



# Dairy sheep udder measurements and assessments in the Czech Republic

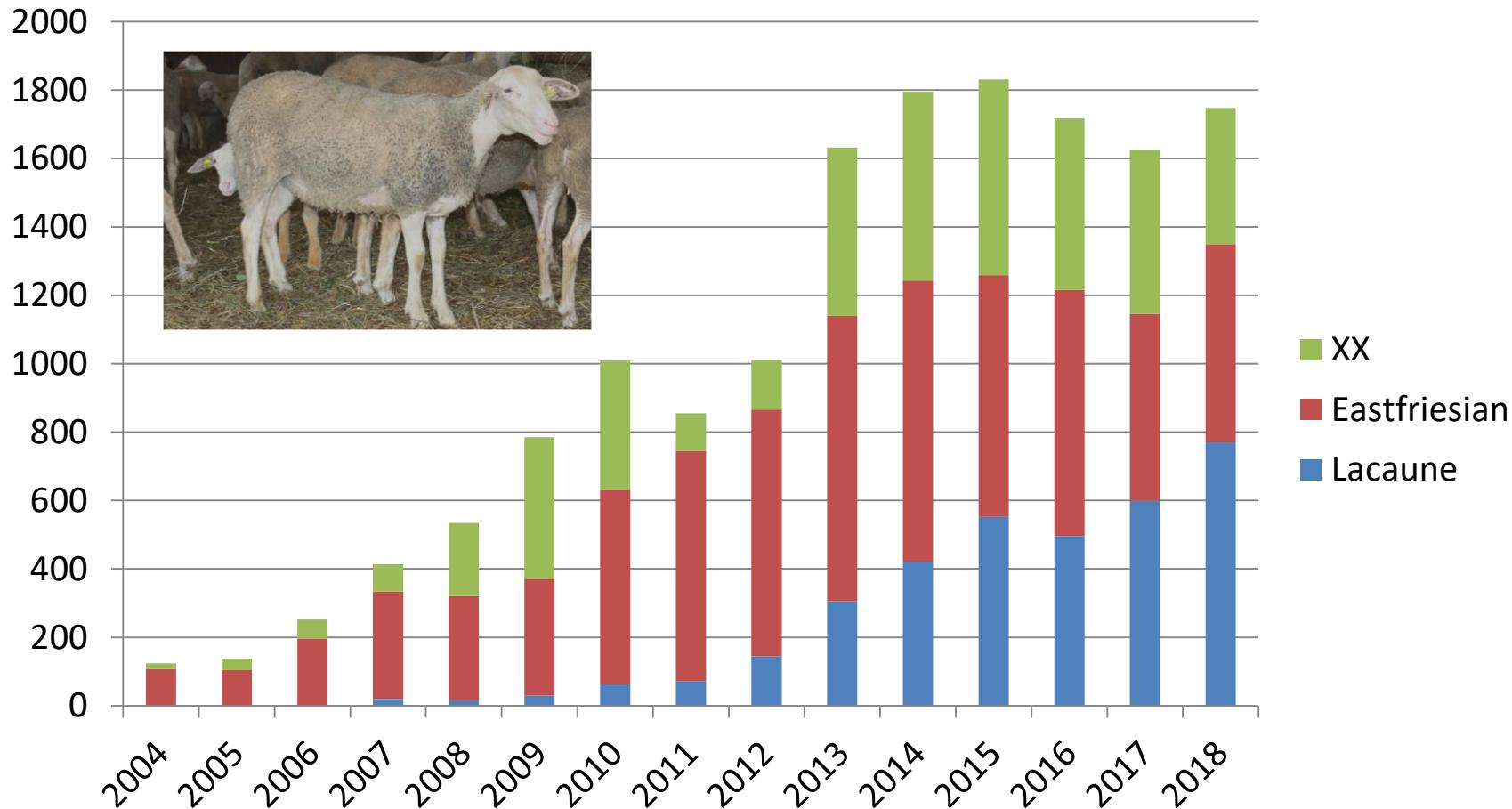
M.Milerski, M.Černá, J.Schmidová



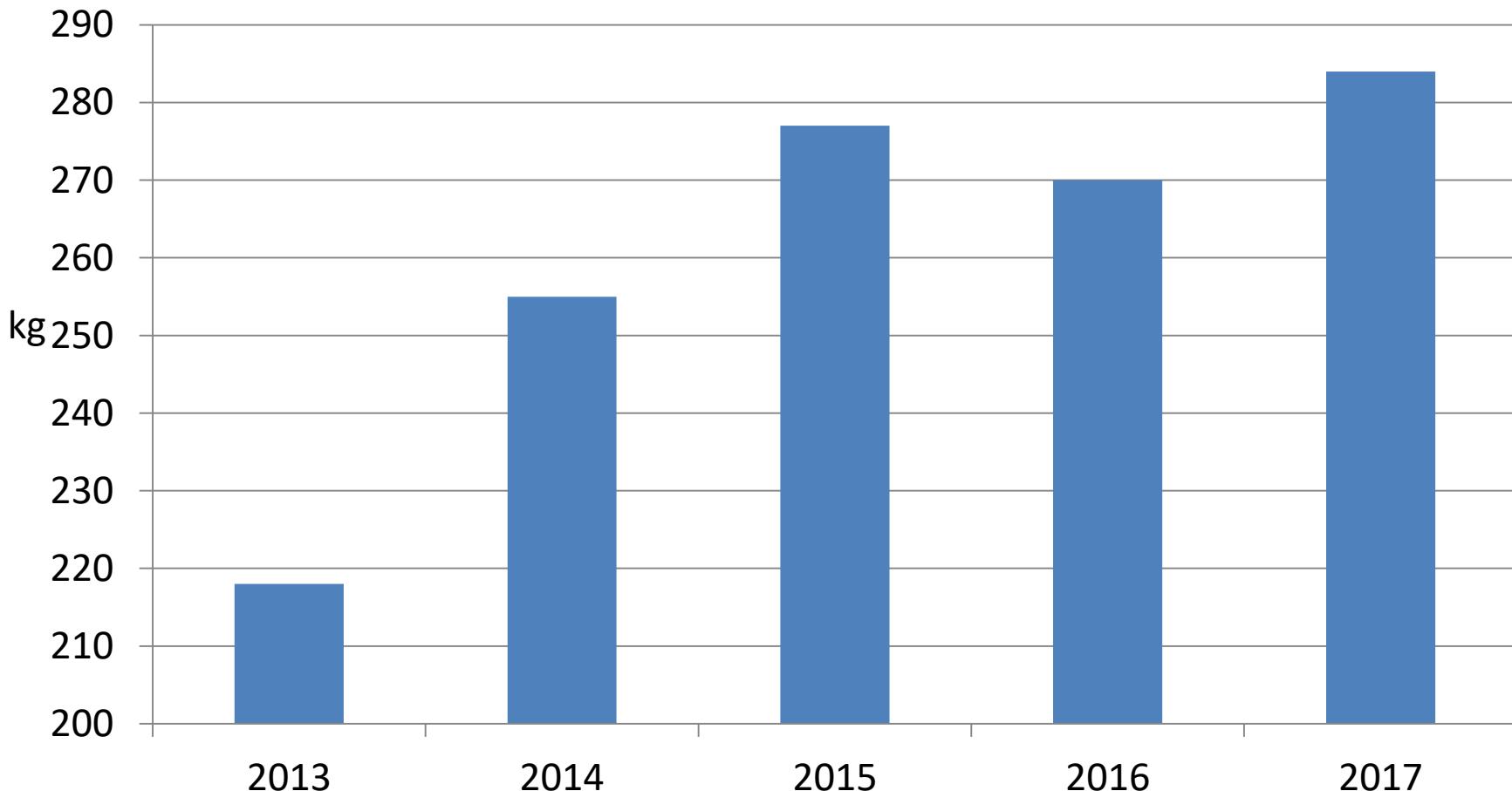
# Demand for sheep milk products



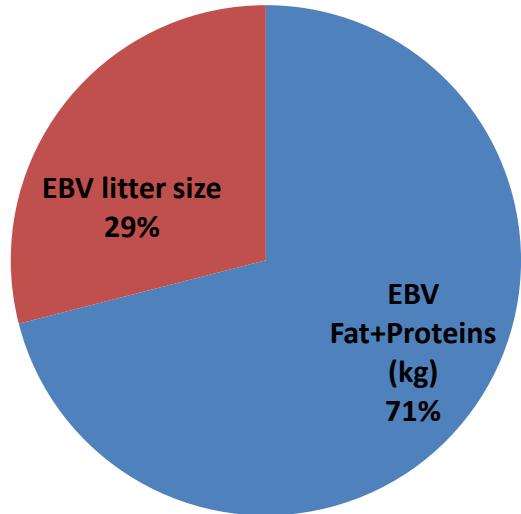
# Numbers of ewes under milk performance recording in the Czech Republic



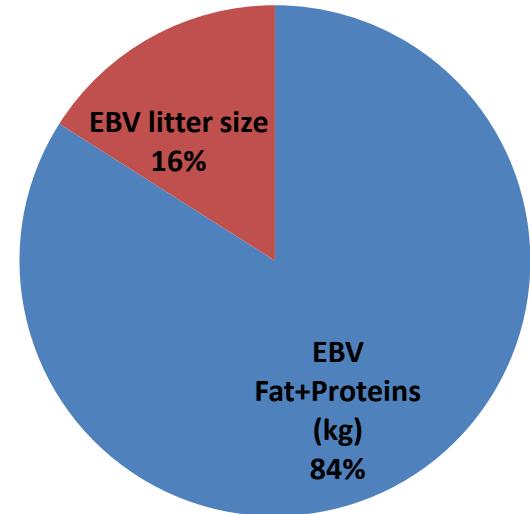
# Average milk production per 150 days milking period



## Selection indexes



EAST FRIESIAN SHEEP

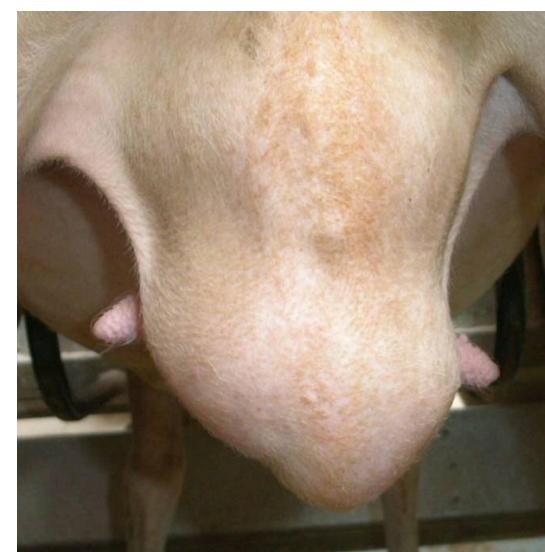
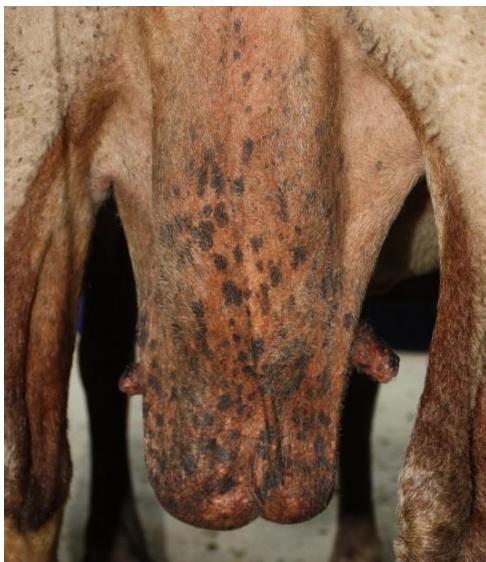
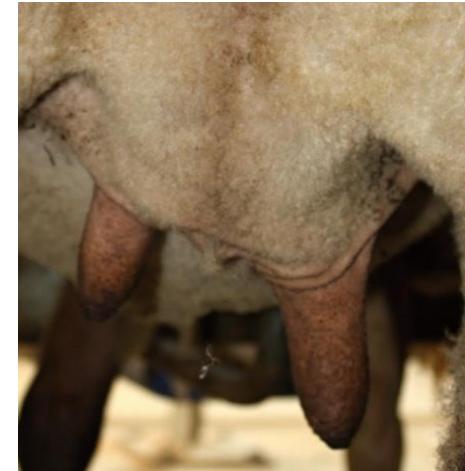


LACAUNE

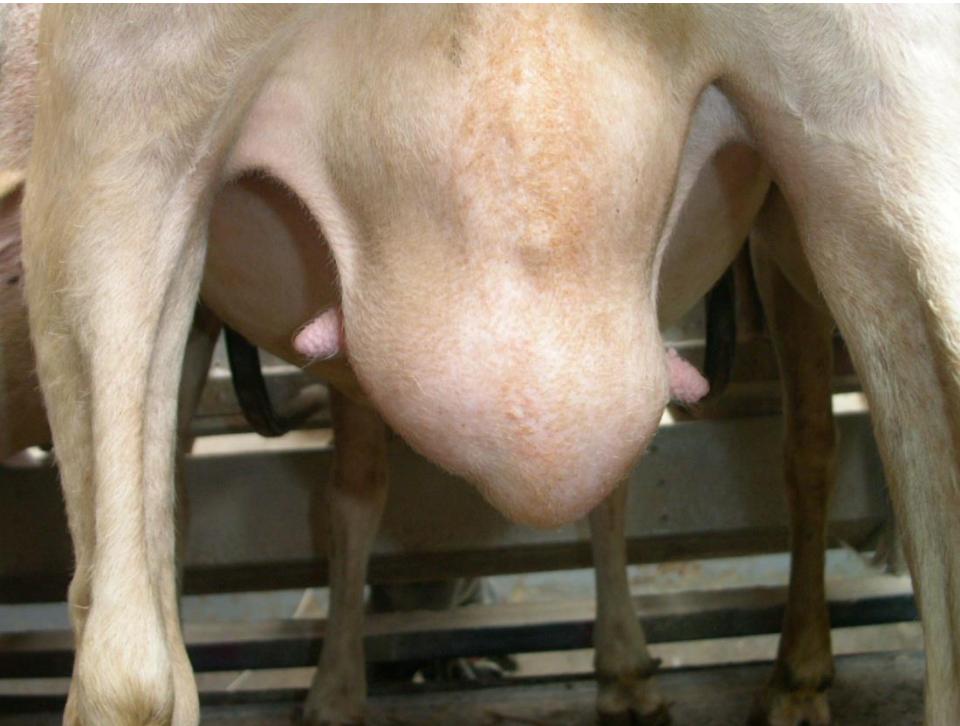




# Udder shape variability



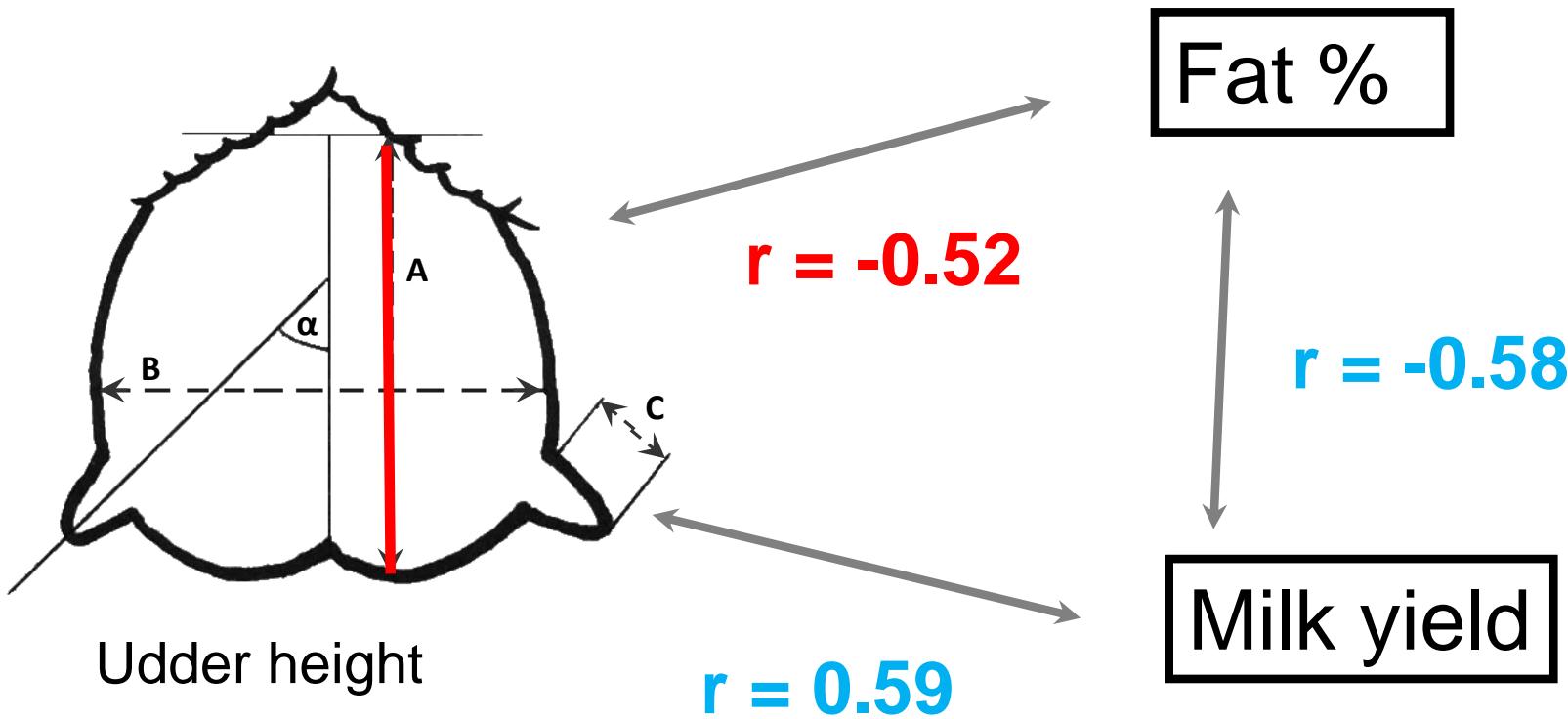
# Lacaune – udder morphology

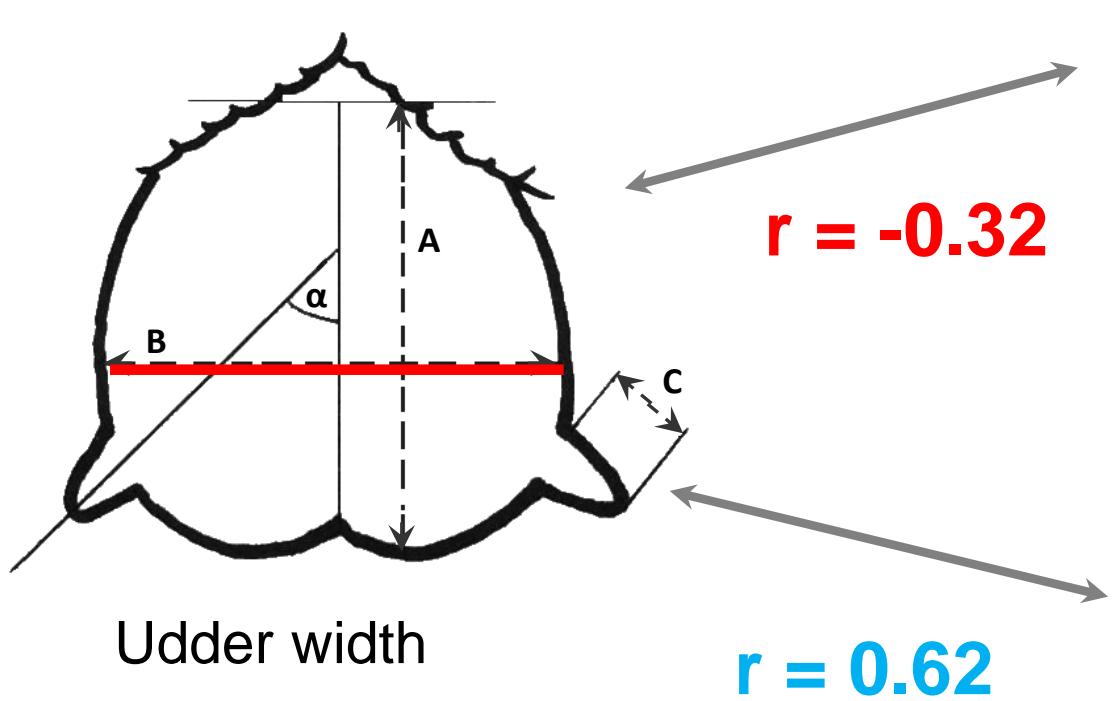


# Relationship between udder morphology and other traits



# Correlations between udder characteristics and production traits

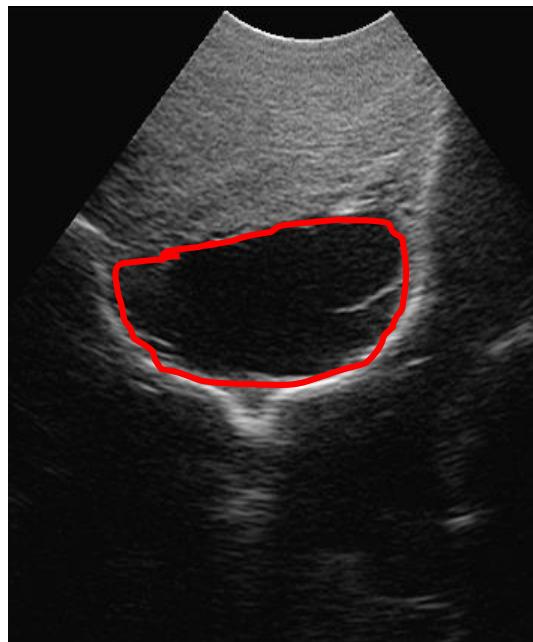




Fat %

$r = -0.58$

Milk yield



Cistern area

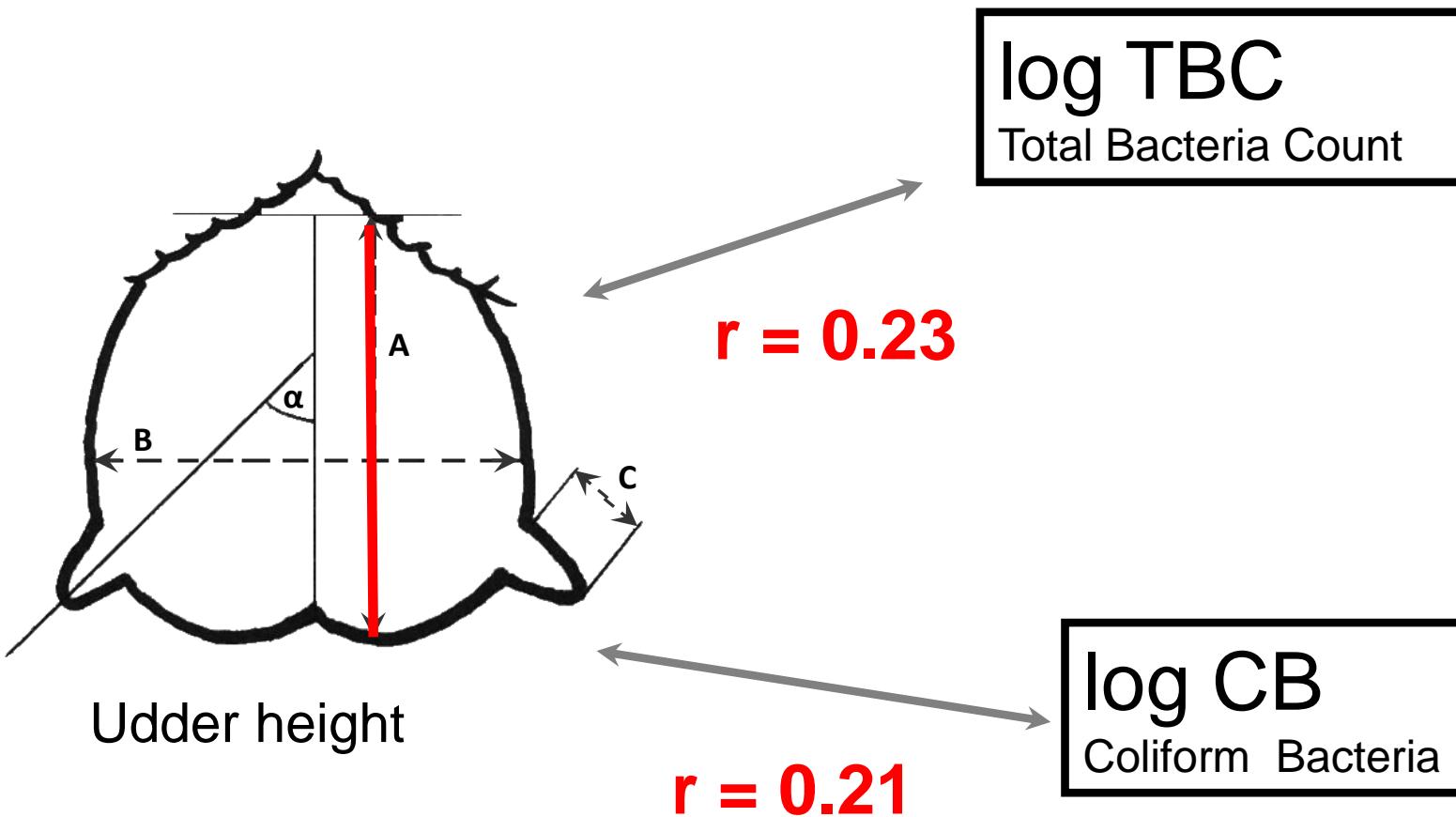
$r = -0.50$

$r = 0.84$

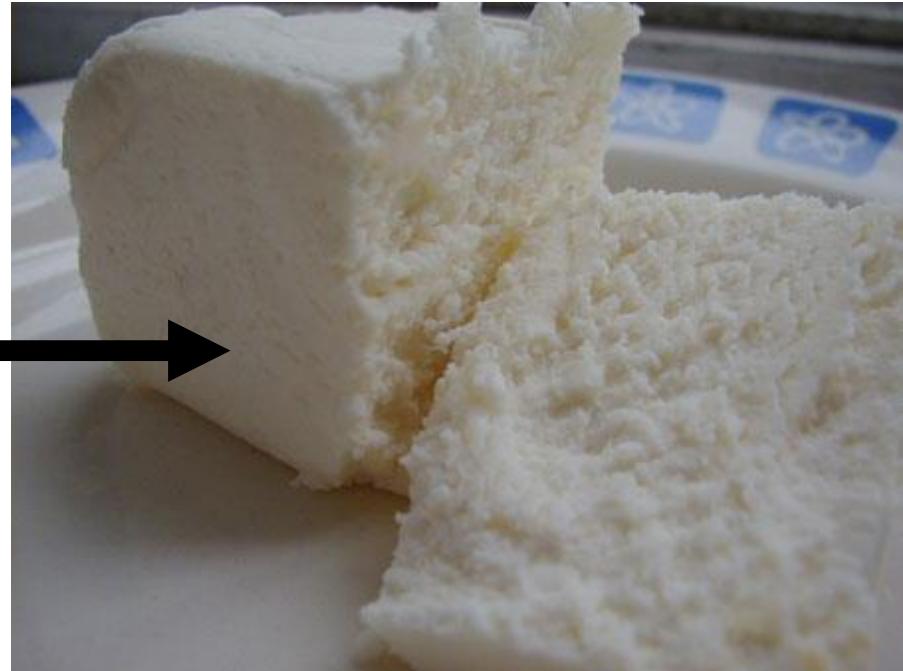
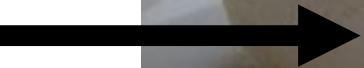
Fat %

$r = -0.58$

Milk yield

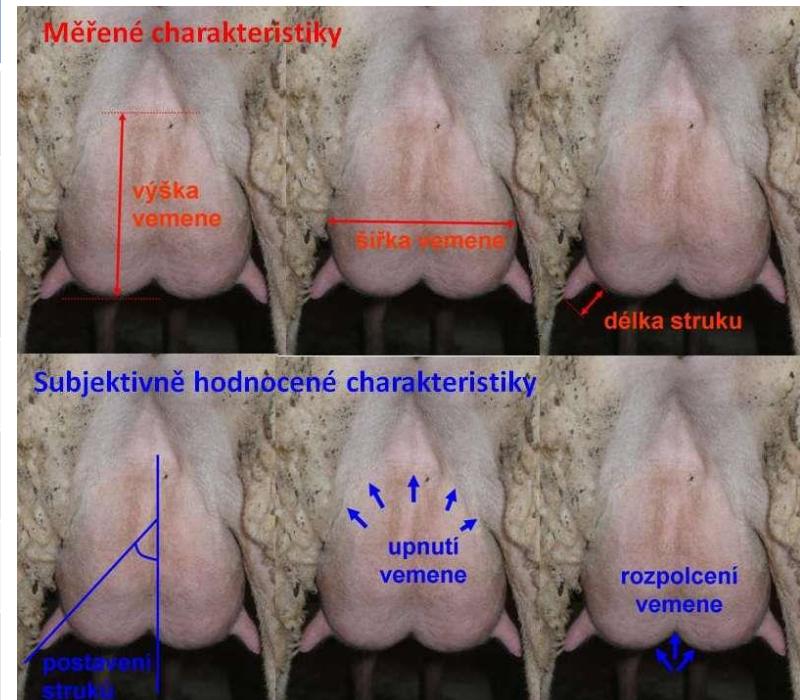


# healthy udder – good product



# System of udder measurements and assessments

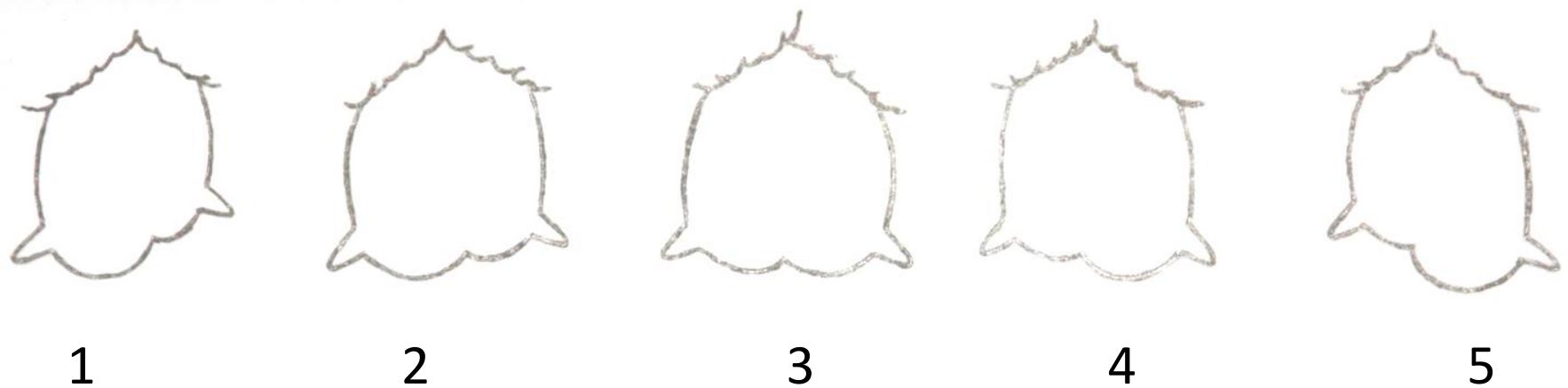
| Trait                  | type        |
|------------------------|-------------|
| Symmetry of udder      | assessment  |
| Udder height           | measurement |
| Udder width            | measurement |
| Teats length           | measurement |
| Teats position         | assessment  |
| Rear udder attachment  | assessment  |
| Udder cleft            | assessment  |
| Front udder attachment | assessment  |



# Linear scoring



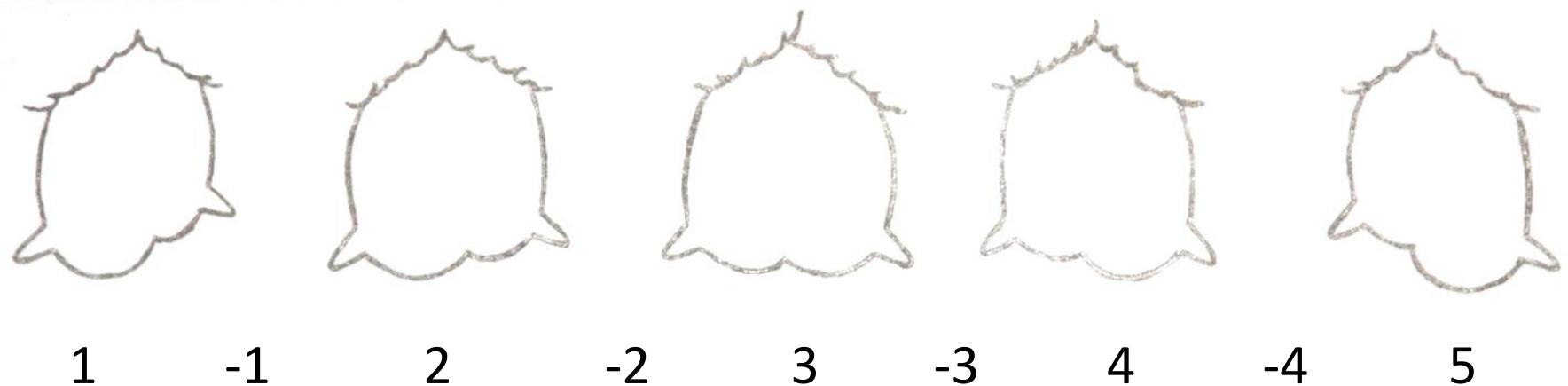
Udder symmetry



# Linear scoring



Udder symmetry

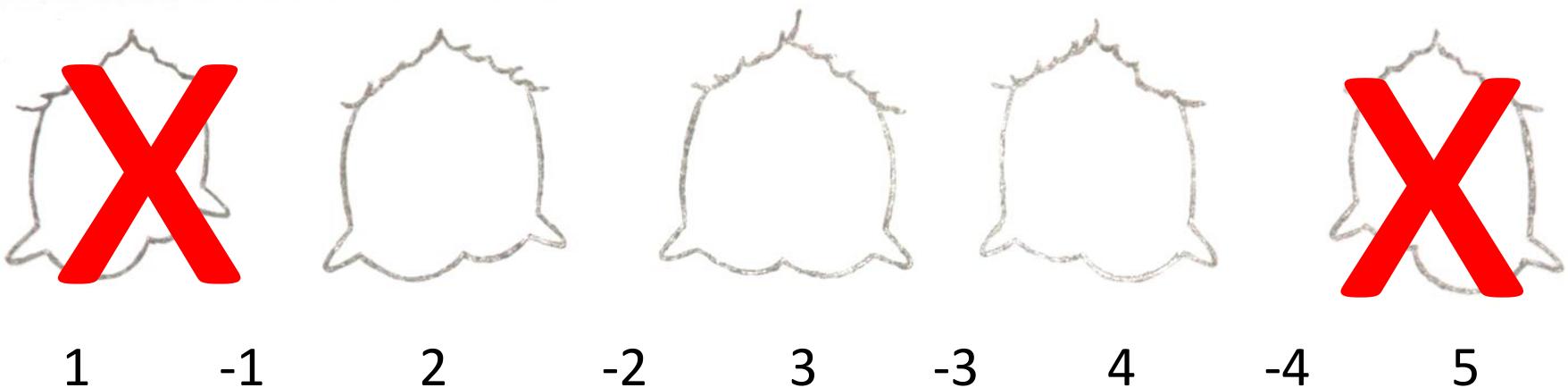


9-point scale

# Linear scoring



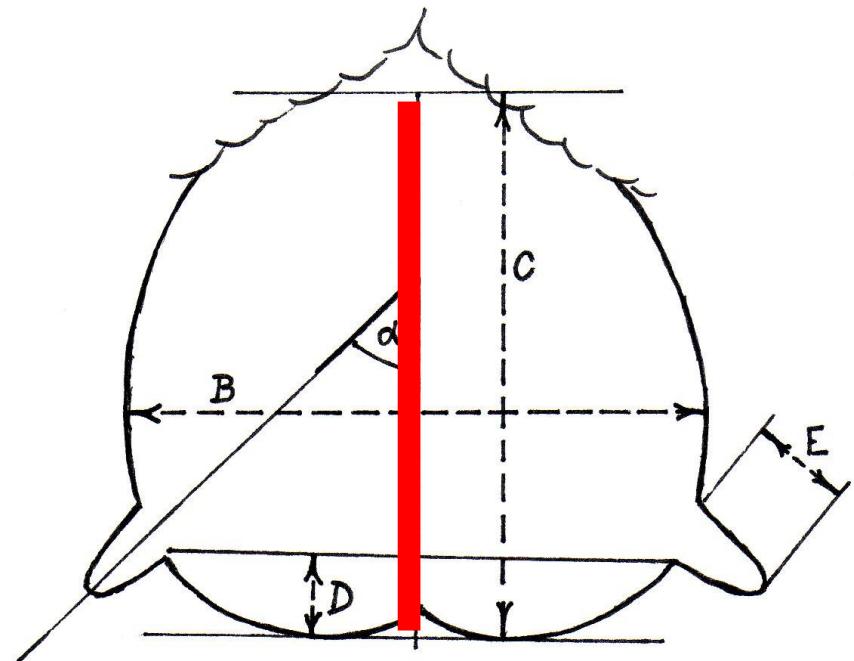
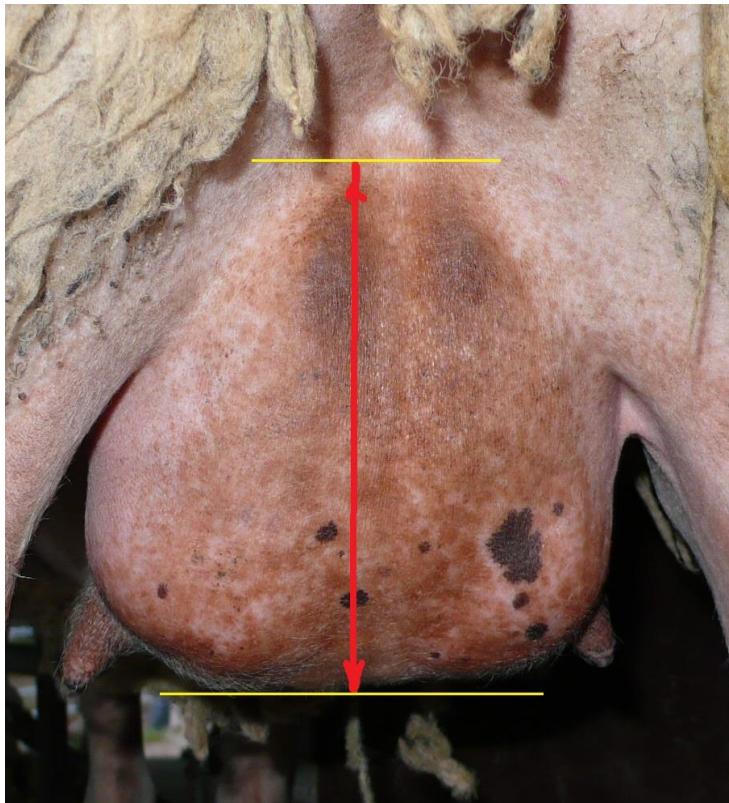
Udder symmetry



9-point scale

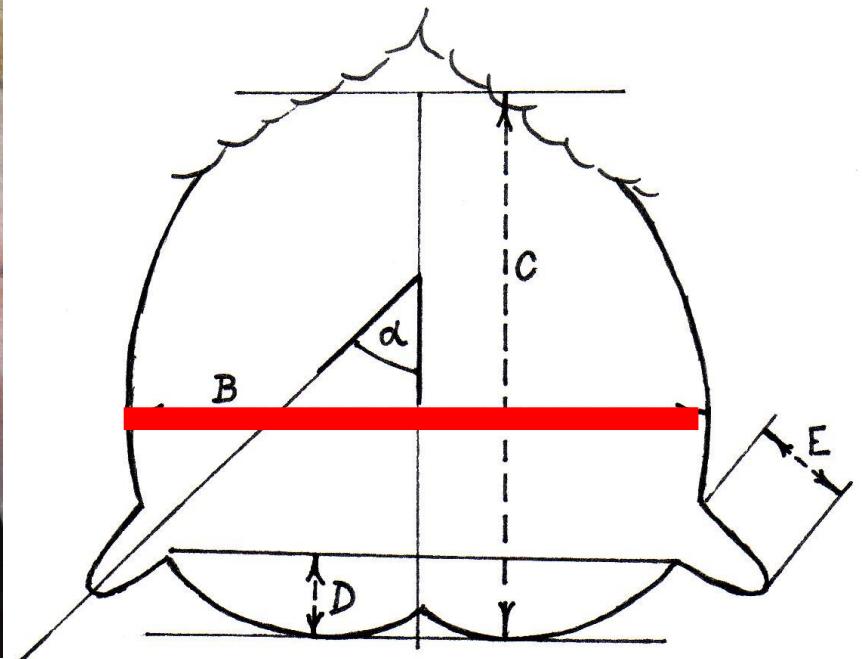
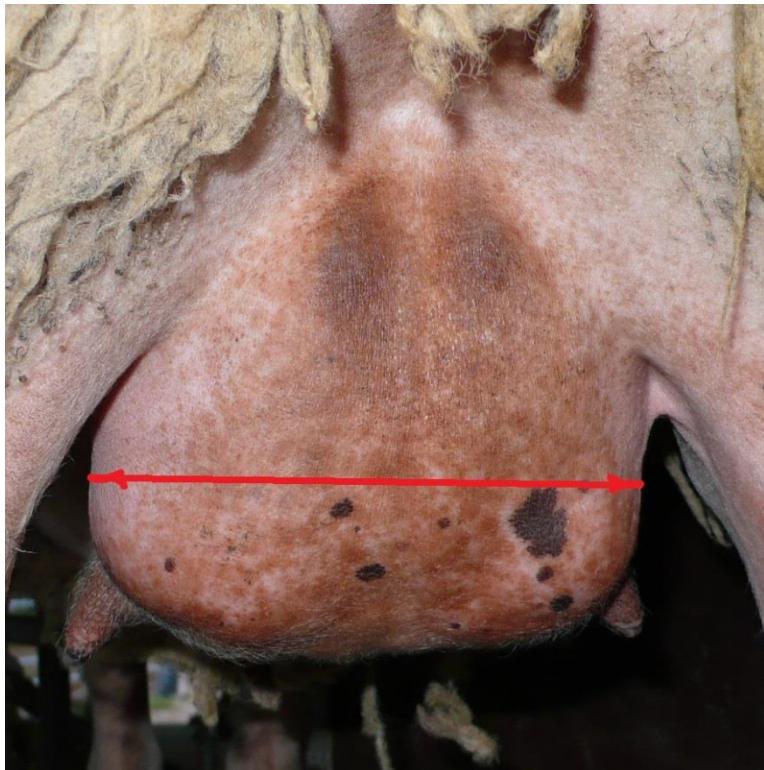
# measurements

## Udder height



# maesurements

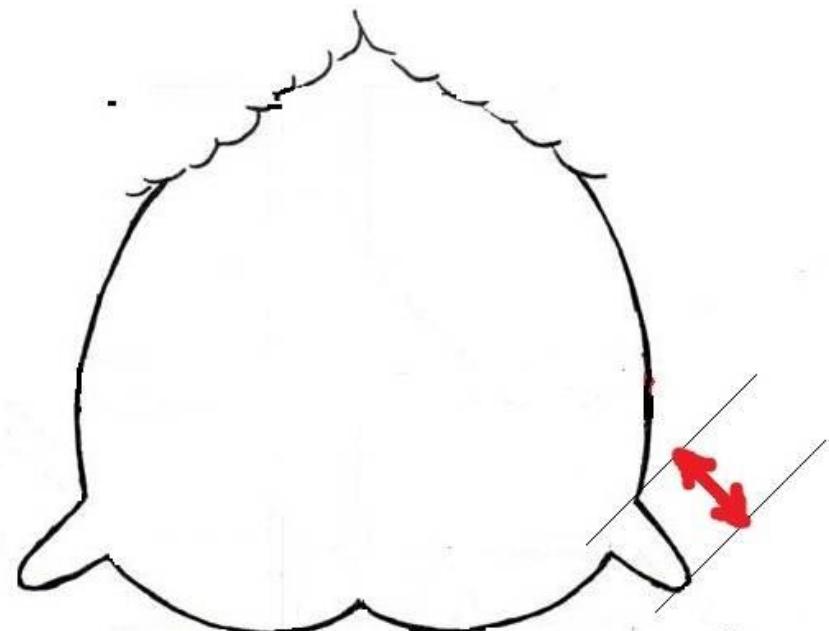
## Udder width



# measurements

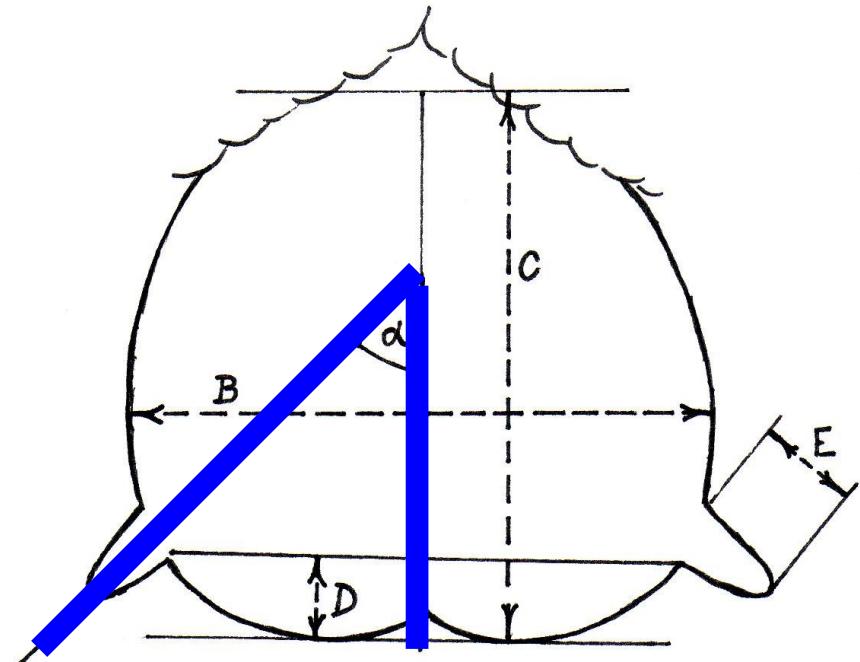
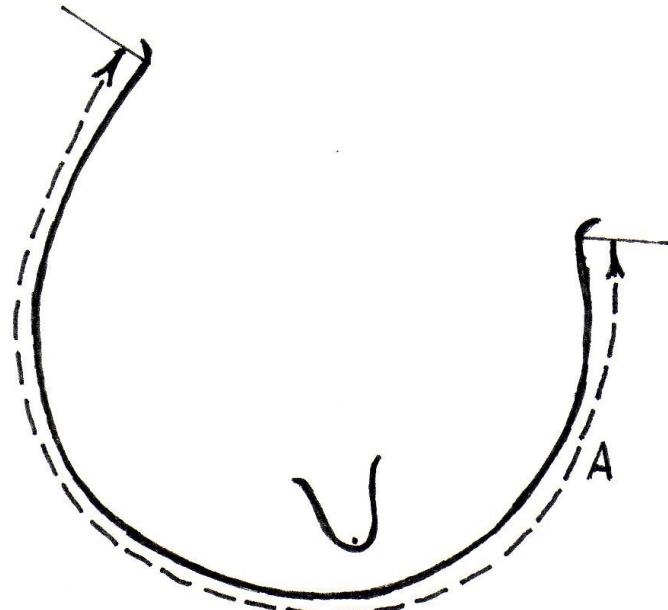


**Teat length**



# Linear scoring

## Teat position



Teat position (angle) of ewes  
very important parameter  
in term of machine milking

influences

- process of ewes milking
- welfare during milking



Horizontal teats  
more susceptible to distortion  
during machine milking

- inhibition of the milk ejection reflex
- increasing cisternal milk retention



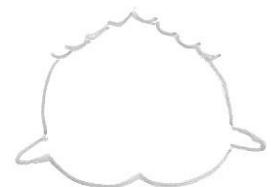
1



2



3



4

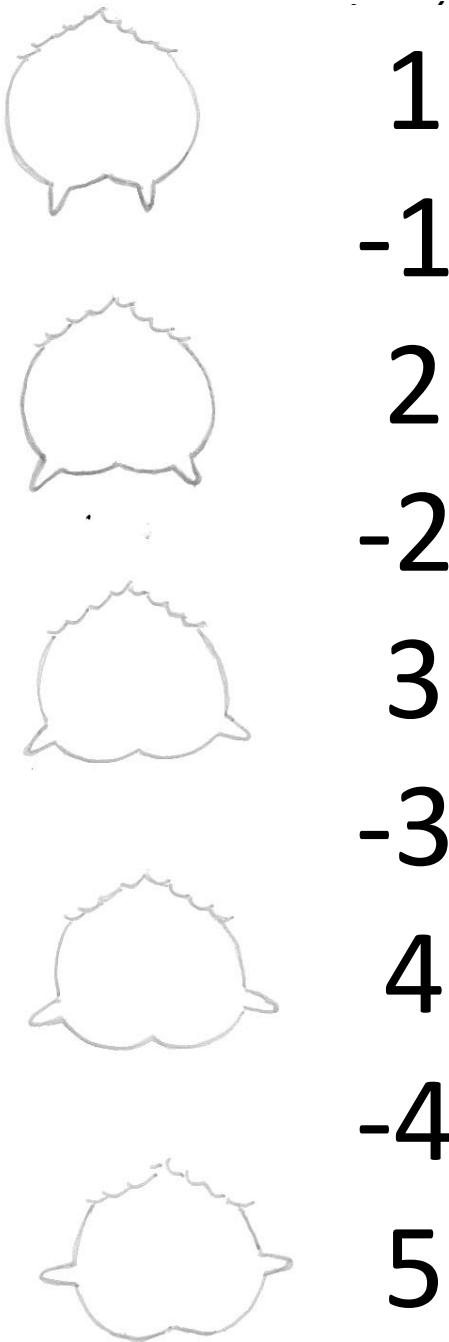


5

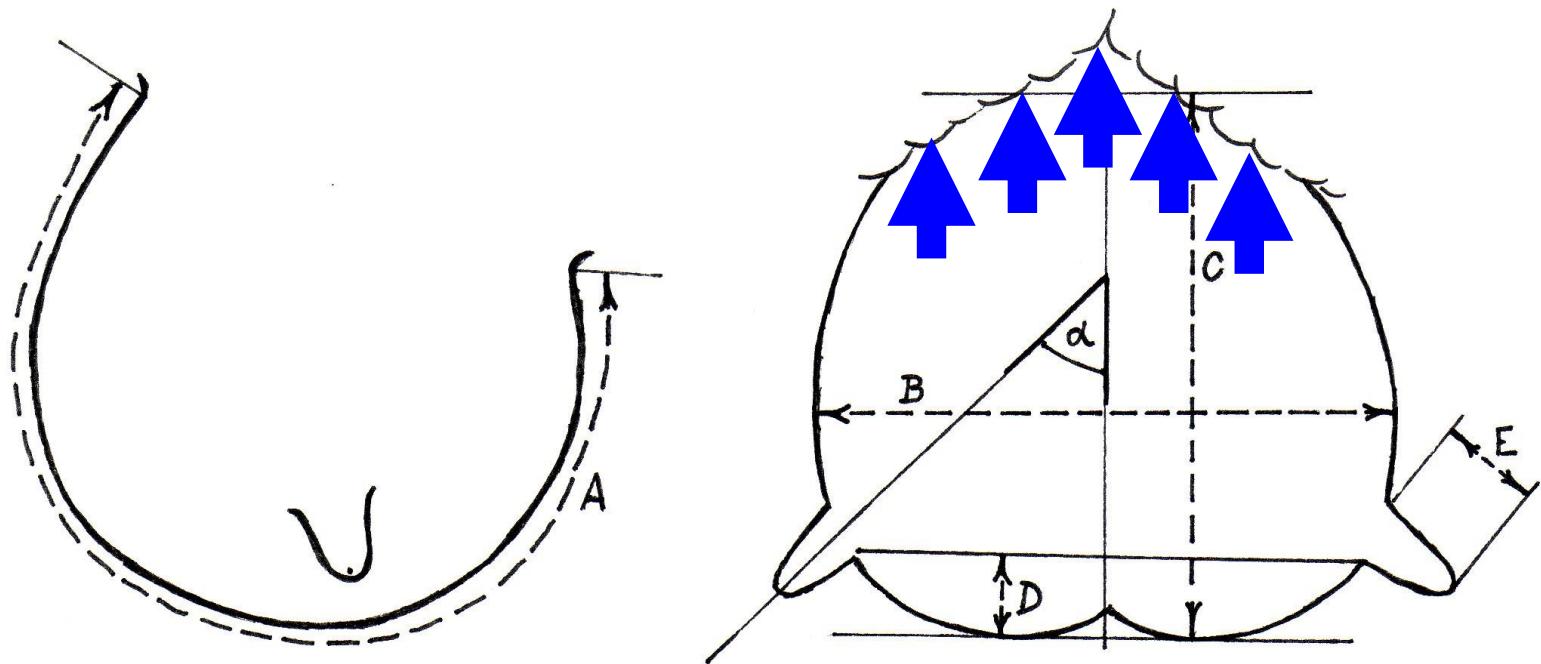
## Teats position

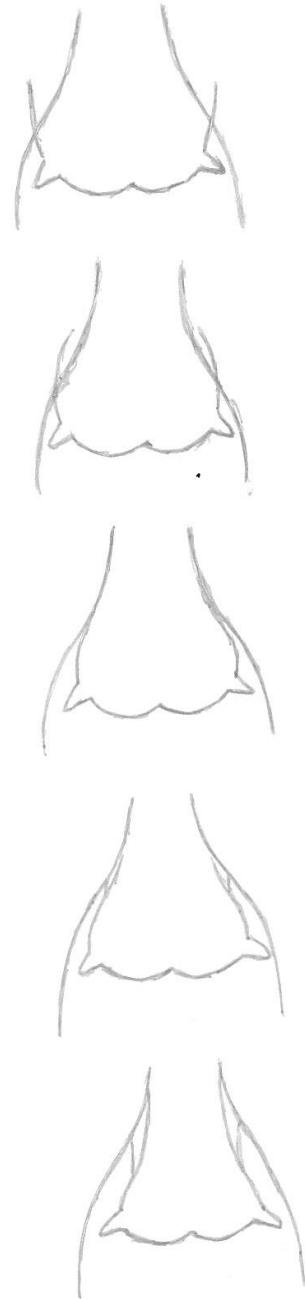


# Teats position



# Rear udder attachment





1

2

3

4

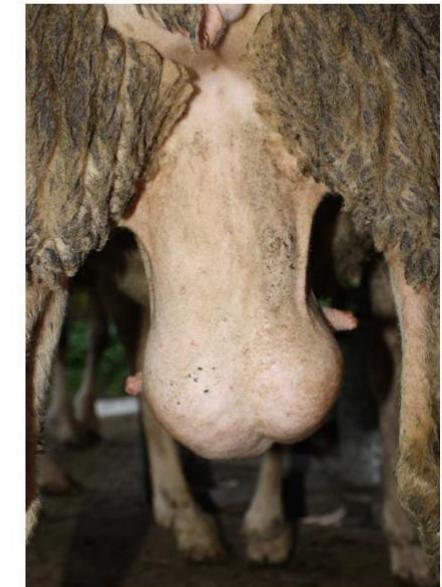
5

## Linear scoring of REAR UDDER ATTACHMENT

1- velmi dobré

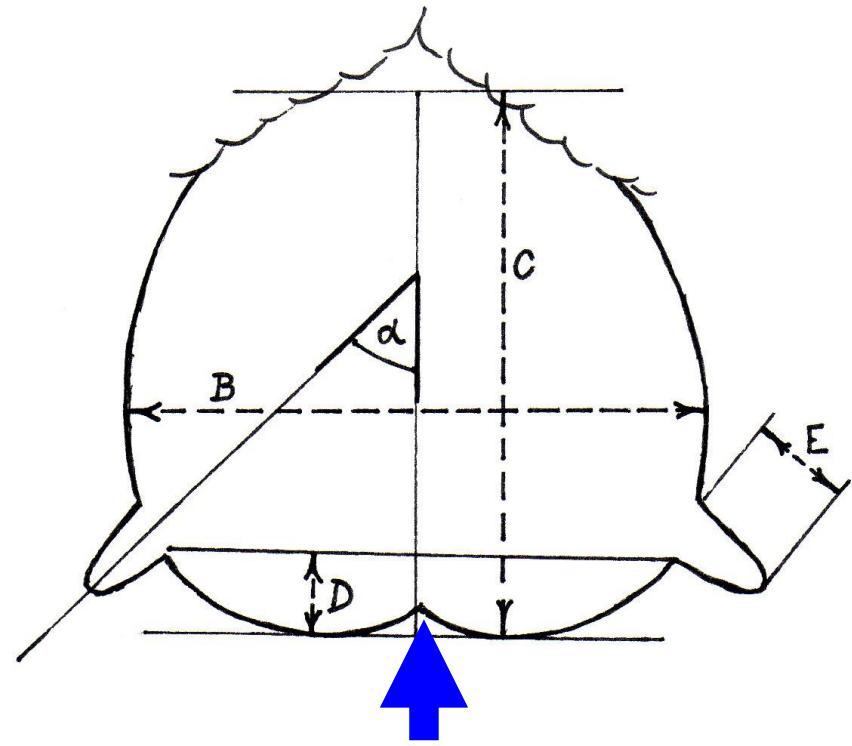
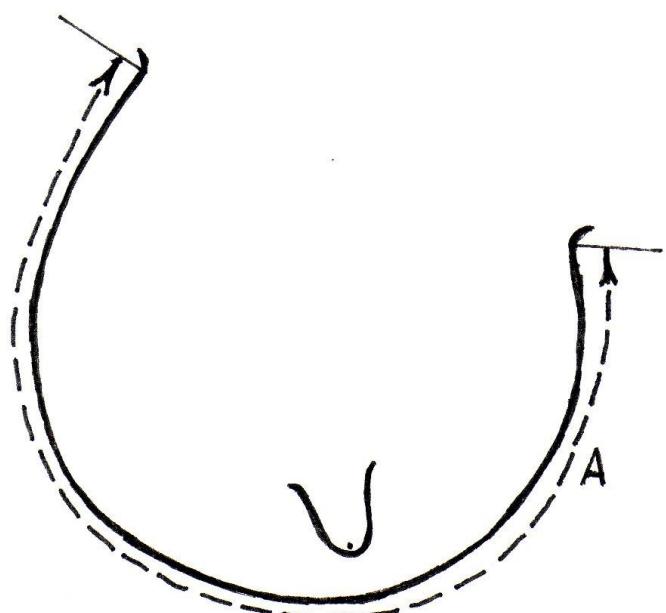


5 - slabé



# Linear scoring

**Udder cleft**





1



2



3

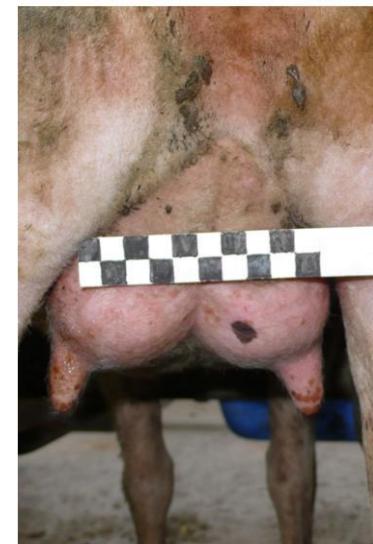


4



5

1 - výrazné



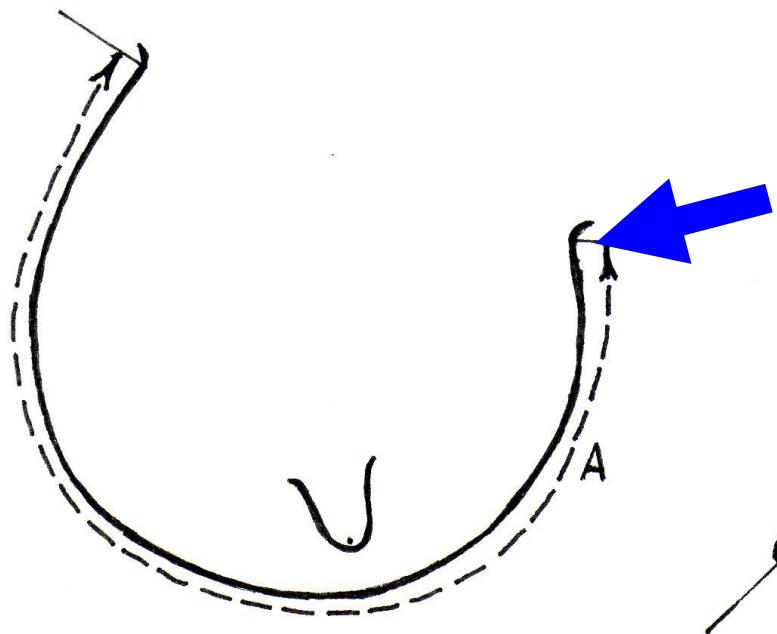
5 - neznatelné



## Scoring of UDDER CLEFT

# Linear scoring

Front udder attachment

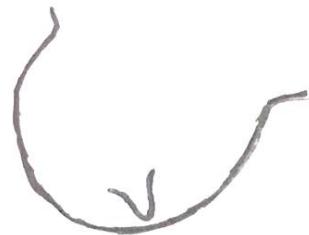




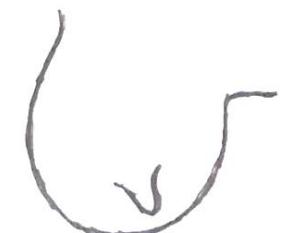
1



2



3



4



5

## Scoring of FRONT UDDER ATTACHMENT

2



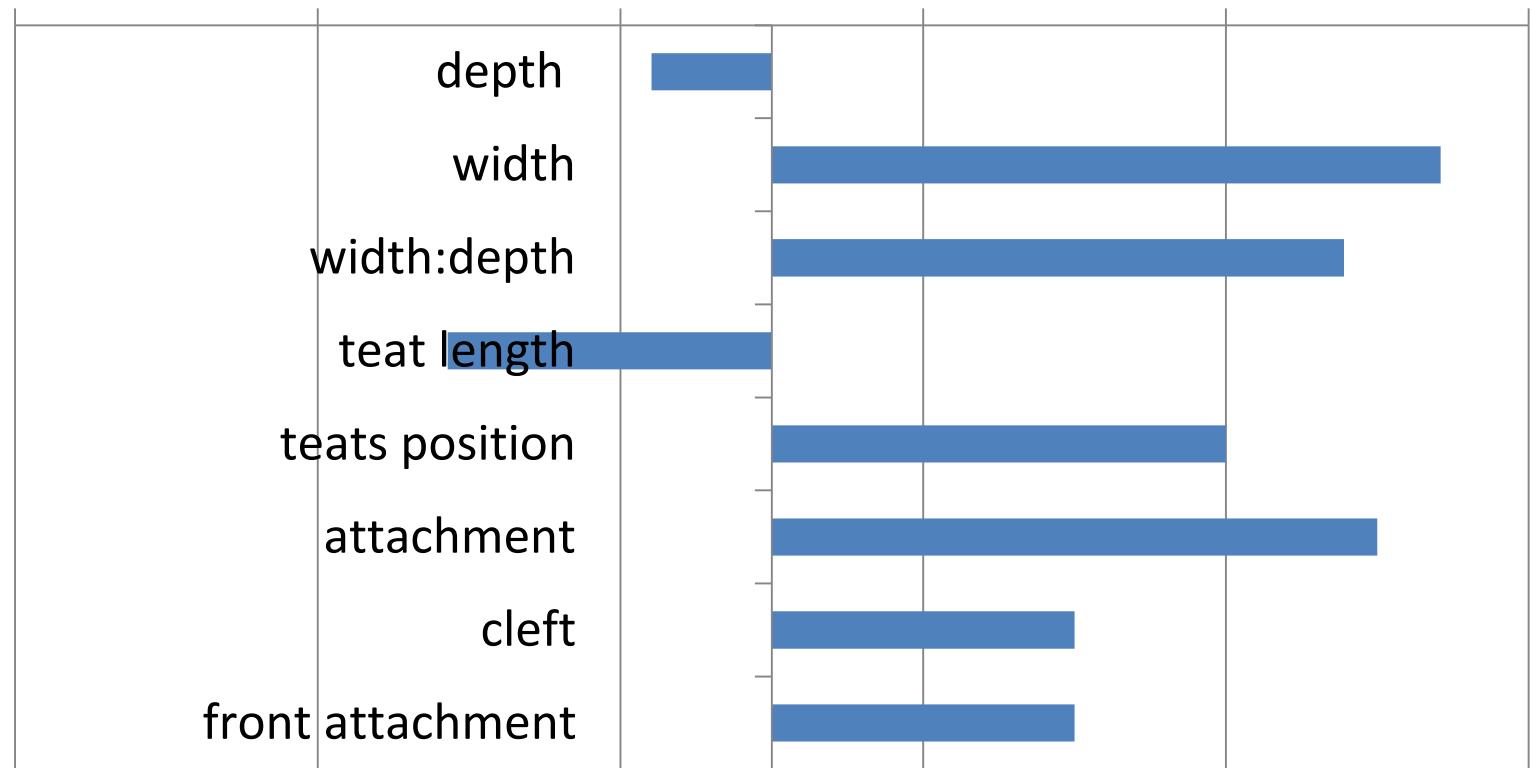
# Udder measurements a assessments ROUTINE

- Since 2018
- Lacaune
- 1228 animals
- 5 heards



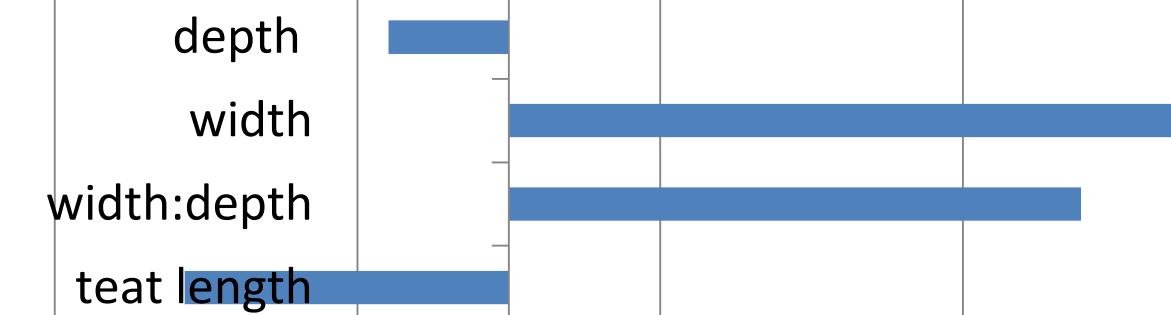
| put the number of animal |       | INDEX UDDER |             |                | note             |       | CLASS            |   |
|--------------------------|-------|-------------|-------------|----------------|------------------|-------|------------------|---|
| <b>19183</b>             |       | <b>17,8</b> |             |                | <b>EXCELLENT</b> |       | <b>1</b>         |   |
| <b>*19183*</b>           |       |             |             |                |                  |       |                  |   |
| heighth                  | width | W:D         | teat length | teats position | attachment       | cleft | front attachment |   |
| 19183                    | 16    | 20          | 1,25        | 2              | 1,5              | 1     | 2                | 2 |

-2,5                  -1,5                  -0,5                  0,5                  1,5                  2,5



| put the number of animal | UDDER INDEX |     |             |                | note       | CLASS |                  |   |
|--------------------------|-------------|-----|-------------|----------------|------------|-------|------------------|---|
| 19183                    |             |     | 17,8        |                | EXCELLENT  | 1     |                  |   |
| *19183*                  |             |     |             |                |            |       |                  |   |
| Height                   | width       | W:D | teat length | teats position | attachment | cleft | front attachment |   |
| 19183                    | 16          | 20  | 1,25        | 2              | 1,5        | 1     | 2                | 2 |

-2,5            -1,5            -0,5            0,5            1,5            2,5



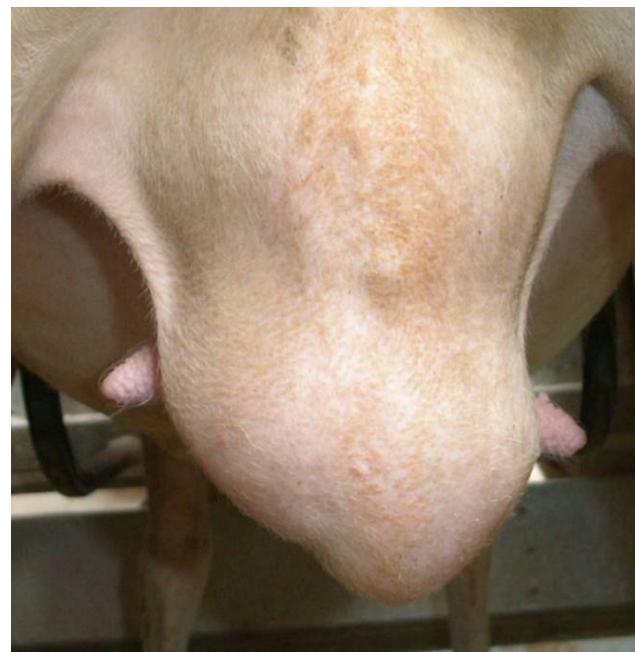
# Classes of udders shape

- 1



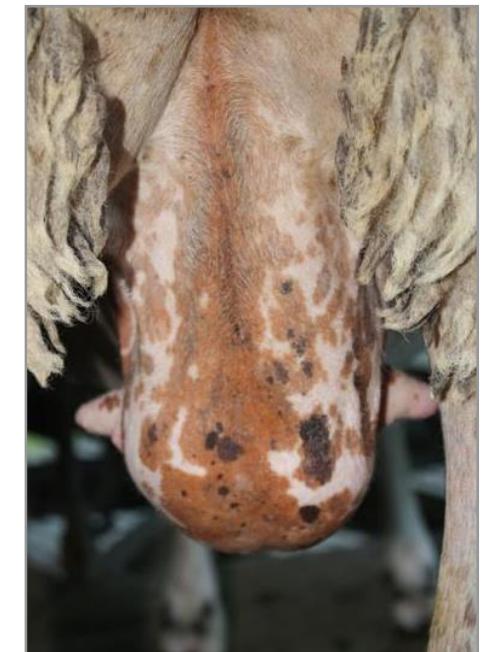
breeding

- 2



production

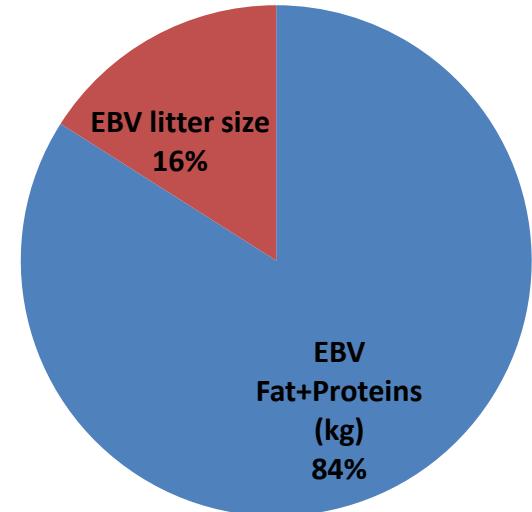
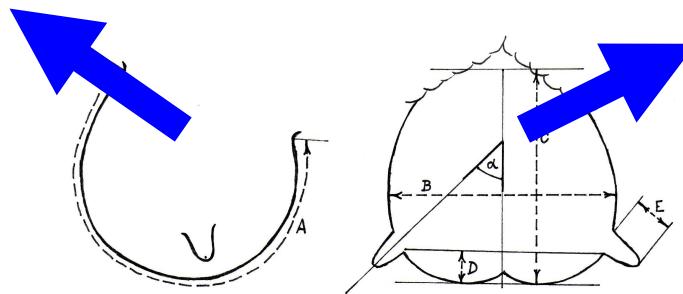
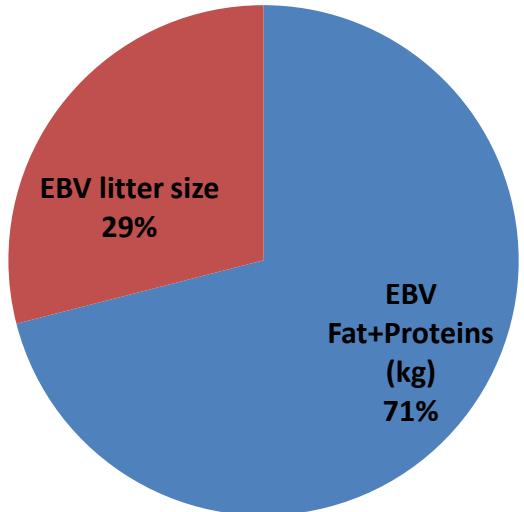
- 3



culling

# FUTURE

EBVs for udder traits  
Selection indexes



EAST FRIESIAN SHEEP



LACAUNE

Thank you  
for attention

