Dairy goat nutrition & management

Teagasc Goat Conference

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InsoGoat

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Who are we?

- September 2014
- Consultancy
  - Independent
  - In The Netherlands and abroad
- Research
  - Practical point of view
  - Reliable

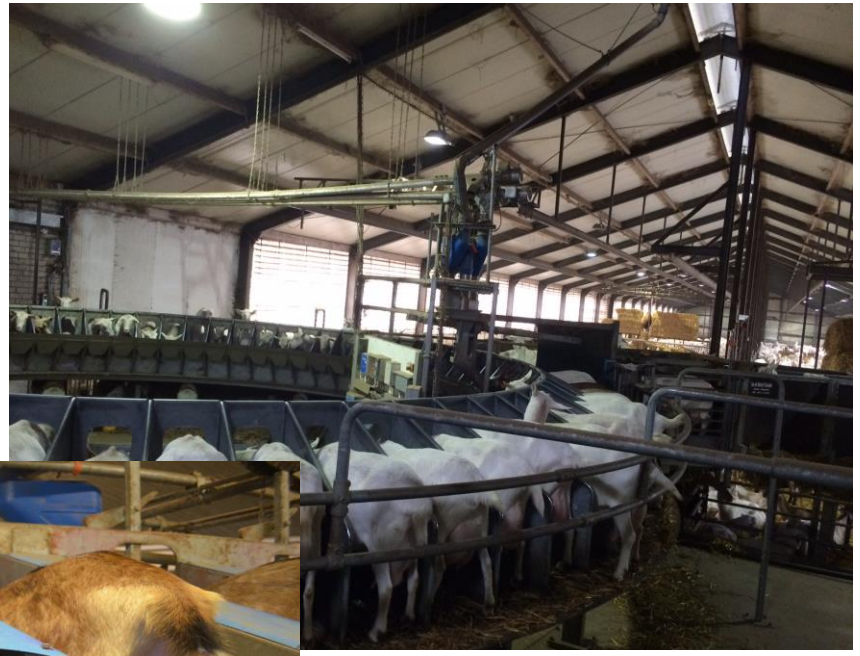


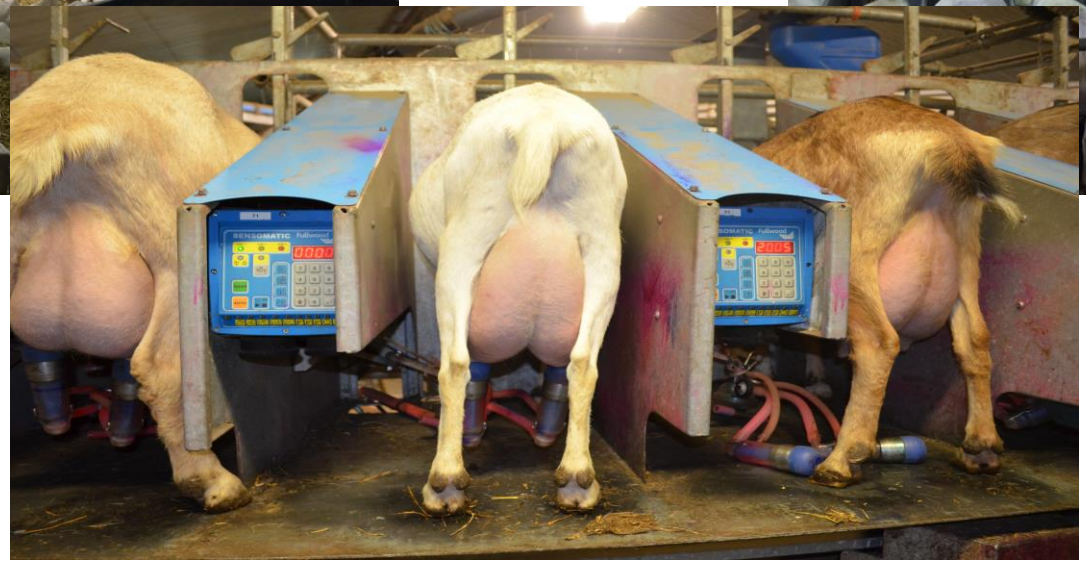


INNOVATIONS & SOLUTIONS FOR GOATS

Who are we?







INNOVATIONS & SOLUTIONS FOR GOATS

And who are you?

Program

Dutch figures

Dairy goat nutrition

- Cow vs. goat
- Vitamins & Minerals
- Grass

Dairy goat management

- Long lactations
- Breeding
- Pregnancy & Transition

Dutch averages 2014

- 985 milking goats per farm

- 1.086 kg milk/goat/year
- 4.04% fat
- 3.46% protein
- 78.4 kg fat & protein/goat/year



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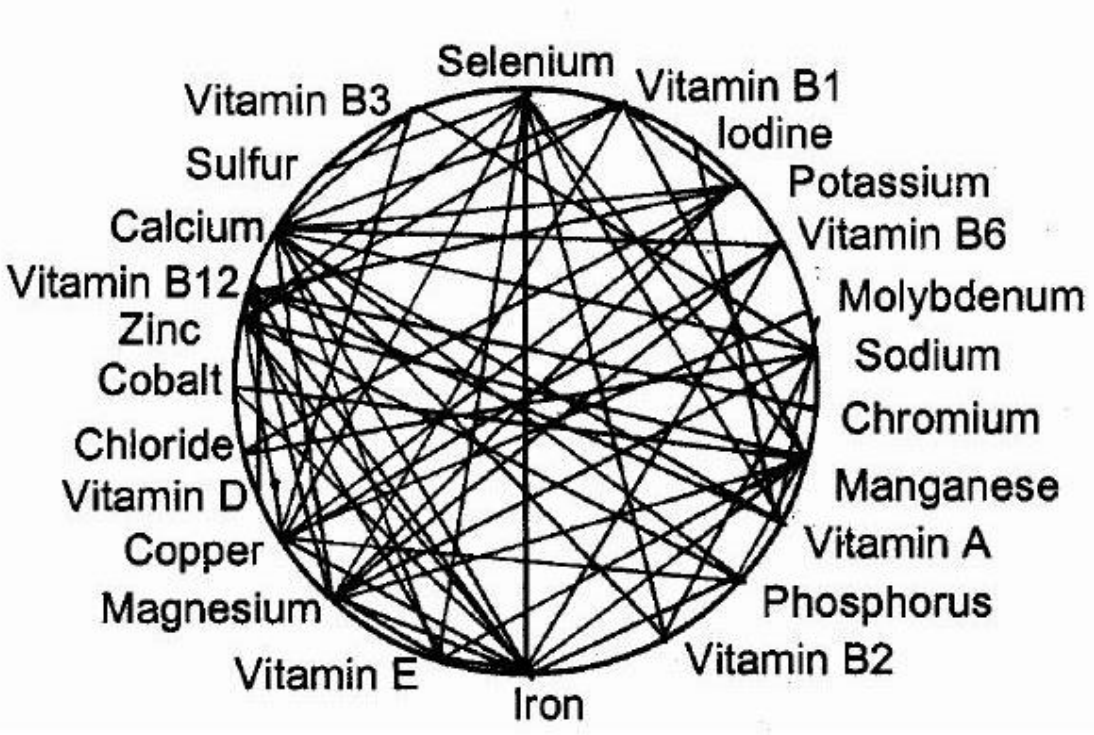
Dairy goat nutrition

Nutrition – Cow vs. goat

- Dividing [illegible]ning by 10
- Natural behaviour
- Needs
- No. of calves/lambs
- Grazing

Nutrition – Vitamins & Minerals

A complex issue because of many interactions!



Nutrition – Calcium

Function

- 98% in bones
- Muscles contractions

Reference values for blood

- 2.2 – 2.9 mmol/L

Important to know

- Also needed during pregnancy
- Vitamin D needed for calcium regulation

Nutrition – Phospherus

Function

- 80-85% in bones
- Energy metabolism (ATP)

Reference values for blood

- 1.3 – 2.9 mmol/L

Important to know

- Ca : P

Nutrition – Magnesium

Function

- Cation
- Nerve system / muscle contractions

Reference values for blood

- 1.1 – 1.5 mmol/L

Important to know

- Laxative effect in case of excess

Nutrition – Coper

Function

- Enzymes
- Blood formation, structure of hair

Reference values for blood

- 14 – 24 µmol/L

Important to know

- Stored in liver

Nutrition – Zinc

Function

- Enzymes
- Influence on bones, hair, skin

Reference values for blood

- > 8.0 µmol/L

Important to know

- Stored limited in liver, muscles and bones
- Dry udders and skin

Nutrition – Selenium

Function

- Enzym GSH-Px
- Antioxidant

Reference values for blood

- 500 – 1000 IU/g (GSH-Px)

Important to know

- Reference values for cows; 120 – 600
- A goat is very efficient with selenium

Nutrition – Vitamin E

Function

- Immune system
- Antioxidant

Reference values for blood

- > 2.5 µmol/L

Important to know

- Reference values for cows; > 7.5
- Decreases around kidding

Nutrition – Grass & Minerals

Levels of some minerals in English ryegrass and white clover.

	Ca (g/kg DS)	Mg (g/kg DS)	Cu (mg/kg DS)
English Ryegrass	4 – 8	1.0 – 3.0	3 – 15
White clover	10 – 20	1.5 – 4.0	5 – 12

Nutrition – Clover & goats

- Clover contains a lot of rumen degradable protein
- Energy side of the ration
- Fast digestion
- Risk for diarrhoea (clostridium)

- Drying -> more safe
- Red clover; bit more crude fibre
- < 10% clover



Nutrition – Grass

- A lot of varieties
- Grass silage
  - 45 – 55% dry matter
  - 15 – 18% crude protein
  - <10% crude ash



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Dairy goat management

Pregnancy & Transition

- 2 or 3 kids
- Dry period
- NEB
- Highest risk period
  - Ketosis
  - Uterus infections

Colostrum

- Which type of colostrum? And why?
- Antibodies (IgG)
- No own immune system yet
- Fast, Often, Enough, Fresh



Transition management

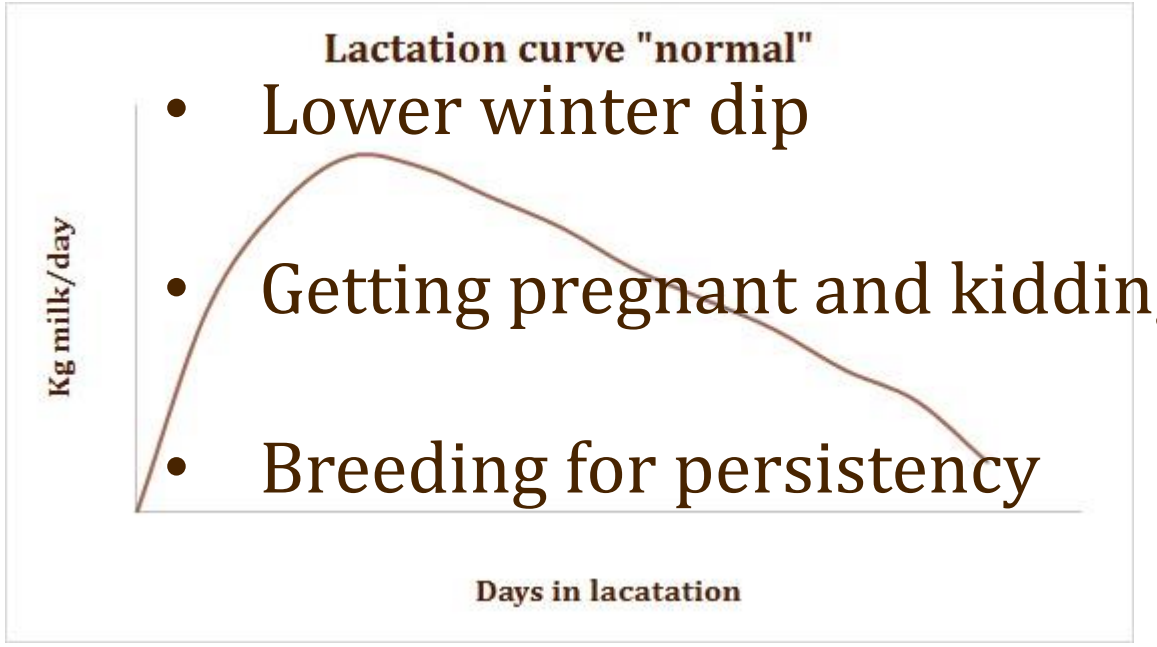
- Less crude protein
- Improved colostrum quality

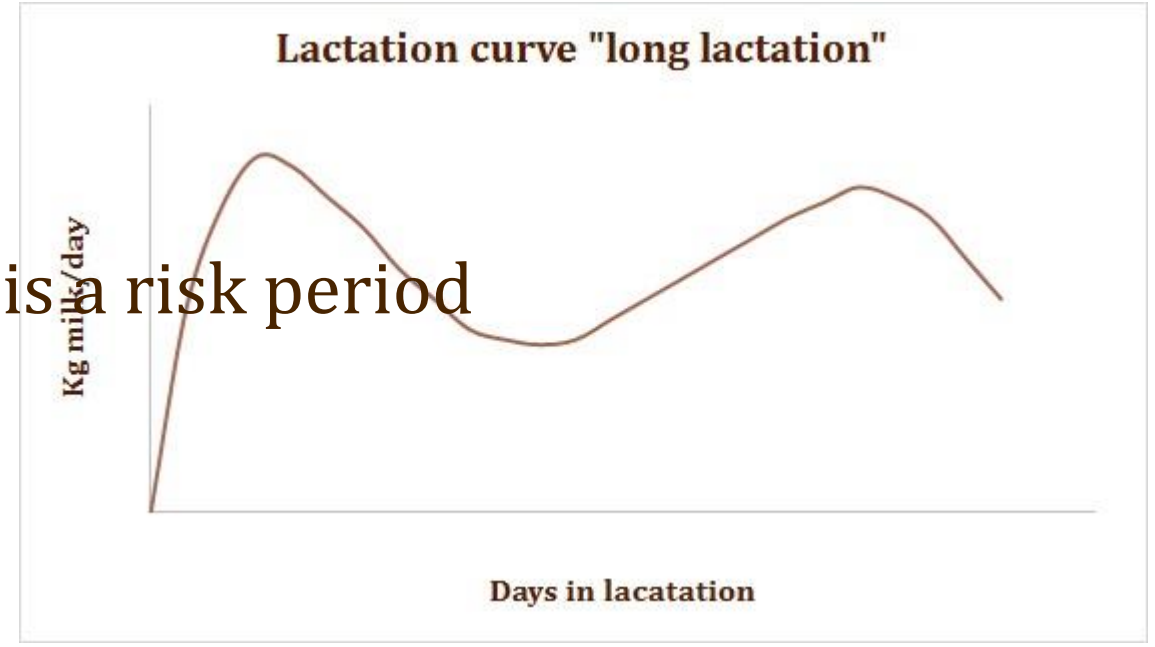
- Ad libitum feeding
- Low water troughs
- Hygiene !



Lactation

Consequences long lactations

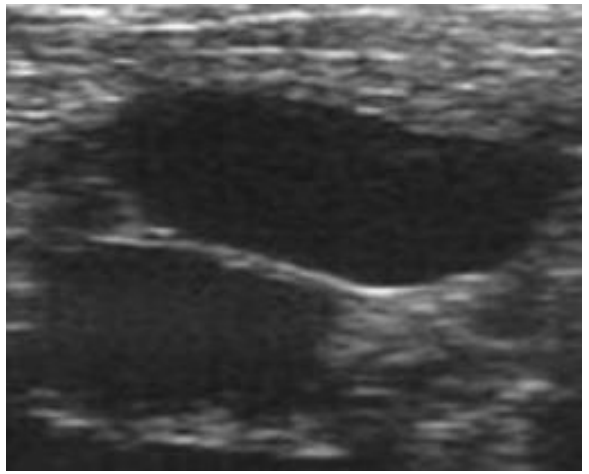




- Lower winter dip
- Getting pregnant and kidding is a risk period
- Breeding for persistency

Breeding

- Natural breeding or AI
- Long lactations or every year kidding
- One or more kidding periods per year
- Pseudo pregnancy ⟶ loss of milk



Breeding out of season

Natural breeding

- Light schedule; 16h darkness and 8h light
- Starting 40 days before
- Bucks and goats

AI

- Synchronisation (?)
- Frozen or fresh semen



Critical succes factors

- Milking
- Feeding & water
- Husbandry & housing
- Health & welfare
- Young stock
- Work routines & protocols
- Trained & experienced employees

INNOVATIONS & SOLUTIONS FOR GOATS

Dairy goat management, a nice challenge!

Good luck!

