AUTOGRASSMILK

Drivers for grazing and barriers to grazing on dairy farms with and without automatic milking

Agnes van den Pol-van Dasselaar

Aidan & Ann Power
Robotitc Farm
SME Farm IE

SME Farm DK
Thure and Susanne Worm

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013

Autograssmilk

SEVENTH FRAMEWORK PROGRAMME

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

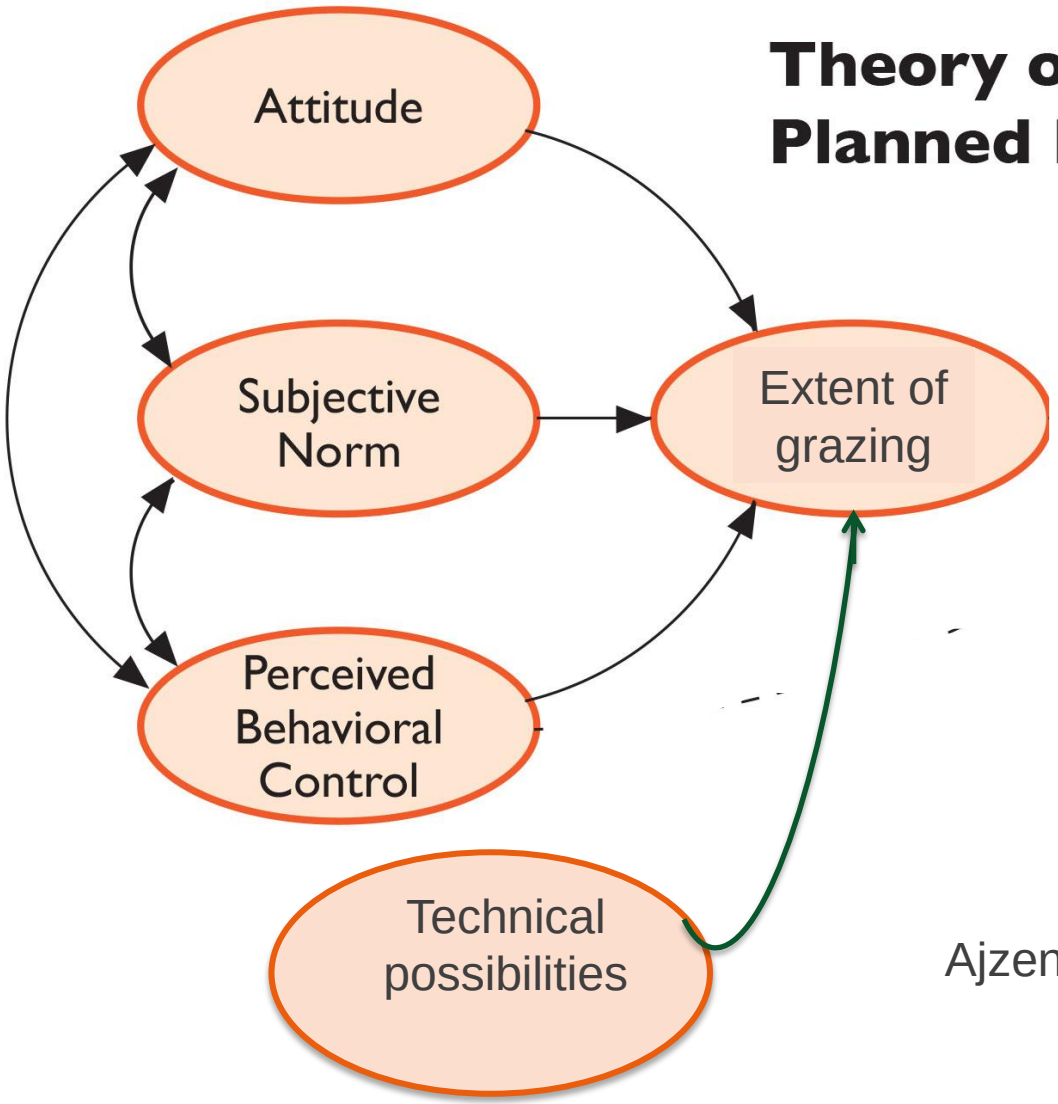
© AUTOGRASSMILK, 2013

Objective

- To study the technical and social factors that affect the extent of grazing on commercial dairy farms with and without AMS

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission
© AUTOGRASSMILK, 2013

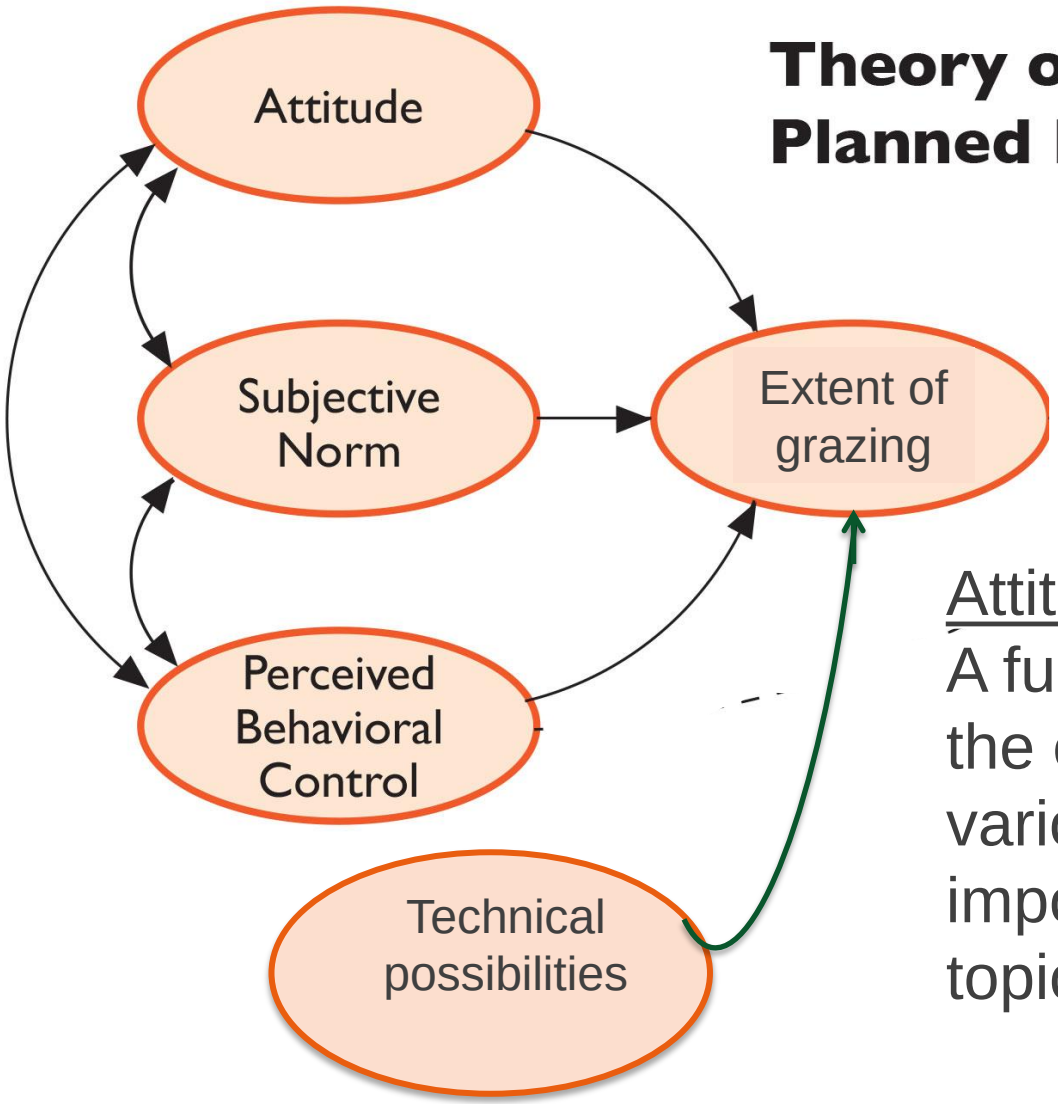
Theory of Planned Behavior



Ajzen, 1991

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013



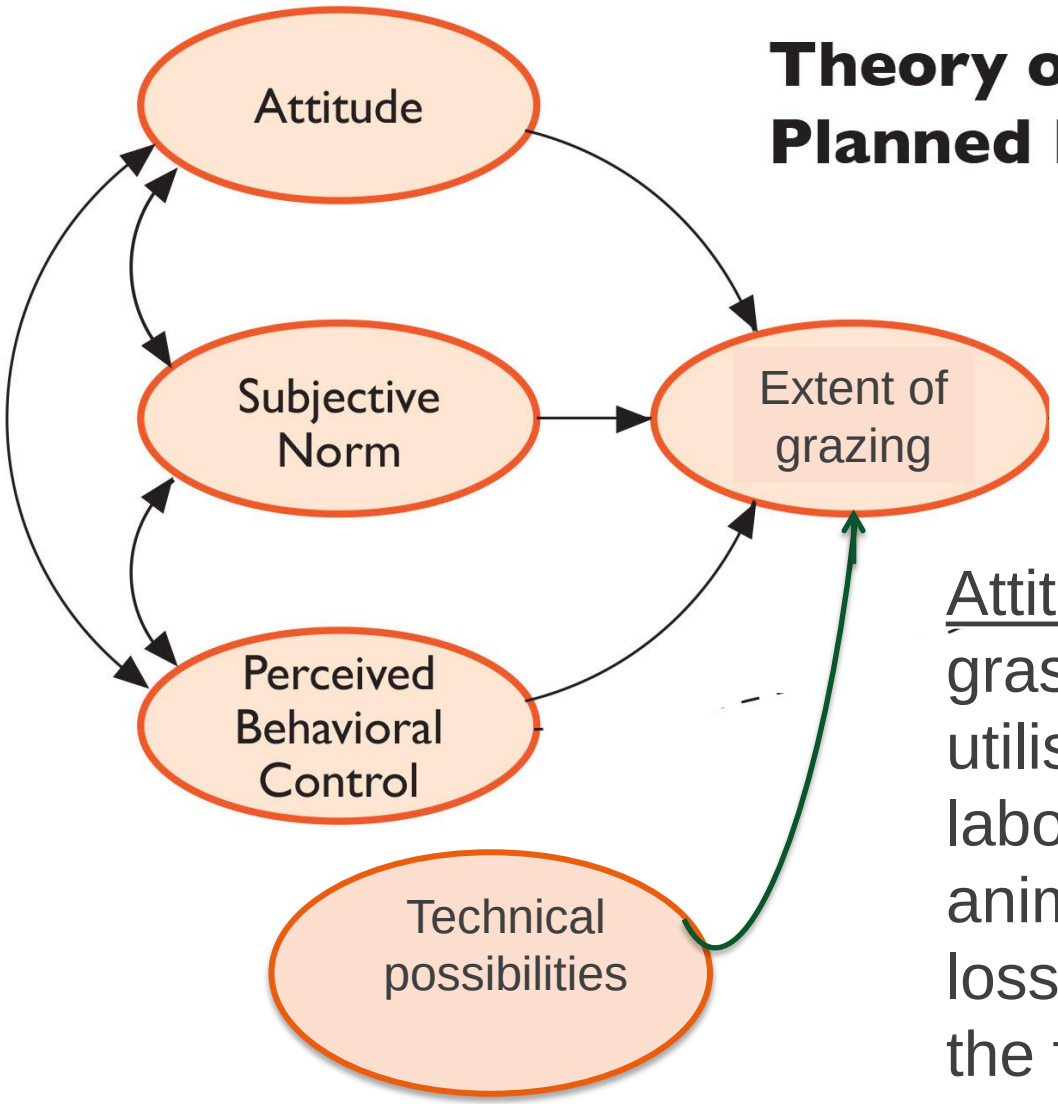
Theory of Planned Behavior

Attitude

A function of the belief in the effect of grazing on various topics and the importance of these topics for the dairy farmer

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013



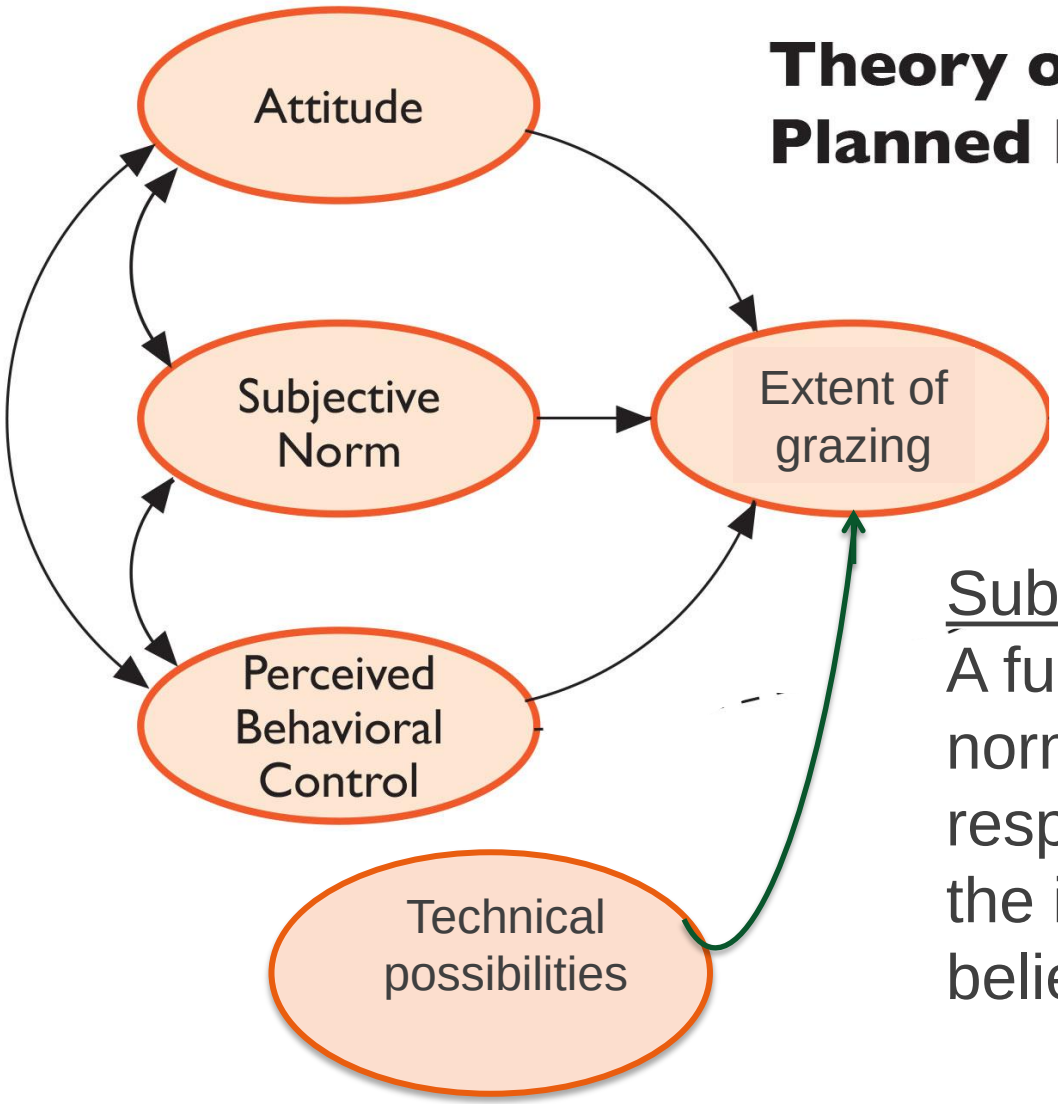
Theory of Planned Behavior

Attitude

grass growth, grass utilisation, income, labour, job satisfaction, animal health, mineral losses, development of the farm

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013



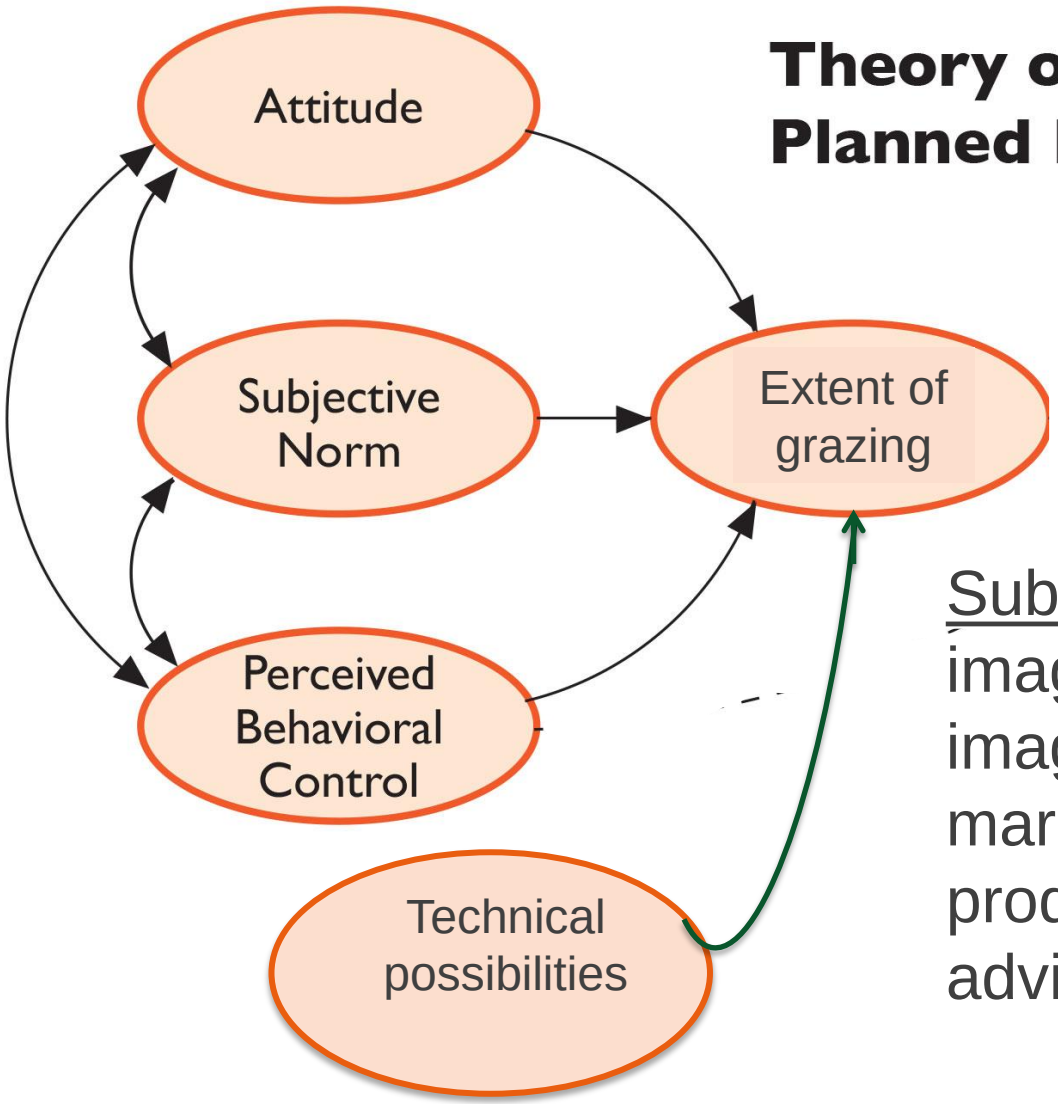
Theory of Planned Behavior

Subjective norm

A function of the social normative beliefs with respect to grazing and the importance of these beliefs

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013



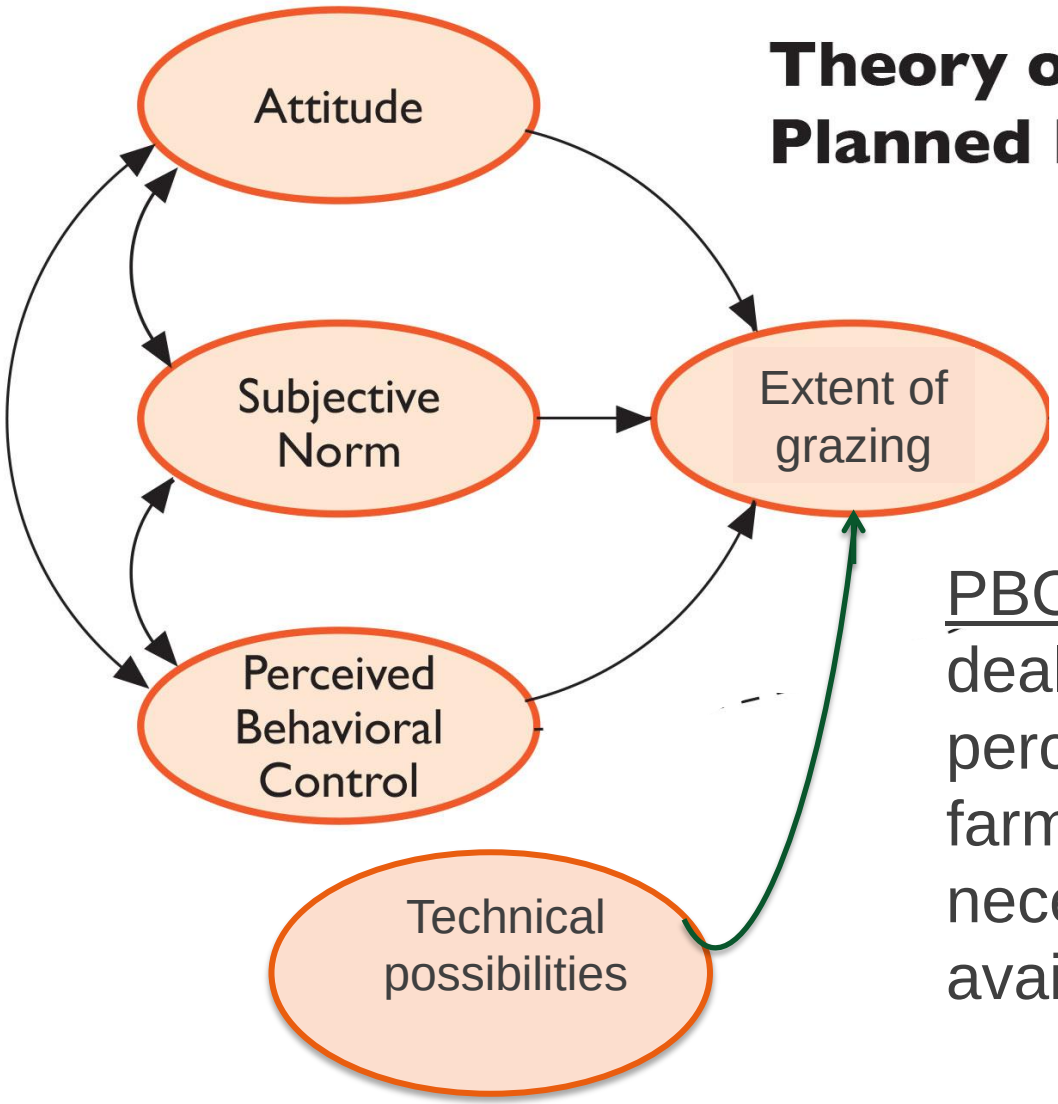
Theory of Planned Behavior

Subjective norm

image of the dairy sector, image of individual farms, marketing of dairy products, advise of farm advisors

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013

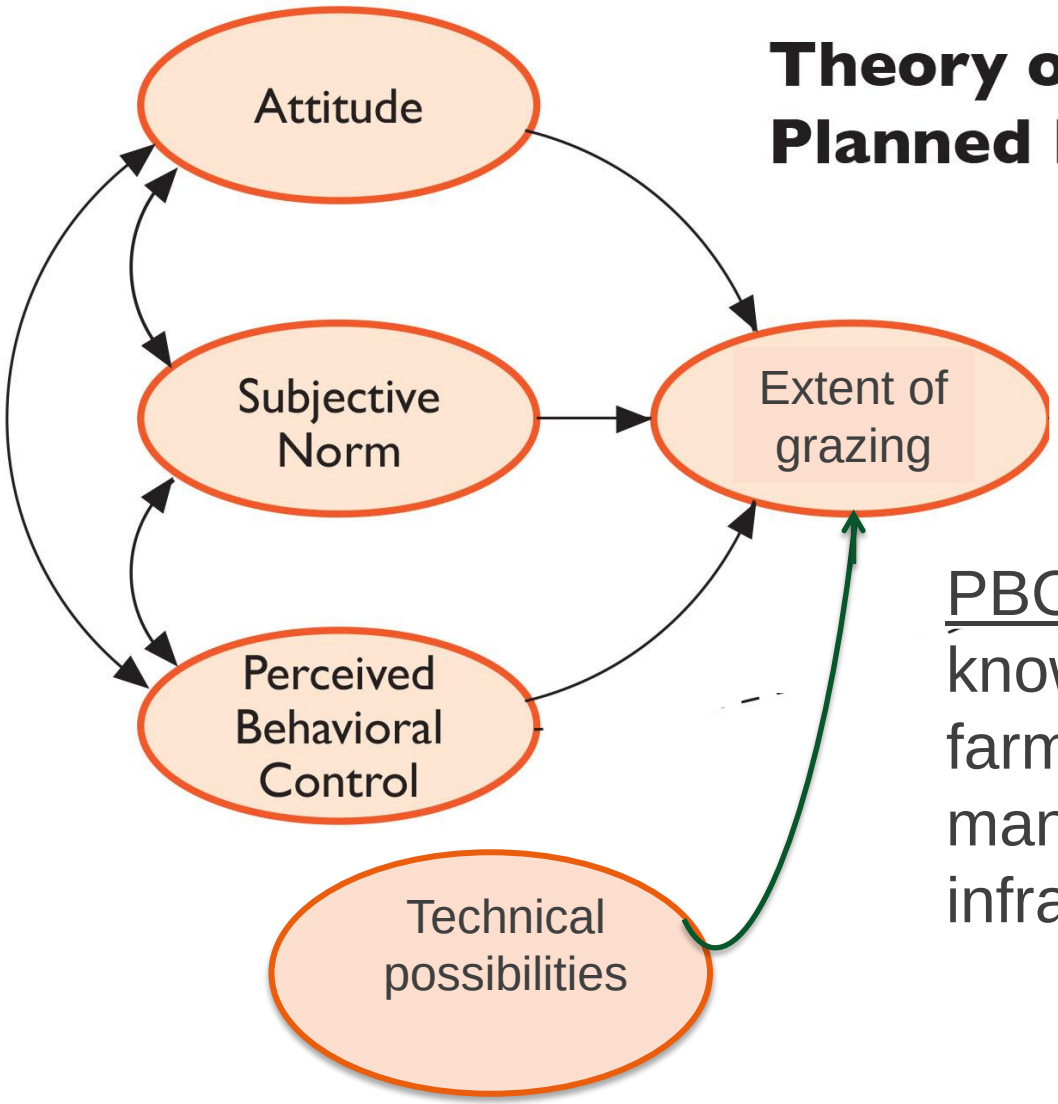


Theory of Planned Behavior

PBC
deals with the perceptions of the dairy farmer about having the necessary resources available

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013



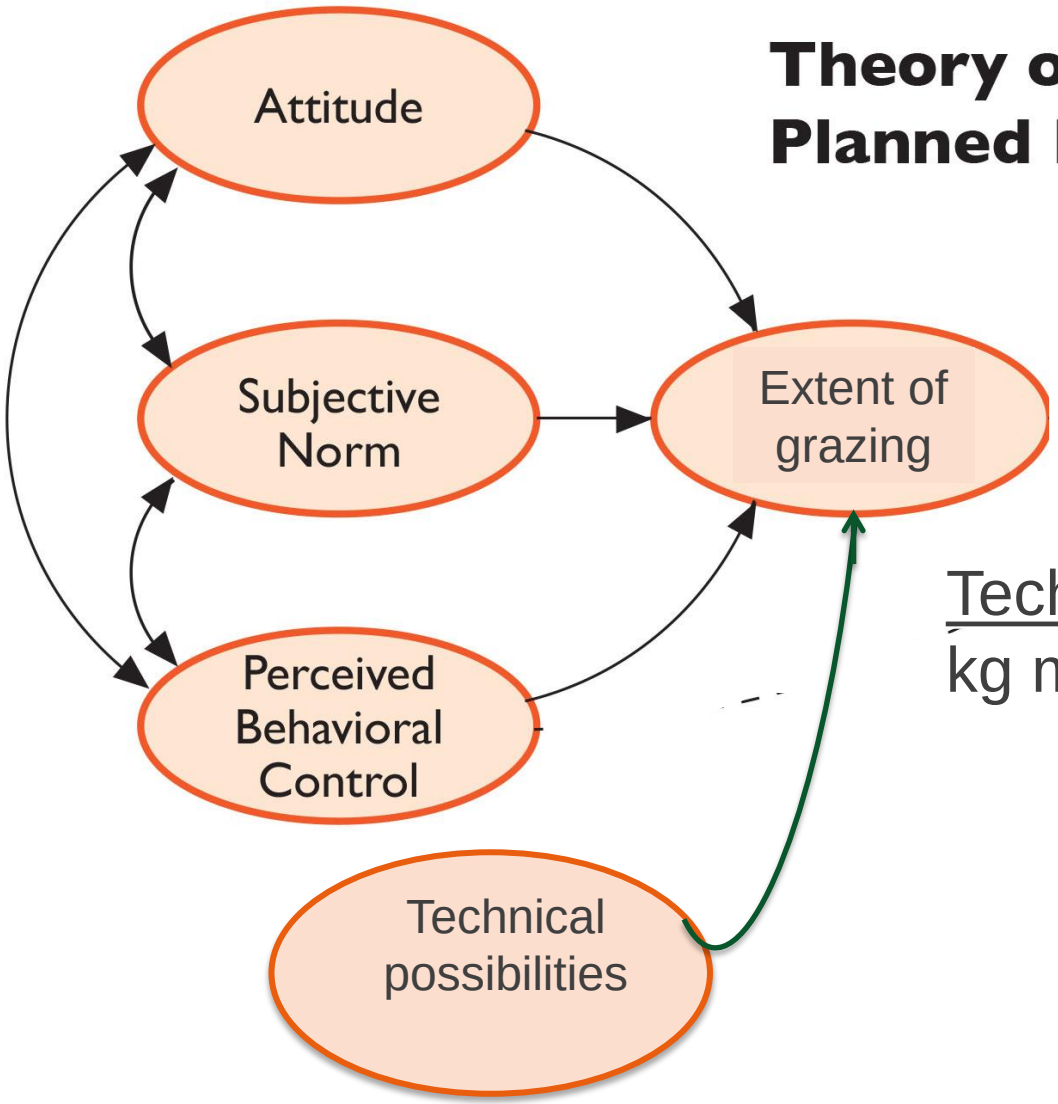
Theory of Planned Behavior

PBC

knowledge of the dairy farmer on grazing management, infrastructure of the farm

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013



Theory of Planned Behavior

Technical possibilities

kg milk ha^{-1}

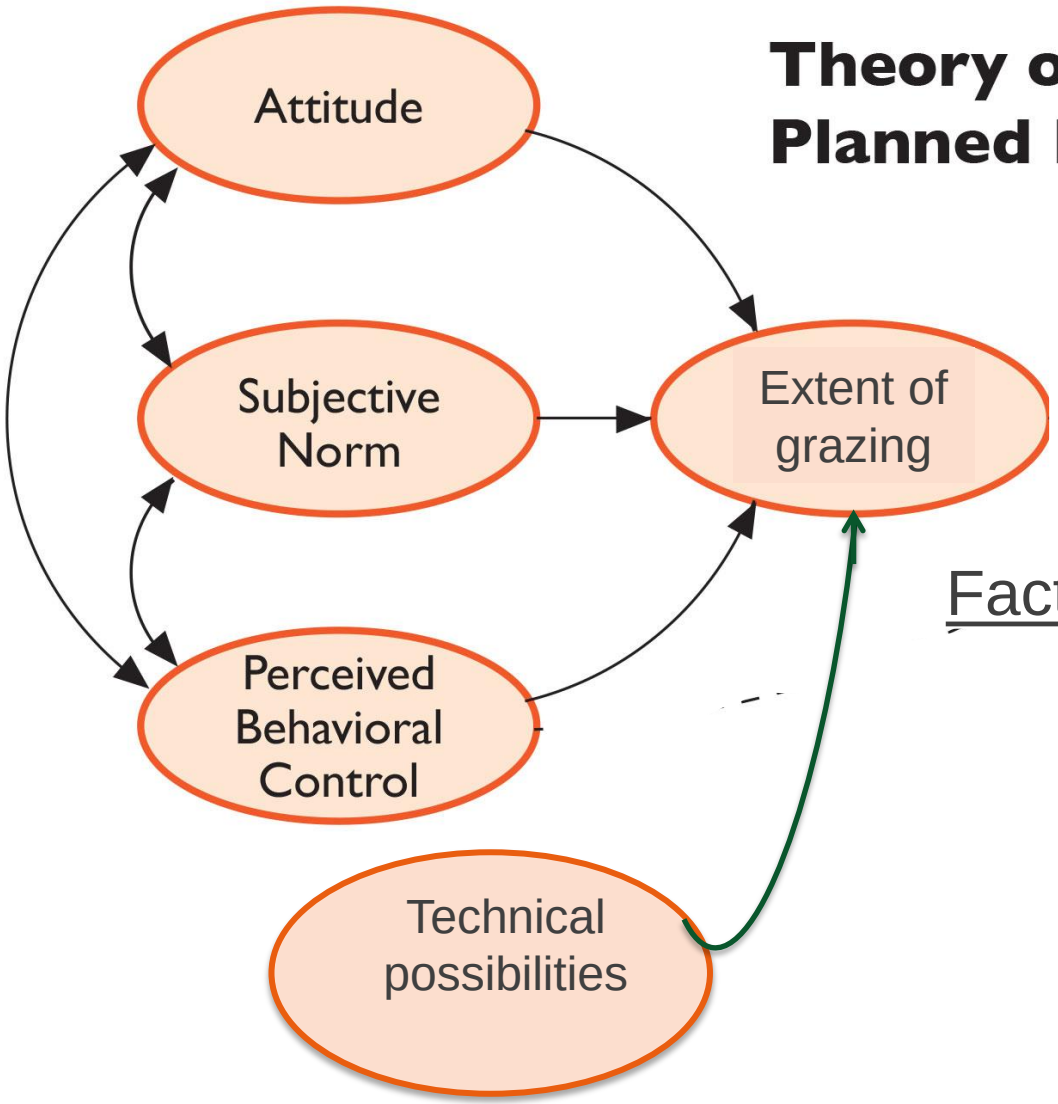
FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013

Method

- On-line questionnaire
- 212 valid responses from commercial dairy farmers
- Combined with technical data and economic data of annual accounts
- Factor analysis
- Multiple linear regression

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission
© AUTOGRASSMILK, 2013

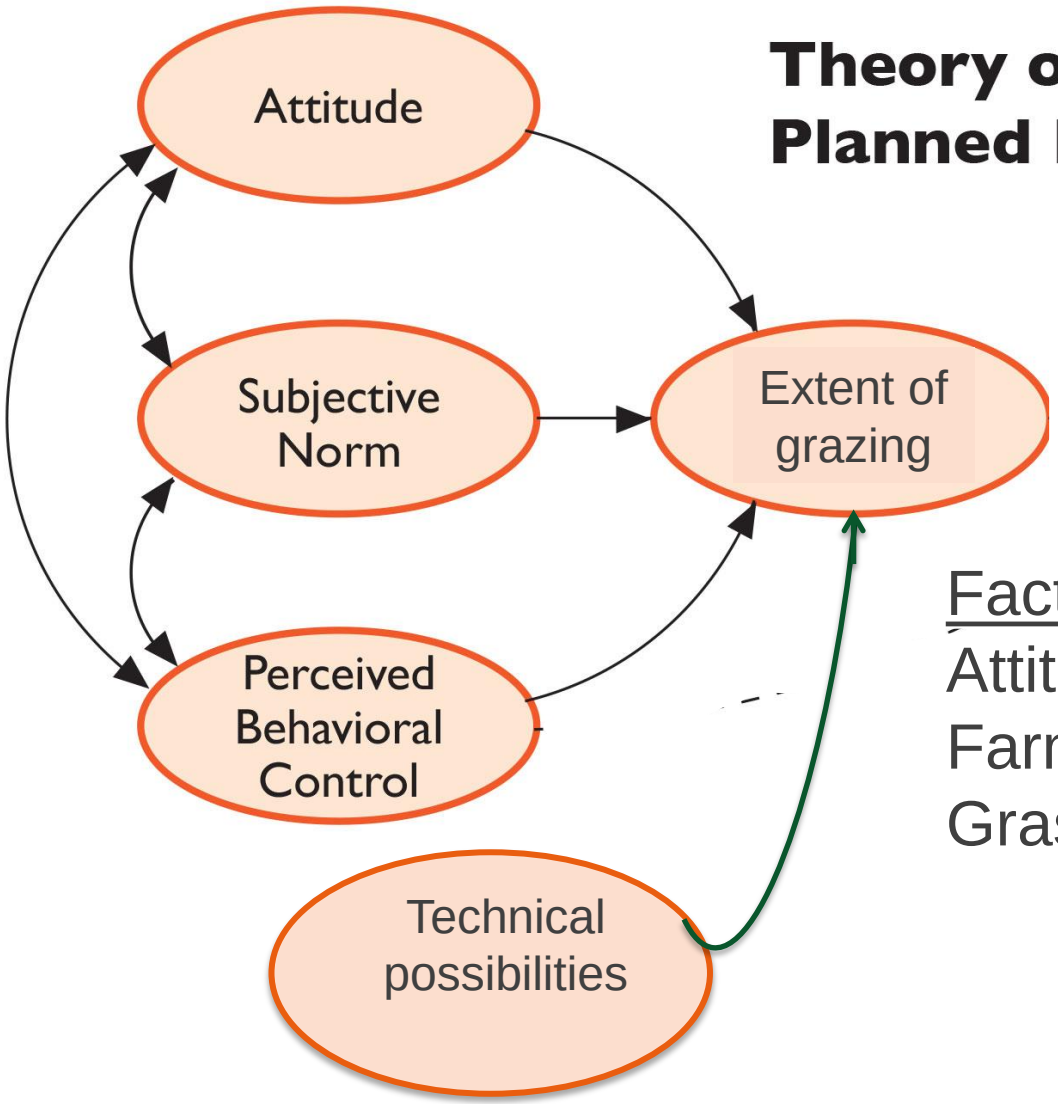


Theory of Planned Behavior

Factor analysis

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013



Theory of Planned Behavior

Factor analysis

Attitude towards grazing:

Farm Continuity Beliefs

Grass Yield Beliefs

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013

Multiple linear regression model

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013

Multiple linear regression model

- 47% of the variation in the extent of grazing
- 0.01 level: Farm Continuity Beliefs, Perceived Behavioural Control and Milk production per ha
- 0.05 level: Social Normative Beliefs

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission
© AUTOGRASSMILK, 2013

Drivers and barriers

- Driver: Social Norms
- Barrier: Grass Yield
- Driver/barrier: Farm Continuity and Perceived Behavioural Control
  - Consistent with choices in grazing management

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013

Automatic milking

- Limited effect
  - only significant effect of milking system on Perceived Behavioural Control
    - infrastructure of the farms
    - knowledge of the farmer on grazing management

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission
© AUTOGRASSMILK, 2013

Take home messages

- Extent of grazing is not only determined by technical factors but also by social factors
- The factors that drive grazing and are barriers to grazing can be used as effective information in dissemination to dairy farmers

FP7-SME-2012-314879-AUTOGRASSMILK is co-funded by the European Commission

© AUTOGRASSMILK, 2013

The research has received funding from the European Union's Seventh Framework Program under Grant Agreement FP/-SME-2012-314879-AUTOGRASSMILK

agnes.vandenpol@wur.nl
a.van.den.pol@cahvilentum.nl

LIVESTOCK RESEARCH
WAGENINGEN UR

CAH | Vilentum Hogeschool