



Animal Health Matters.
For Safe Food Solutions.



Schweizerische Eidgenossenschaft
Confédération suisse
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Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO

Swiss-Ukrainian Project

“ESTABLISHMENT OF A RISK-BASED FOOD SAFETY CONTROL SYSTEM IN THE DAIRY VALUE CHAIN IN UKRAINE”

Component 3: Private industry engagement in food safety control system

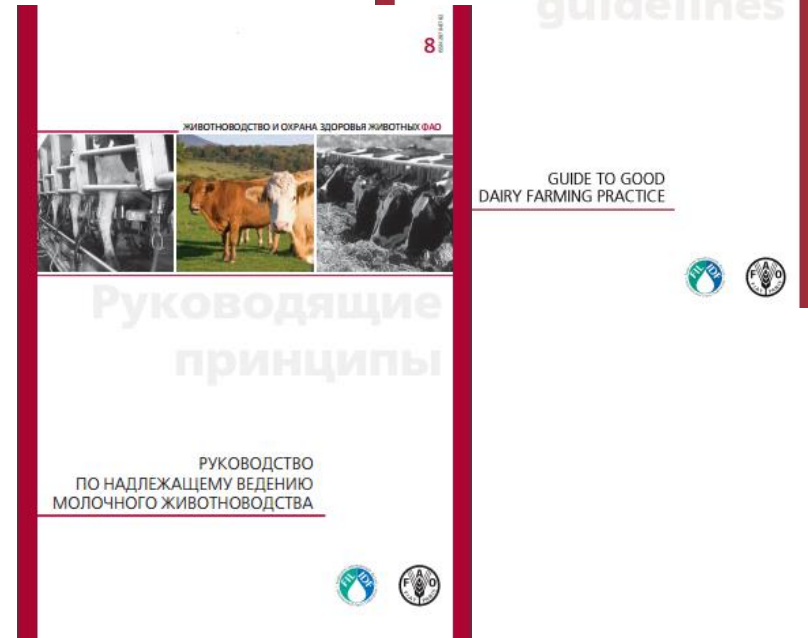
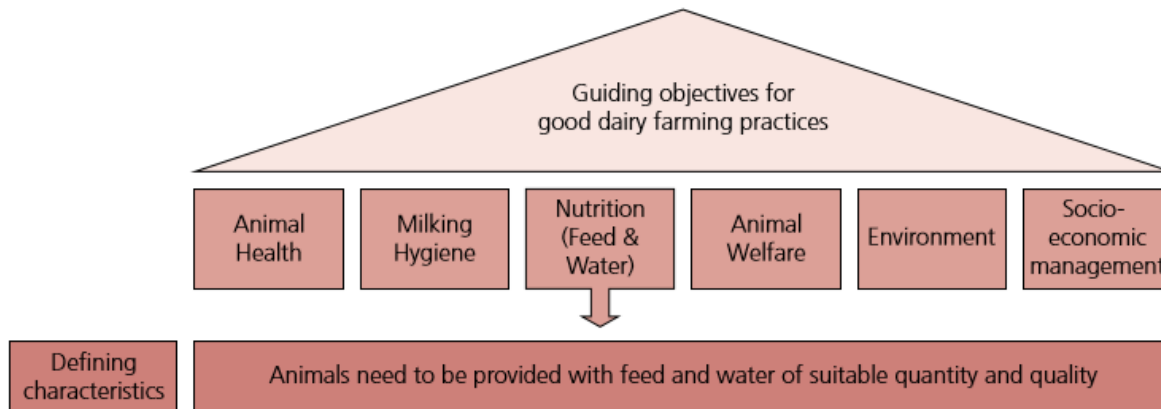
Training of Trainers (ToT), focus: small producers
Feeding and quality of feed and water



Iryna Vysotska

Kyiv, 12-16.09.2016

Good dairy farming practice

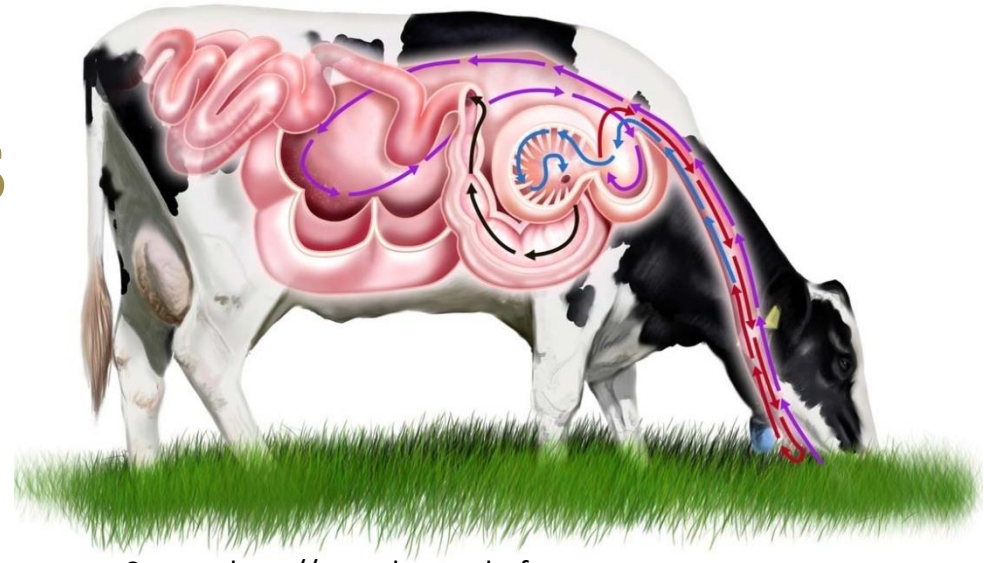


- Secure feed and water supplies from sustainable sources.
- Ensure animal feed and water are of suitable quantity and quality. ←
- Control storage conditions of feed.
- Ensure the traceability of feedstuffs brought on to the farm.

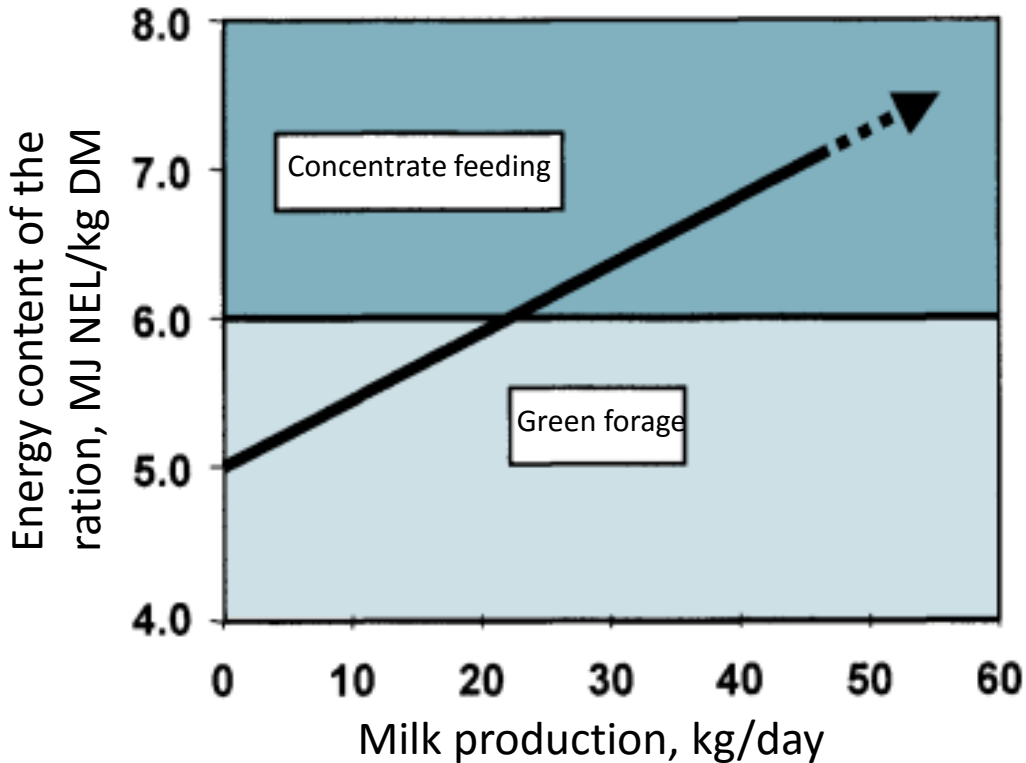
Source : FAO and IDF. 2011. Guide to good dairy farming practice. Animal Production and Health Guidelines. No. 8. Rome.



Cows – ruminant herbivores



Source: <http://www.bauernhof.net>



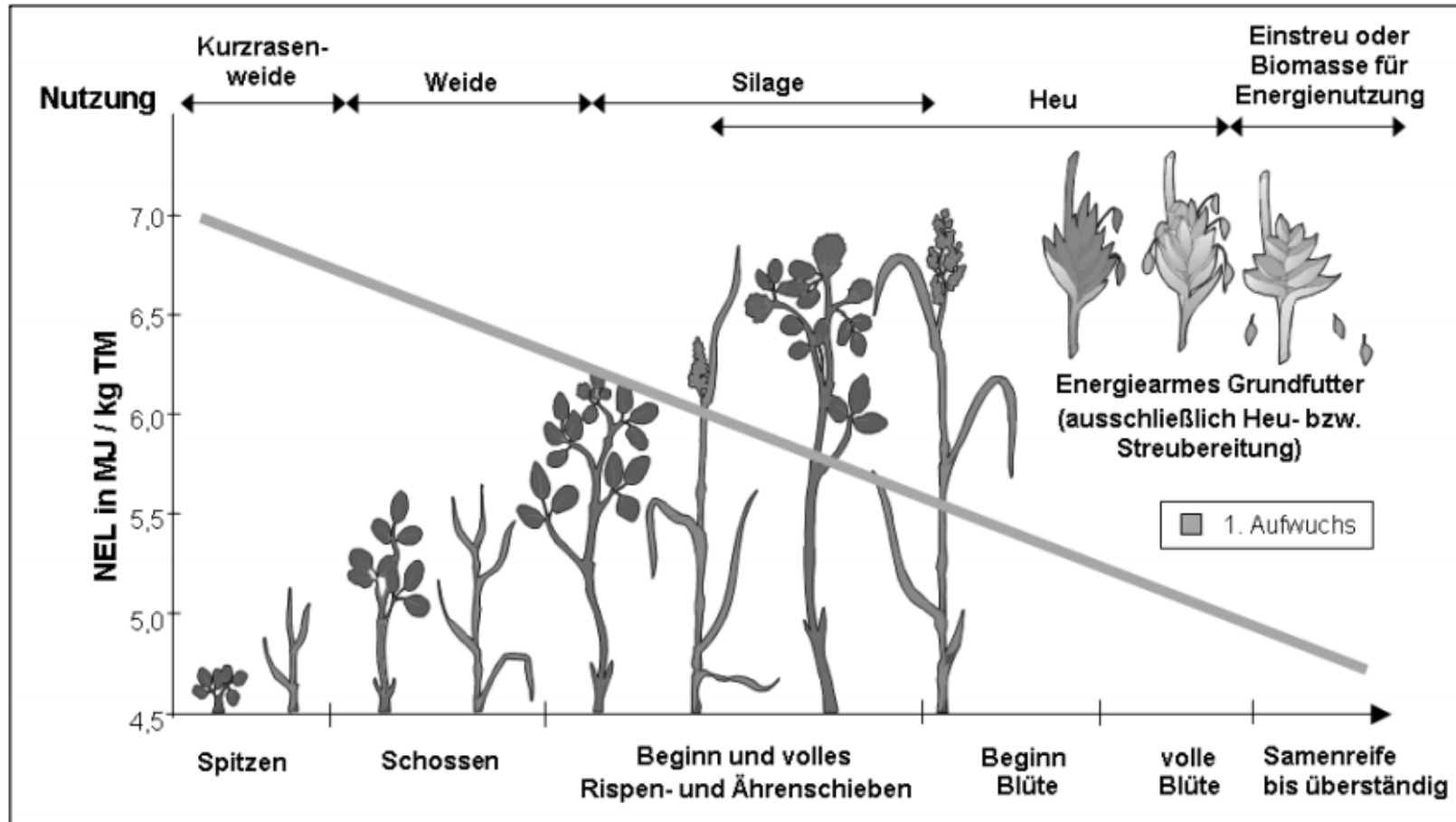
Source: Daccord, 2001

For yields over 10-20 kg/day:

- balanced ration
- energy and nutrient needs of COWS



Energy values and vegetation periods



Source: Resch, 2009

For cereal grasses – in „boot“ before heading
 For leguminose grasses - during budding or early flowering



Quality of delivered milk for processing from households according to SSU 3662-97 in selected regions, 2015



Oblast	Content in whole milk, %	
	Fat	Protein
Vinnytska	3,46	2,93
Mykolaivska	3,51	2,84
Poltavska	3,50	2,91
Kharkivska	3,38	2,97
Ukraine	3,49	2,92

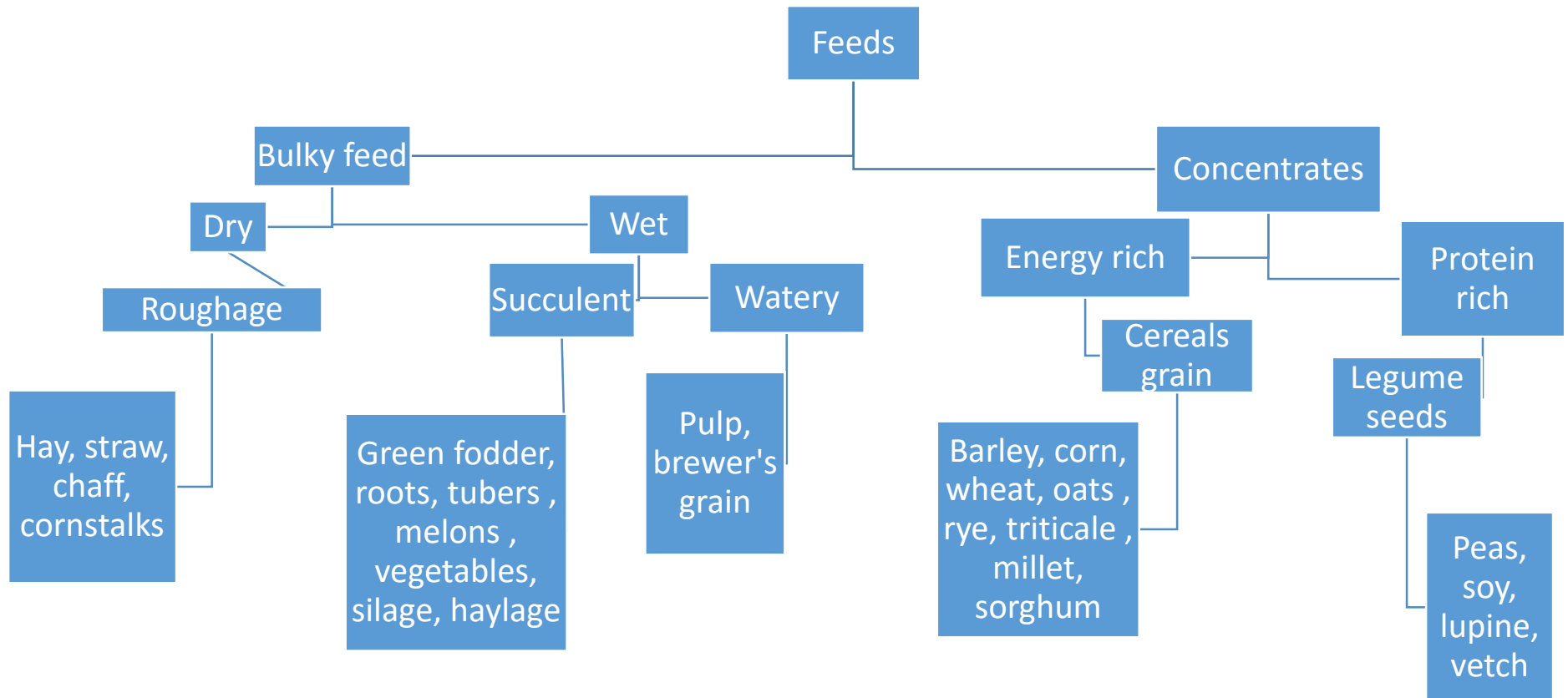
Feeding has a strong impact

Feeding has a medium impact

Source: State Statistics Service of Ukraine



Classification of Feeds



Source: Hrabak NH , Vyun VG, VM Davydenko , 2003; V. Kostenko , 2008



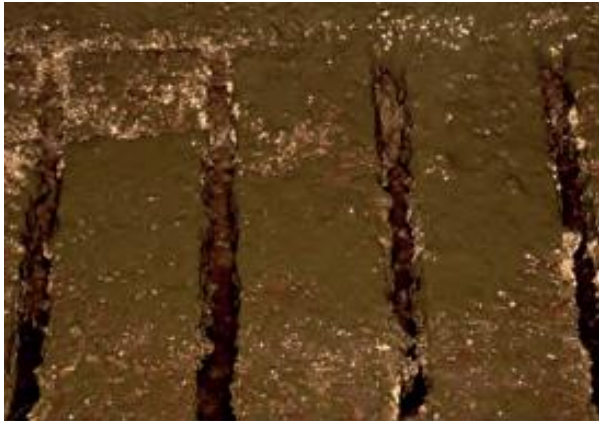
Control of diets: observations of faeces

Optimal



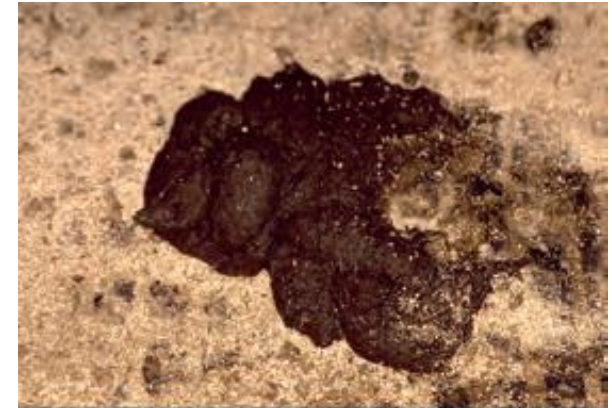
Well balanced with an optimum rate of feed passage

Very thin and watery



Excess protein, easily digested carbohydrates, large proportion of concentrated feed or lack of fiber in the diet

Stiff and hard



Excess fiber (straw-based feeding) or dehydration



Source: Simon, 2009; Farmersweekly, 2016

Control of diets: milk components

Fat content:

- High (above 5 %): excess body mobilizes fat, risk for ketosis
- Low : lack of structure in the diet

Protein content:

- High: excess energy
- Low: lack of energy

Fat and protein coefficient:

- Over 1.5: risk for ketosis
- 1.1 -1.5: norm
- Below 1.1: risk for acidosis (lack of structure or excess energy)



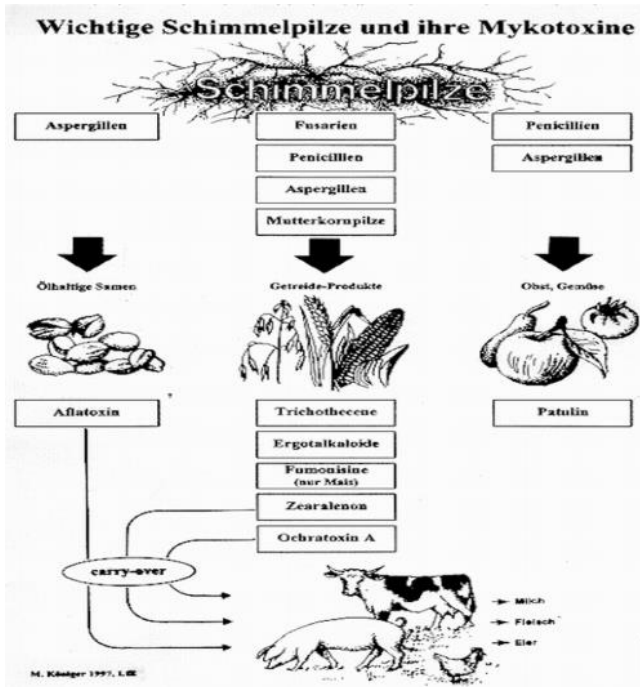
Urea:

- More than 300 mg/ kg: excess crude protein
- 150-300 mg/kg: norm
- Below 150 mg/kg: lack of crude protein in the diet



Source: Simon, 2009

Feed safety: carry over of mycotoxins to milk



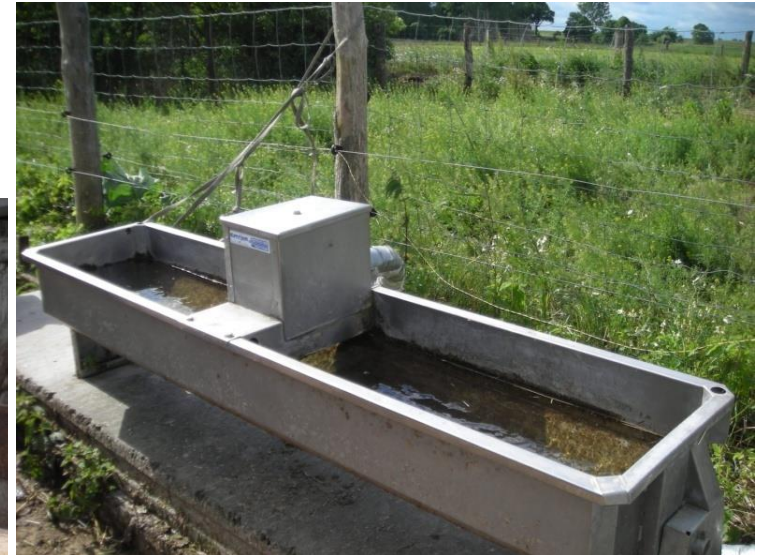
Avoid feeding forages that are infected by fungi (pay attention to the brewer's grain , silage , hay, beet pulp and grain) because they may contain toxic mycotoxins that can move to milk

Source: In Sieber, 2004



Water - the most important feed

- Free access
- Clean
- Not below 5°C



Estimated value of the demand for water (l)

Ambient temperature		5°C	15°C	28°C
Calf	90 kg LW	8	9	13
	180 kg LW	14	17	23
Heifer	360 kg LW	24	30	40
	545 kg LW	34	41	55
Dry cow	630 kg LW	37	46	62
Lactating cow	9 kg milk/d	46	55	68
	27 kg milk/d	84	99	104
	36 kg milk/d	103	121	147
	45 kg milk/d	122	143	174

Source: DLG-Merkblatt 399: Wasserversorgung für Rinder - Bauliche, technische und bedarfsgerechte Lösungen, 2014:
http://www.dlg.org/dlg-merkblatt_399.html



Quality of drinking water

pH- value - not less than 5 and not more than 9 (↓ water intake);

↑ **Calcium and magnesium** - a limestone plaque in the water;

↑ **Iron and manganese** - ↓ water intake , iron decreases the absorption of copper and zinc;

↑ **Sodium ,kalium, chloride** - characteristis of contamination (eg. manure)

↑ **Nitrate and nitrite** - calves causes symptoms of poisoning

↑ **Sulfate** - causes diarrhea;

↑ **Copper** - affects the gastrointestinal tract, liver and kidneys, especially in calves



Source: Schuster, 2010; DLG, 2014

Feeding and quality of feed and water

- Brief presentation

- Group work

- 1) Problems/issues

- 2) Solutions

- 3) Key messages

- 4) Delivery method

- Presentation of results and discussion





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Thank you for your attention

Swiss-Ukrainian Project

“Establishment of a risk-based food safety control
system in the dairy value chain in Ukraine”

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