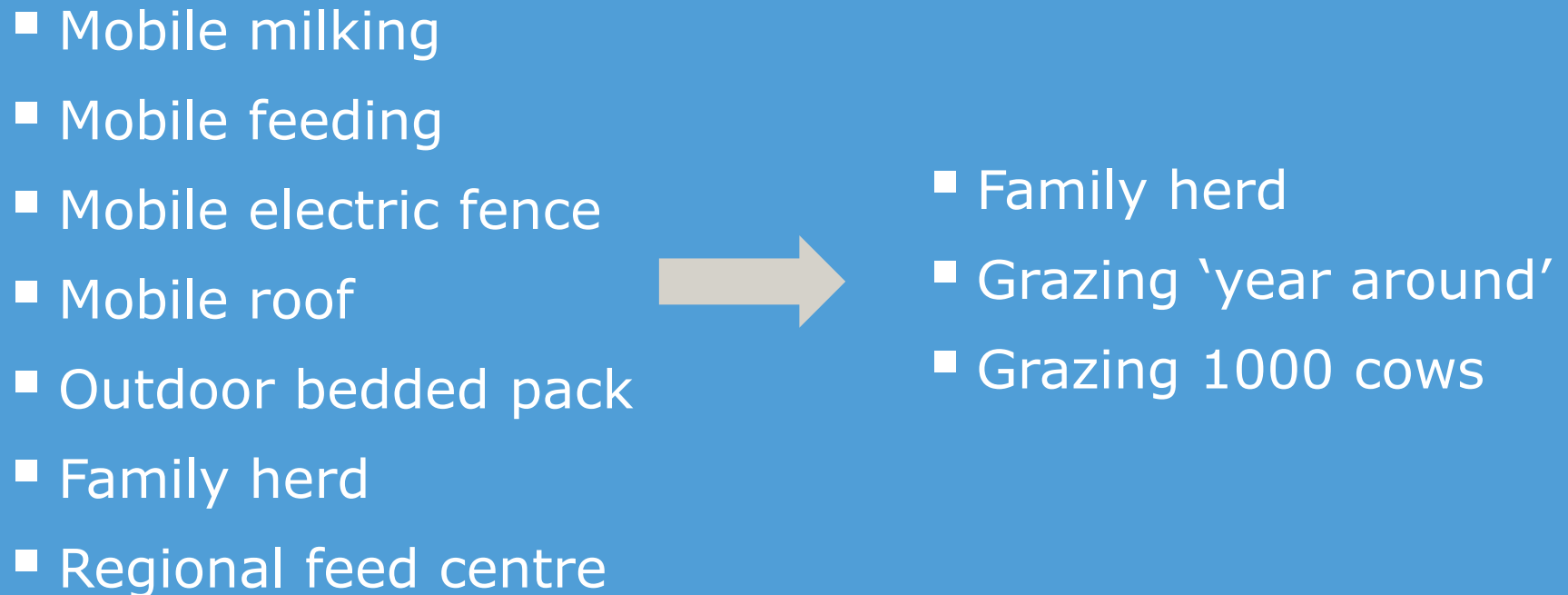


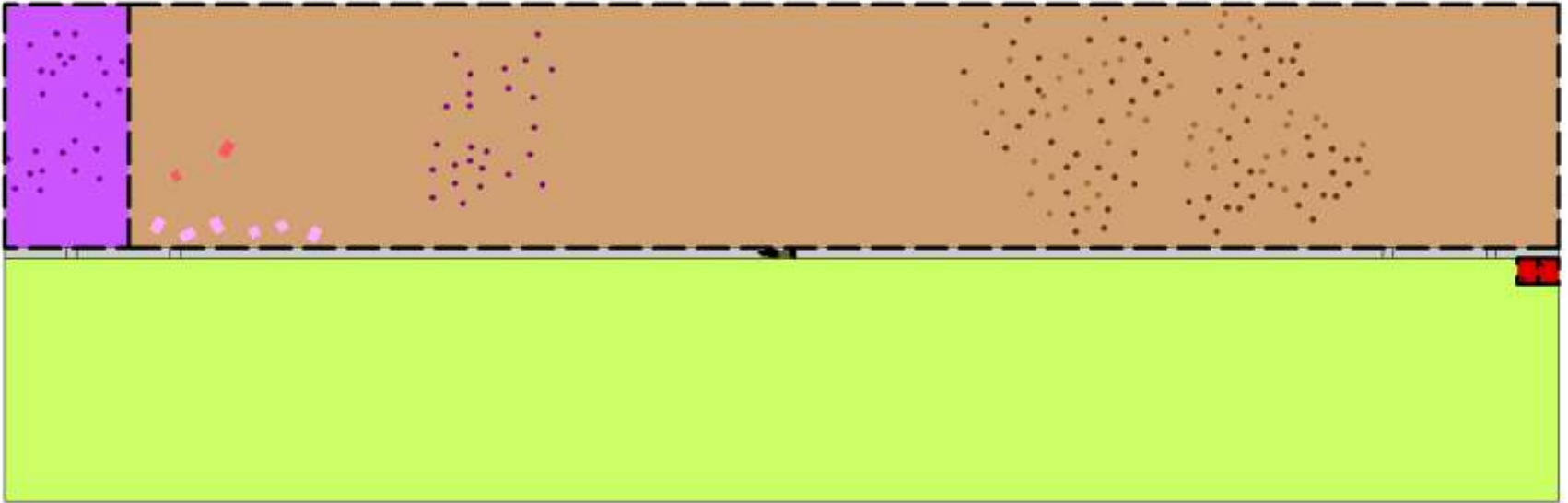
Feeding TMR 3000 cows on 28 farms

Consequences of feed centre for grazing?

- day grazing with supplemental feeding easier!?

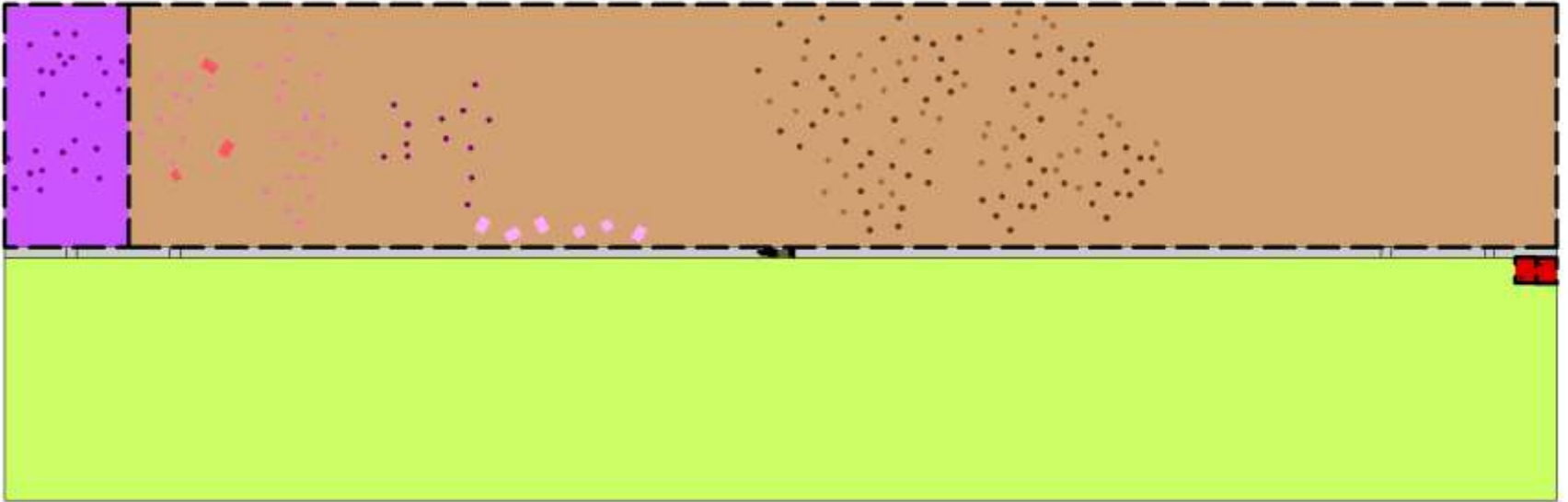
From components to grazing designs



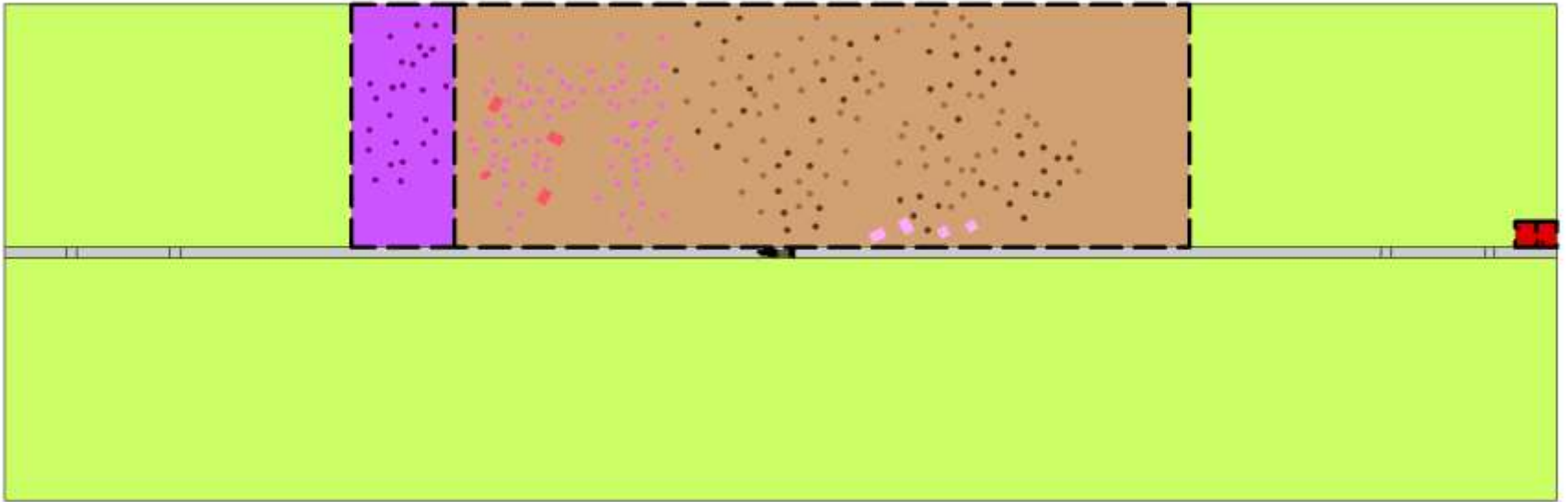


How to graze a family herd?

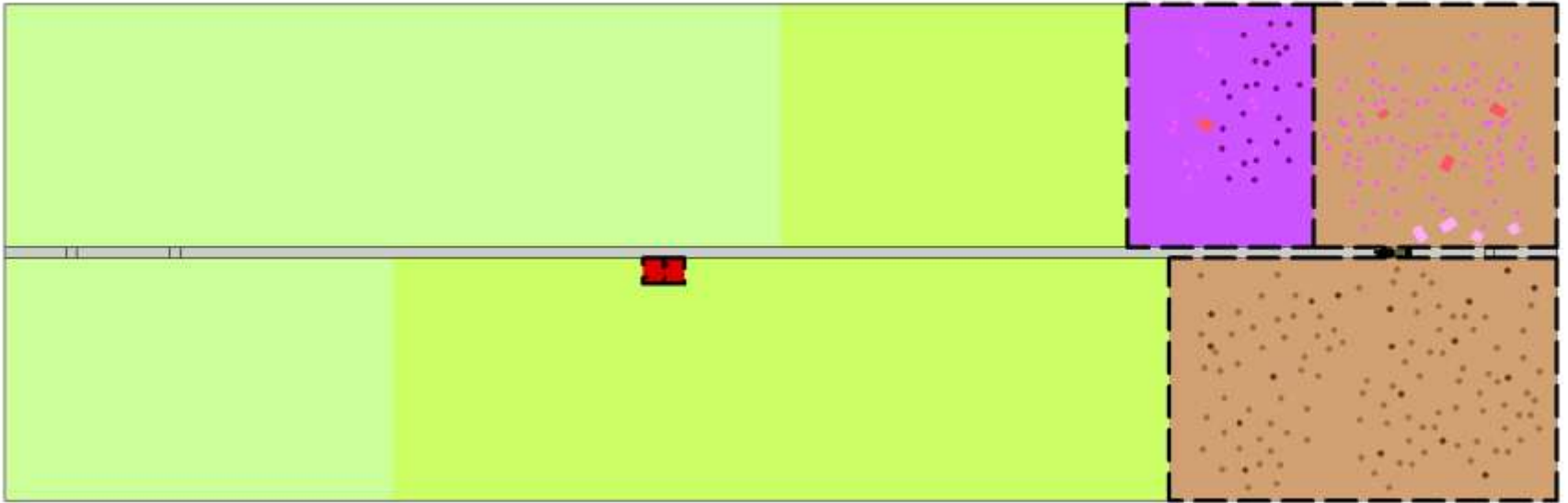
- Calving in spring
- Not pregnant young cattle graze after others
- Others: dairy, dry, heifers, calves in one group
- Combination of continuous grazing and stripgrazing



15 April



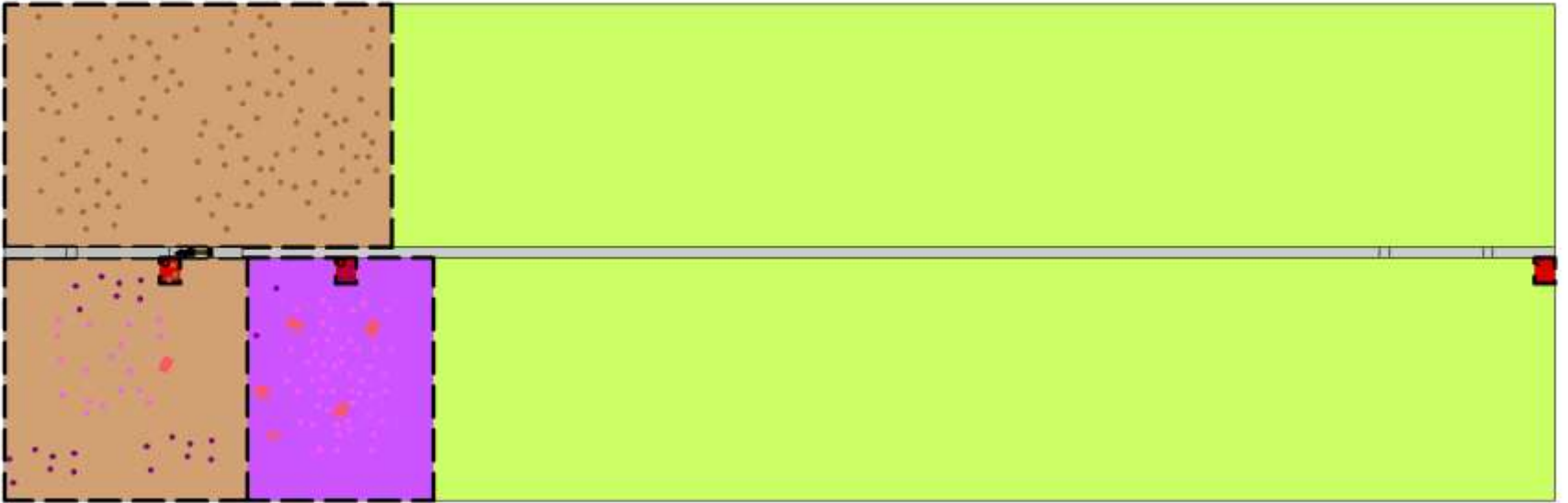
15 May



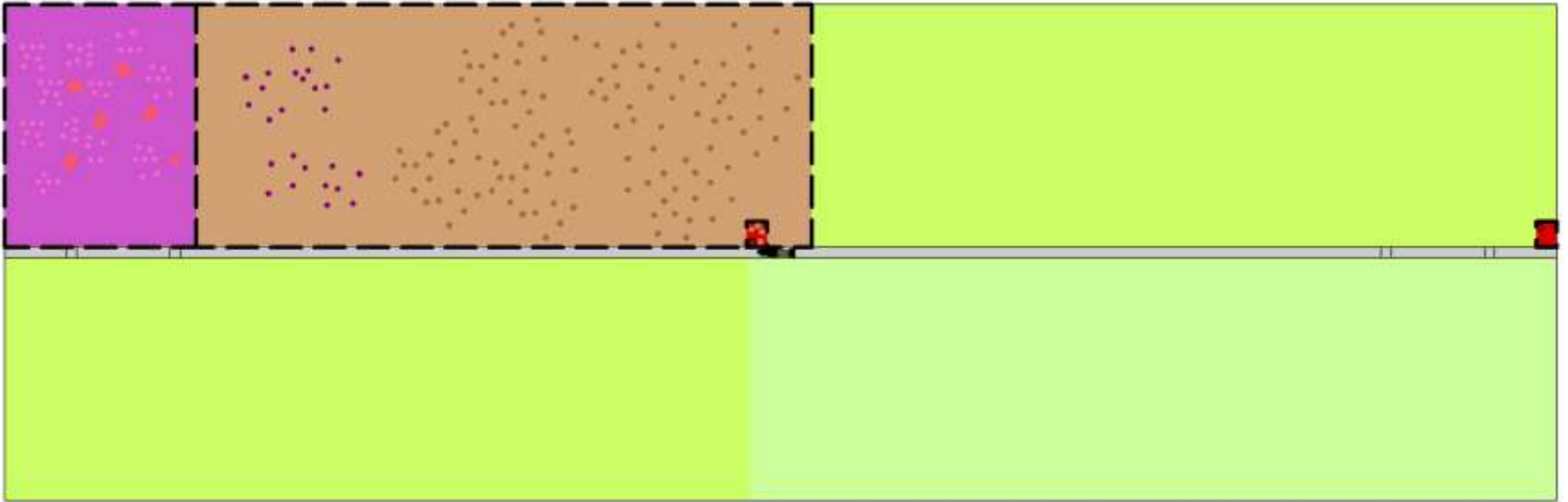
15 June



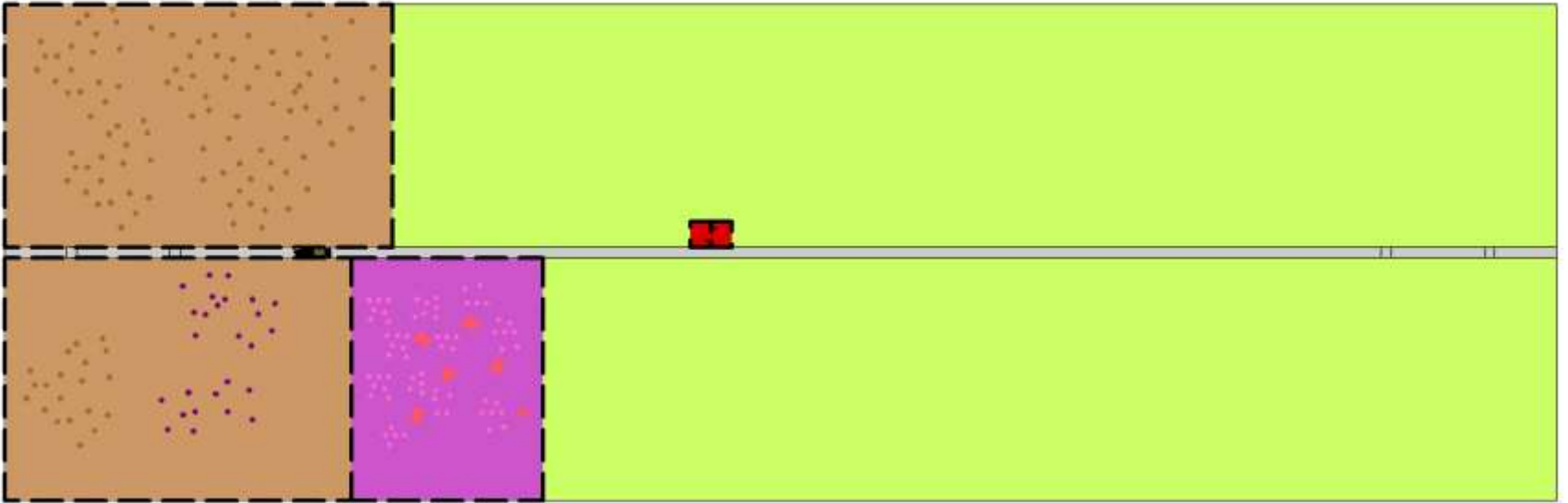
15 July



15 August



15 September



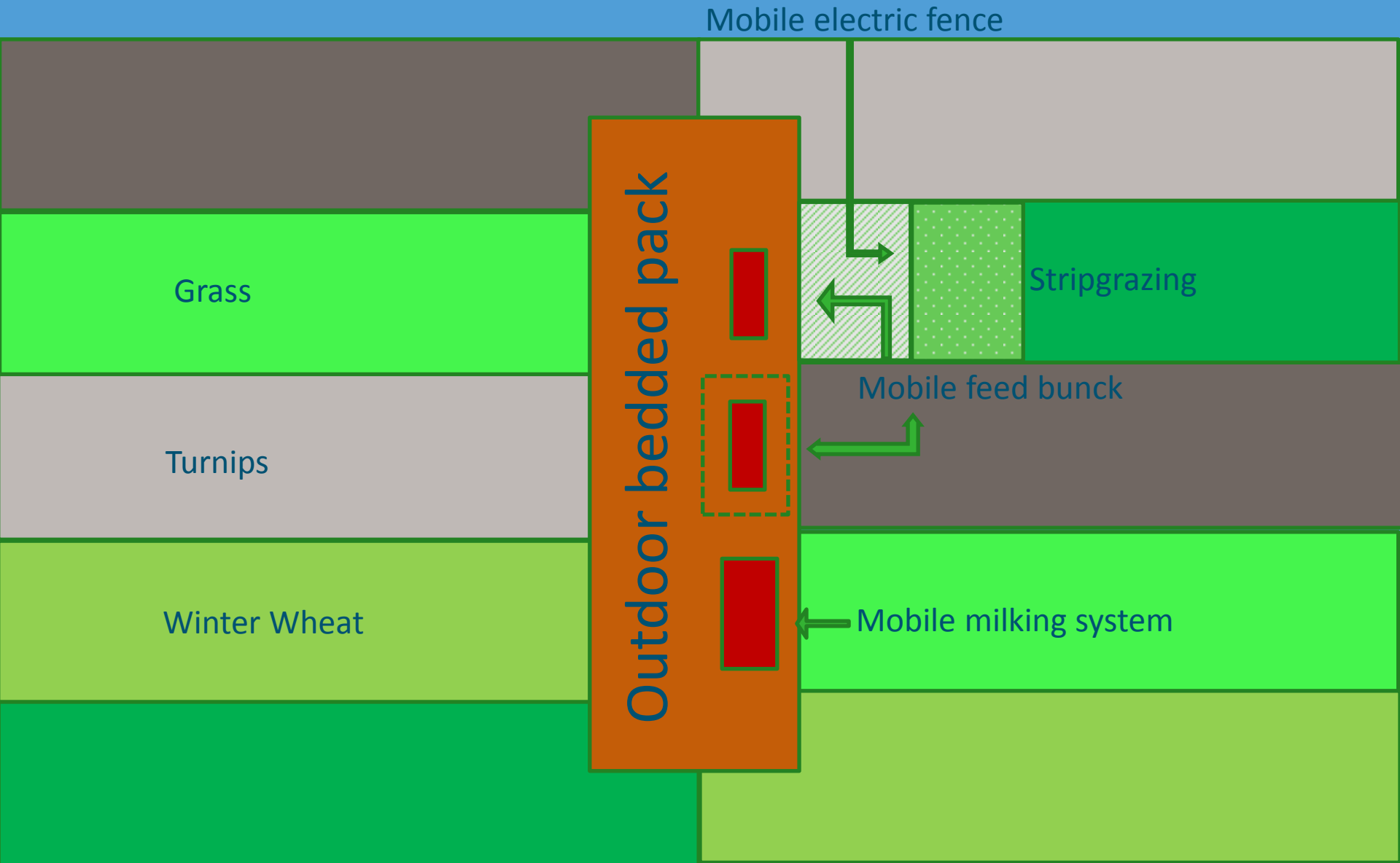
15 December

New designs

- Family herd
- Grazing 'year around'
- Grazing 1000 cows



Stripgrazing year around with compost bedded pack



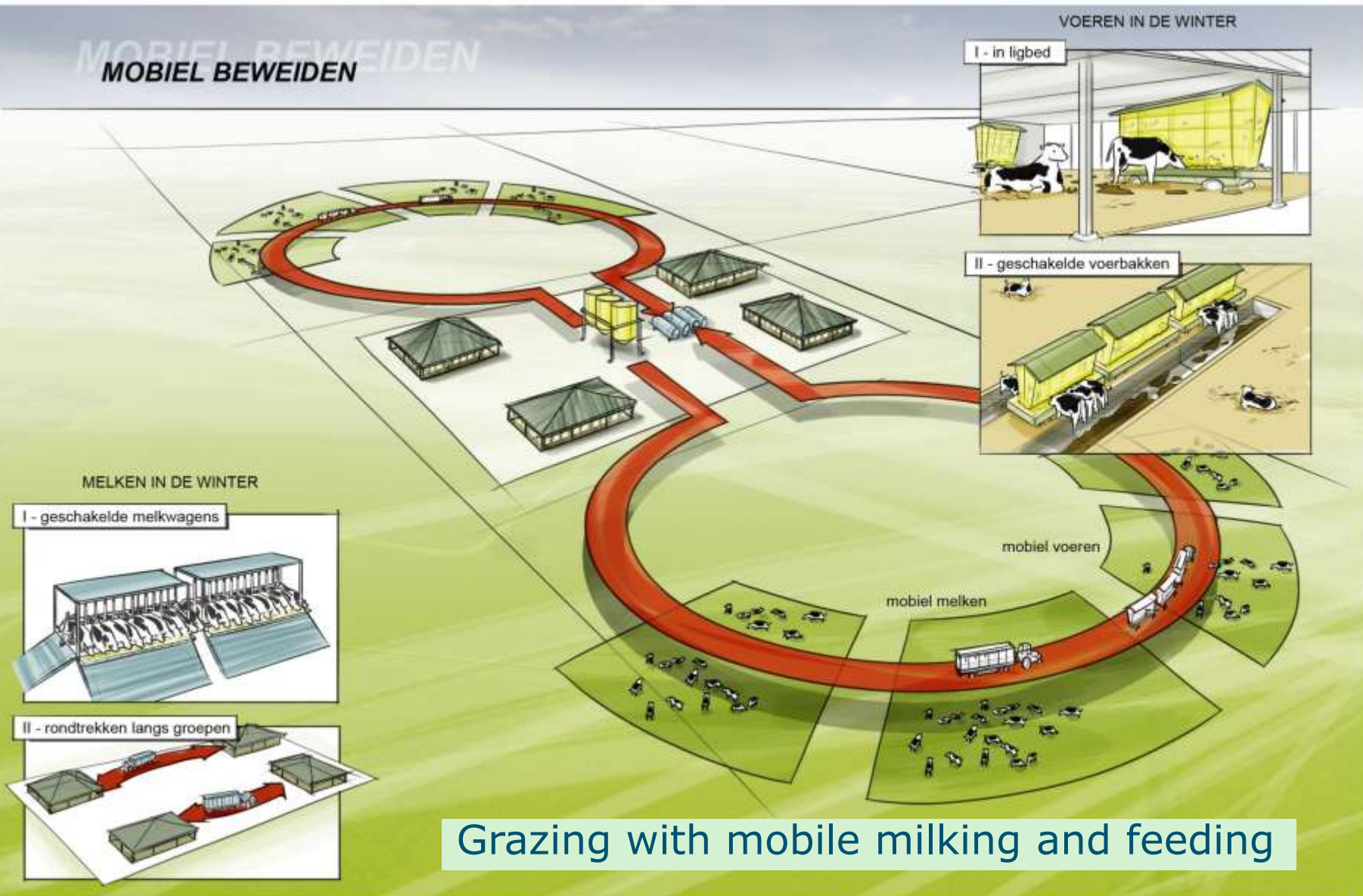
New designs

- Family herd
- Grazing 'year around'
- Grazing 1000 cows



Cows central; 4 farms each 250 cows

MOBIEL BEWEIDEN



Grazing with mobile milking and feeding

Cows on different farms in region (decentral)

Dairy village

Regional dairy farms

Milk

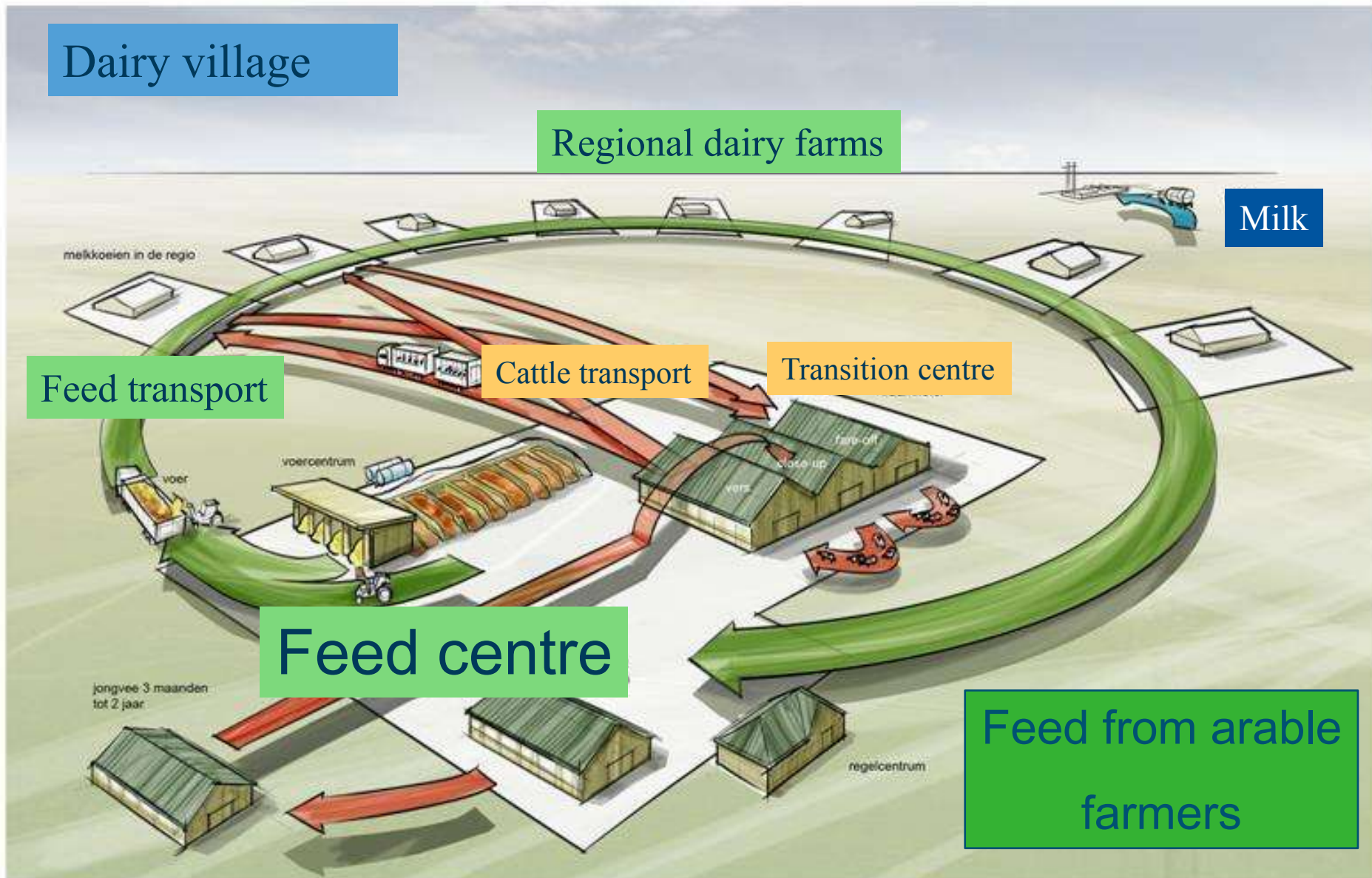
Feed transport

Cattle transport

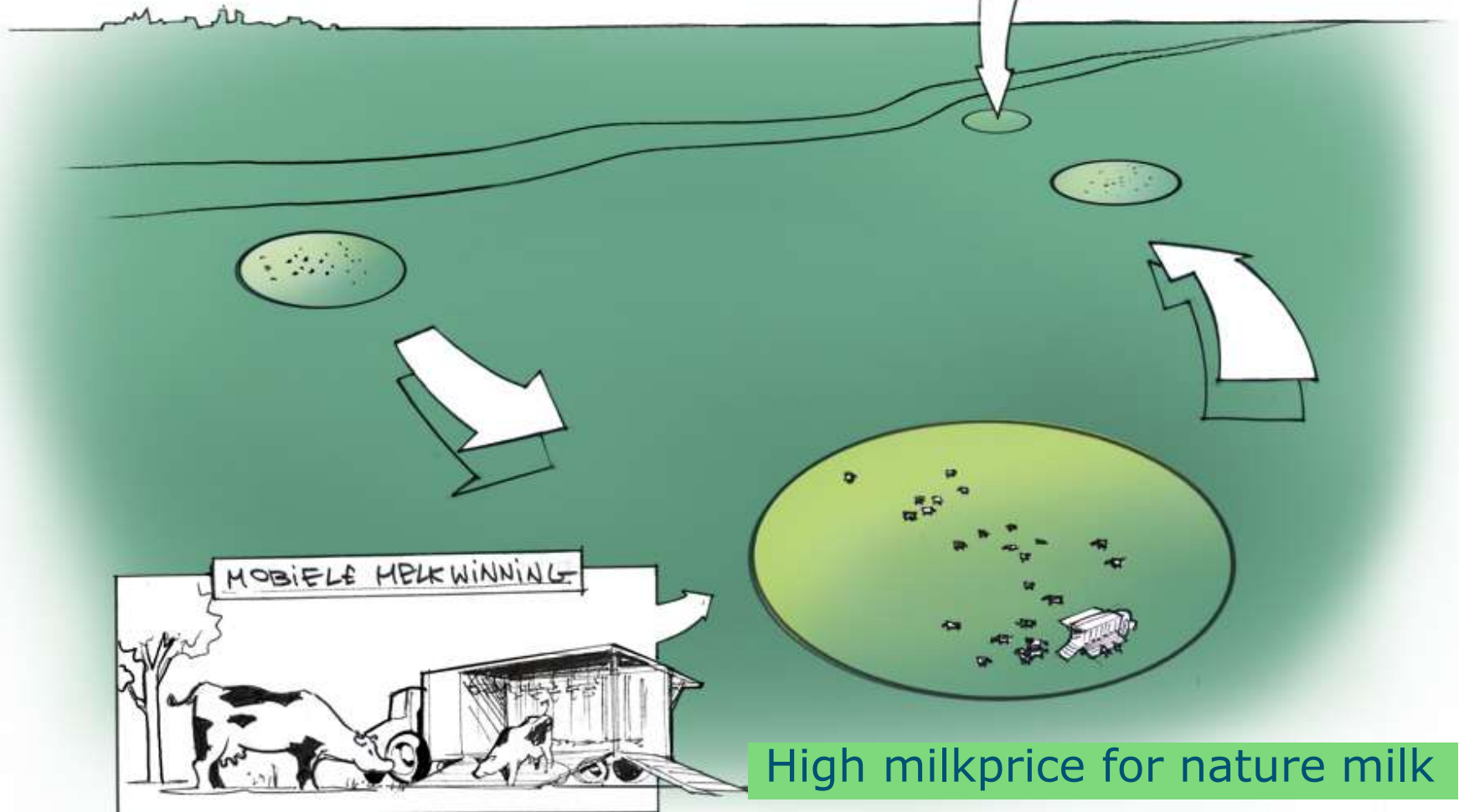
Transition centre

Feed centre

Feed from arable farmers



Moving around in nature



Discussion

- Which ideas do you like or not like?
 - Mobile milking, feeding, electric fence, roof
 - Simple housing: outdoor bedded pack
 - Family herd
 - Year around grazing: stripgrazing on grass, winterwheat or turnips
 - Grazing large herds
 - Cows central and mobile milking and feeding
 - Cows decentral with regional feed centre
 - In nature
- Possibilities for coöperation?
(*project "Amazing grazing"*)



Amazing grazing

- New project; first year from june 2012 until june 2013
- First year focus on inventory of innovations
 - Grazing systems more than 150 cows
 - Total farm design of grazing and simple housing
 - With farmers, advisors and research international
- Next years implement innovations and develop knowledge

