



Animal Health Matters.
For Safe Food Solutions.



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER

State Secretariat for Economic Affairs SECO



Housing conditions

Viktoria Lets, National lead expert



Housing conditions

Objectives:

1. Comfort
2. Stall
3. Housing conditions depend on the physiological state of animals
4. Microclimate



<http://bratslav.com/uk/priv-jazne-utrimannja.html>

http://www.agroproekt.kiev.ua/pirizki_u.htm



Housing conditions

Day regimen during lactation

Type of activity	Spent time
Feed consumption	3-5 hours (9-14 times a day)
Rest	12-14 hours
Communication	2-3 hours
Water consumption	0,5 hour
Milking, transfers	2,5-3,5 hours

Джерело: Grant, Rick: *Incorporating dairy cow behavior into management tools*



Housing conditions

comfort

- Sufficient space



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Housing conditions

comfort

- for example, spinning brush



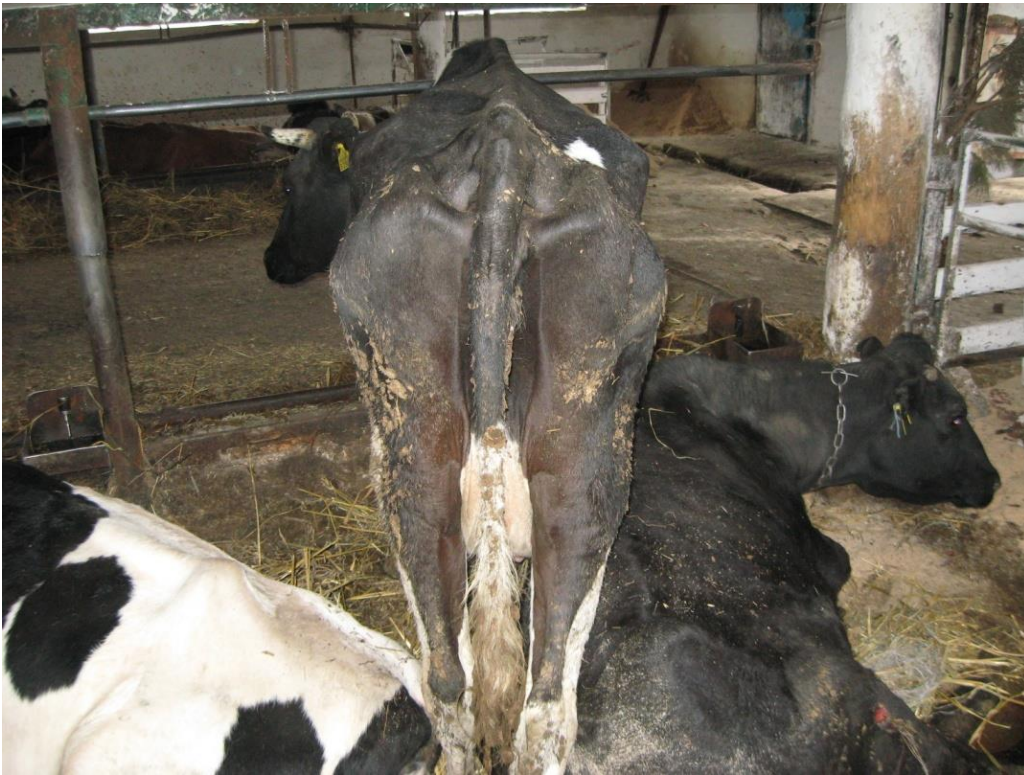
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Housing conditions

the stall

What do you see?

What does it mean?



Housing conditions

the stall

What do you see?



Housing conditions

What do you see?

What does it mean?

What is the solution?



Housing conditions

the stall and bedding



<http://www.farmtec.cz/ru/boxy-dlja-korov.html>



Housing conditions

the stall and bedding

Soft cover facilitates:

- To improve circulation
- To increase milk production
- The rumination during rest
- Long rest periods
- The improvement of the hoof
- Hygiene in the stall



Housing conditions

the stall and bedding

The growth of bacteria in the stall (boxes) slowed down following conditions:

- sawdust instead of straw
- sawdust from conifers
- Use:
 - chalk
 - slaked lime
 - desiccant



Housing conditions

the stall and bedding

Requirements for deep bedding:

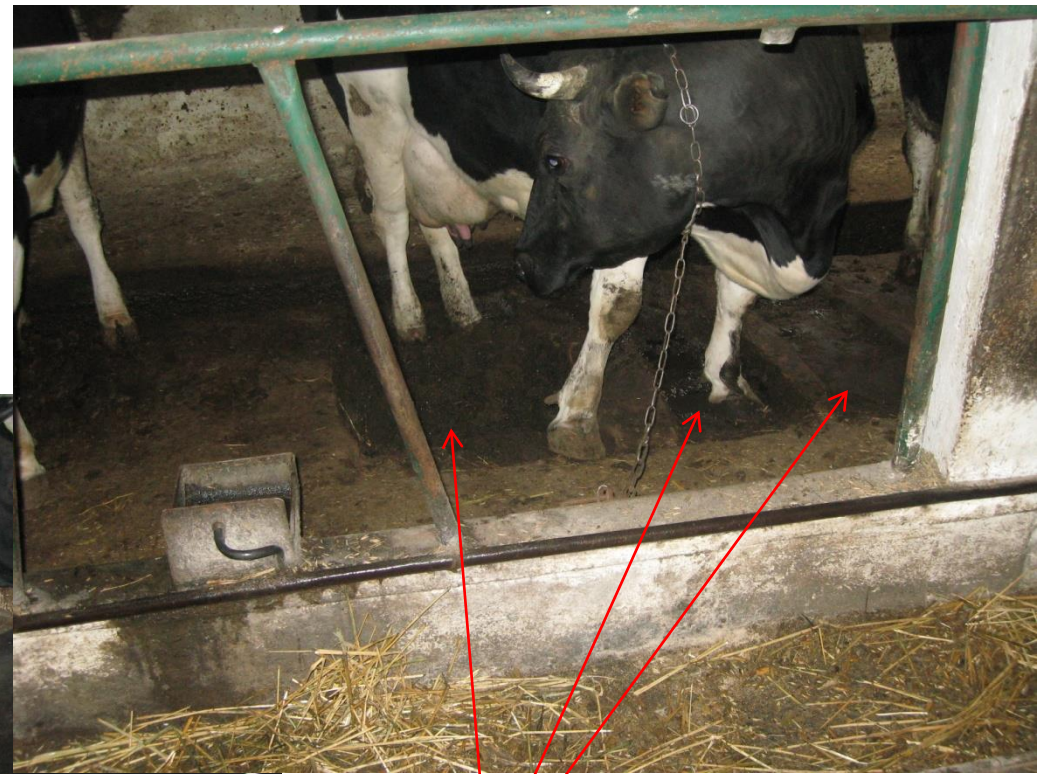
- 4-5 m² per cow
- bedding temperature 15-20 C⁰
- incline of no more than 6 degrees



Housing conditions

What do you see?

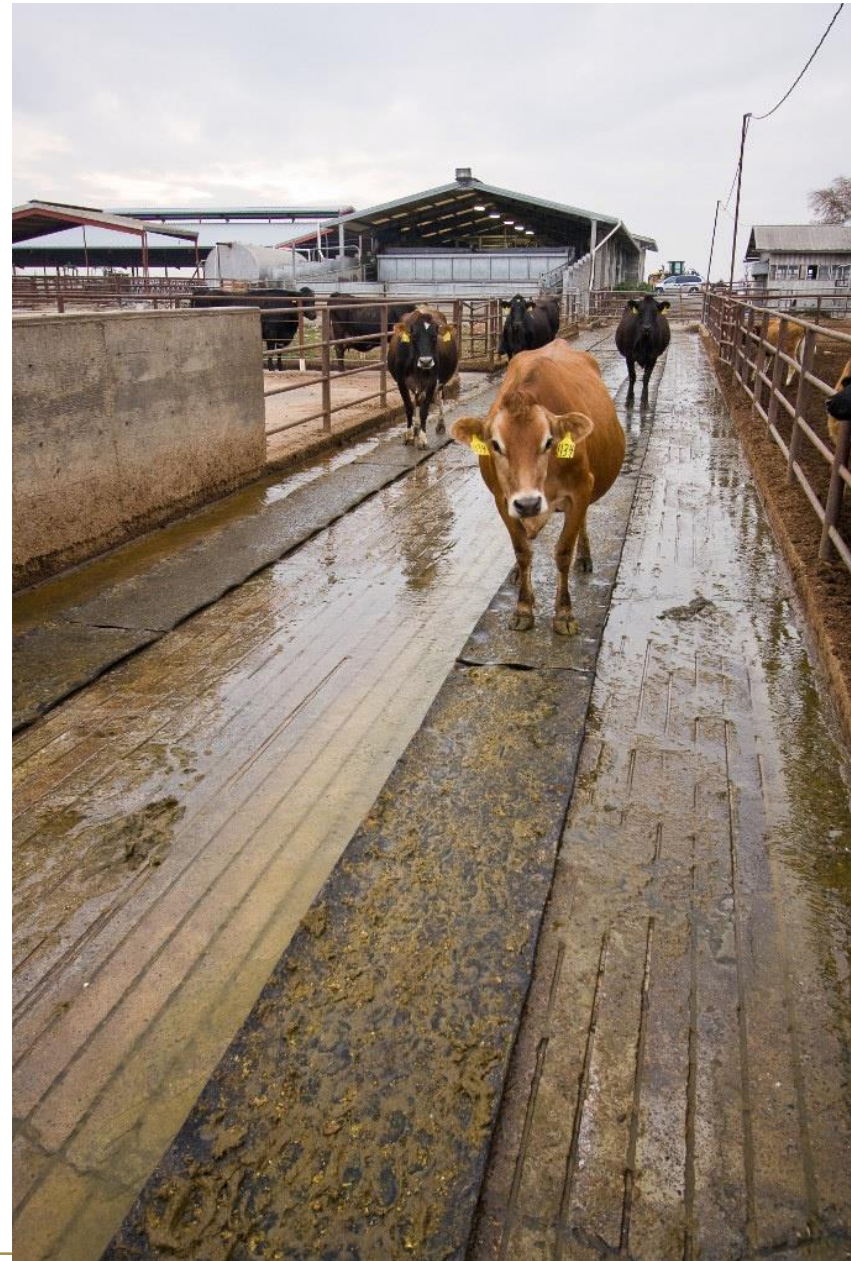
What does it mean?



Housing conditions

What do you see?

What does it mean?



Housing conditions

the floor



Housing conditions

the floor

Regularly cleaned floor:

- no ammonia vapors
- preserving milk quality
- improve hoof health



Housing conditions

- depend on the physiological state of animals

Reproductive period



Neonatal period



Productive period



Housing conditions

What do you see?

What does it mean?

What is the solution?



Housing conditions

reproductive period



Housing conditions

Neonatal period

What should be done



Avoid!



Housing conditions

What influences the housing conditions

- microclimate
- ventilation
- cold and heat
- light and darkness
- stall
- bedding
- floor
- comfort



Housing conditions

Optimal parameters of microclimate:

- Air temperature of 5—15 °C
- Relative humidity 70—75%
- Air velocity of 0.5 m/s

Maximum permissible concentration of gases:

- the concentration of carbon dioxide 0.25%
- ammonia – 20 mg/m³ and residues of hydrogen sulfide

Air exchange per 1 cwt live weight 17 m³/g



What do you see?

What does it mean?

What is the solution?



Housing conditions

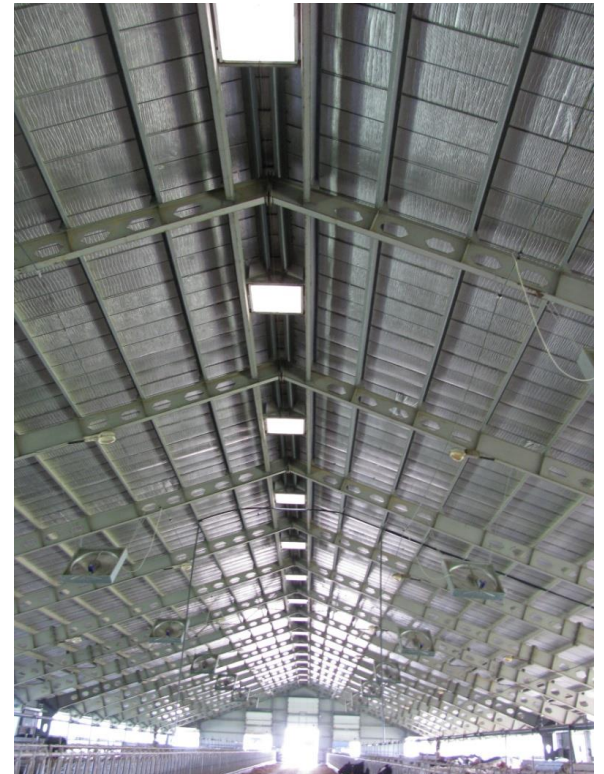
What are the features of the inappropriate ventilation?

- drops of condensation on the ceiling
- visible condensation on the back of animals
- formation of fog
- rust on metal parts
- smell of ammonia



Housing conditions

ventilation



Housing conditions

cold and heat

- Low temperature – spend of energy on organism heating



Housing conditions

cold and heat

Signs of heat stress:

- reduced feed consumption
- increased water consumption
- increased evaporation and water loss
- change in metabolic rate
- tachypnea
- fever



Housing conditions

cold and heat

The consequences of heat stress:

- productivity decreasing
- increasing of somatic cells number in milk
- reduction of fat and protein content in milk



Housing conditions

What do you see?

What does it mean?

What is the solution?



Housing conditions

light and darkness

The modern cowshed with the sufficient level of lighting



The solution to the lack of lighting in the old-style premise. The middle part of the roof changed on glass.

Housing conditions

What do you see?

What does it mean?



Adequate lighting should be about 200 lux.

In this light levels is enough for reading of a newspaper in any place of the cowshed.





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Thank you!