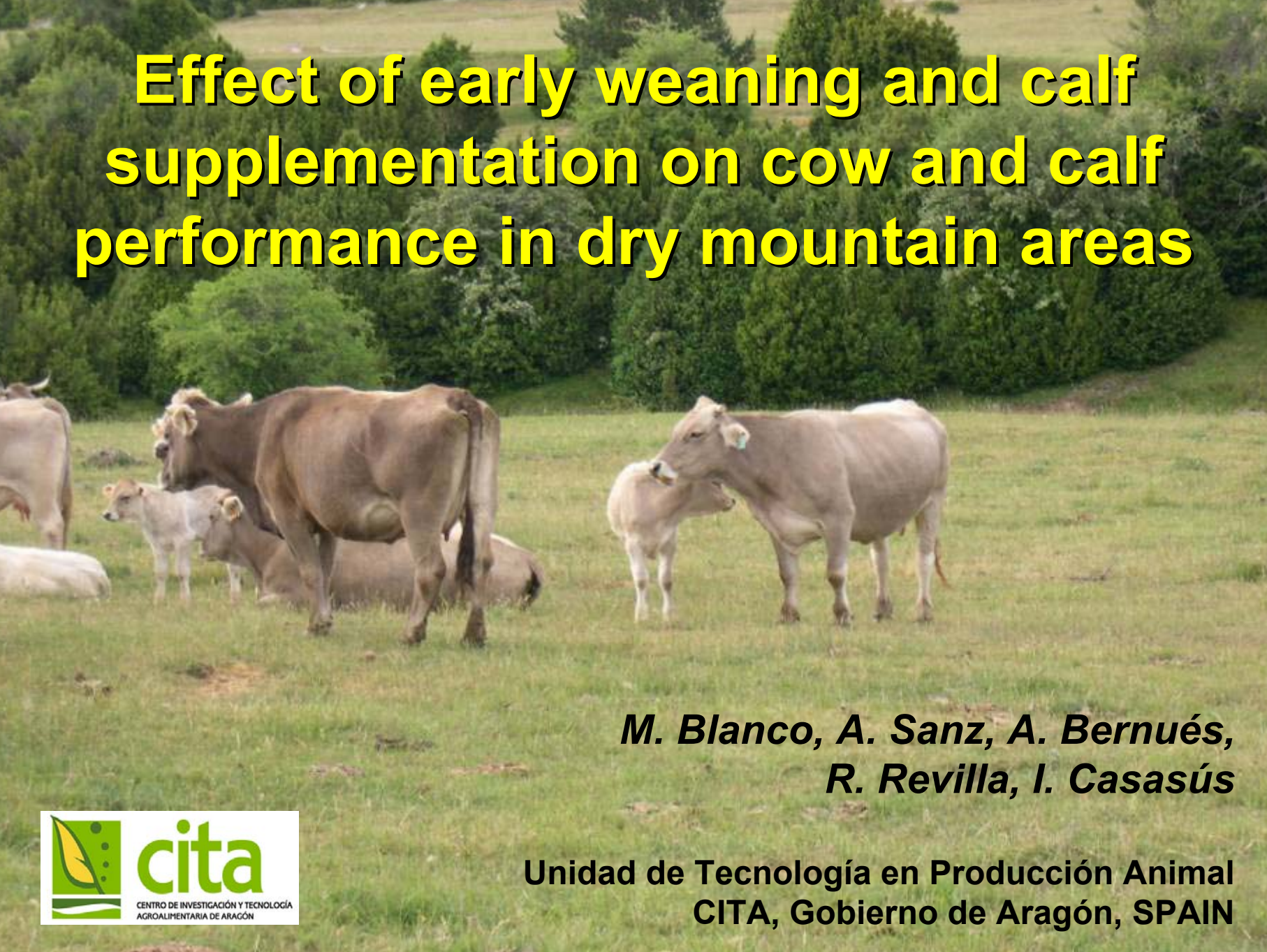
Effect of early weaning and calf supplementation on cow and calf performance in dry mountain areas



M. Blanco, A. Sanz, A. Bernués, R. Revilla, I. Casasús

Unidad de Tecnología en Producción Animal
CITA, Gobierno de Aragón, SPAIN

cita
CENTRO DE INVESTIGACIÓN Y TECNOLOGÍA AGROALIMENTARIA DE ARAGÓN

Extensive production systems need to increase their competitiveness guaranteeing:

- Environmental sustainability
- Product quality
- Economic efficiency

Reduction of cows' winter feed costs

Indoors feeding vs. grazing

- surfaces ?
- type of animals ?
- environmental effects ?

Relatively high availability
but limited quality
of forest pastures

Best performance
by dry cows

Objective

Effect of early weaning and calf supplementation

- cow performance
- calf performance
- economic performance of cow – calf pairs

Material and Methods

Autumn calving season

27 cow – male calf pairs

2 x 2 factorial design

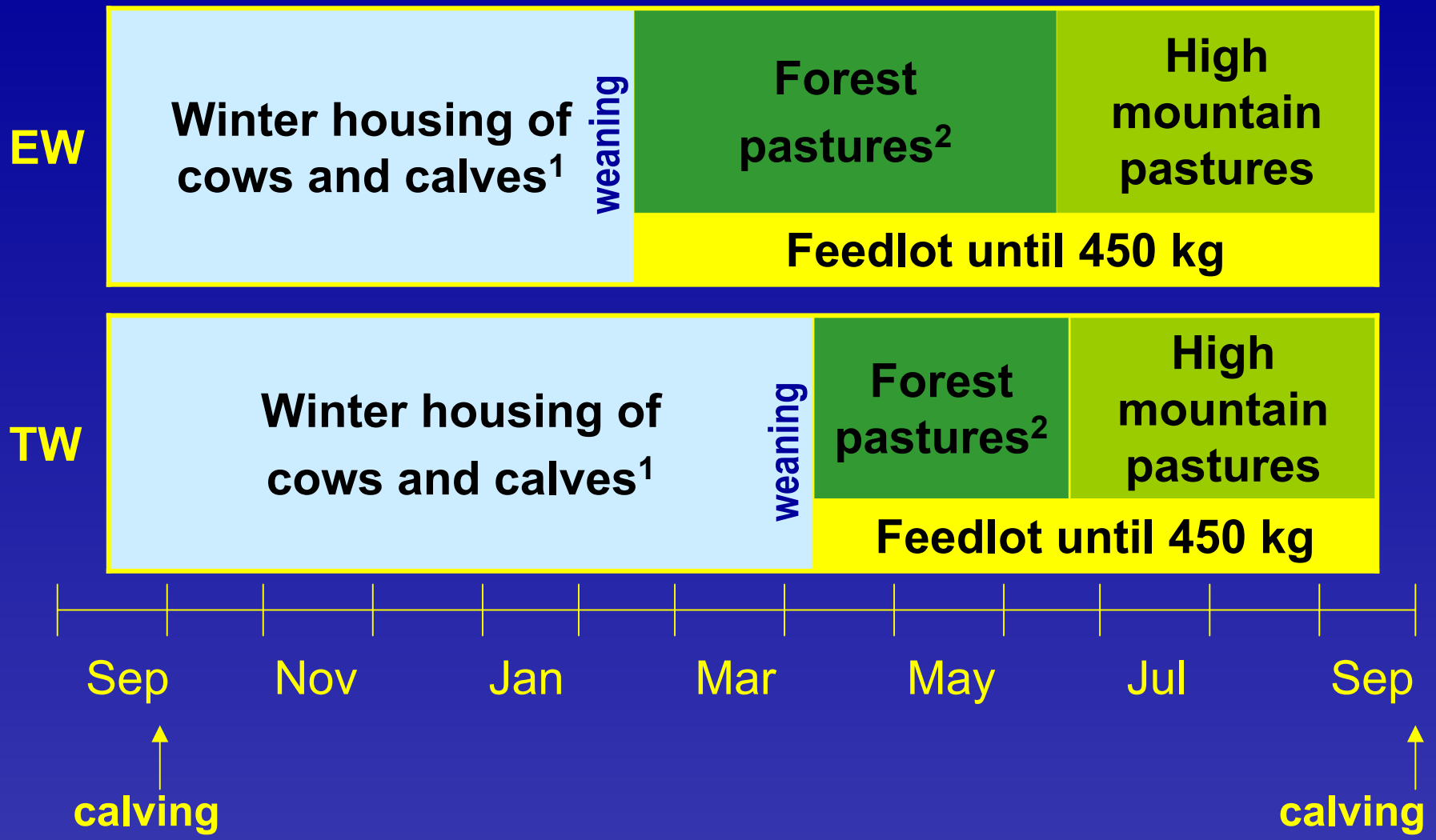
Age at weaning

EW (90 d) TW (150 d)

Calf supplementation during lactation

Yes No Yes No

EWS EWNS TWS TWNS



Feedstuffs

- Cows: total mixed ration
- Calves: commercial concentrates + straw

Measurements

Evaluation of technical and economic performance of cow-calf system

On farm:

- Weight and ADG of cows and calves
- Daily intake of cows and calves → feed costs

At slaughter:

- Carcass weight, conformation, fatness score → income

… assuming that other costs are similar among groups

Gross margin = income – feed costs

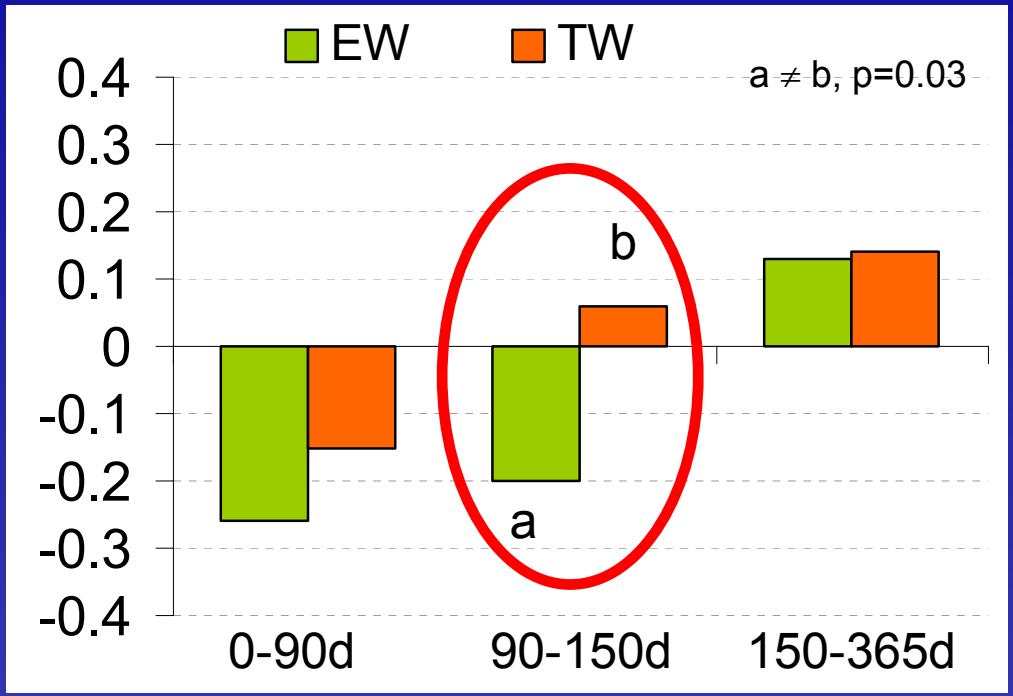
Results

Cow performance

No weight differences but different ADG 90-150d

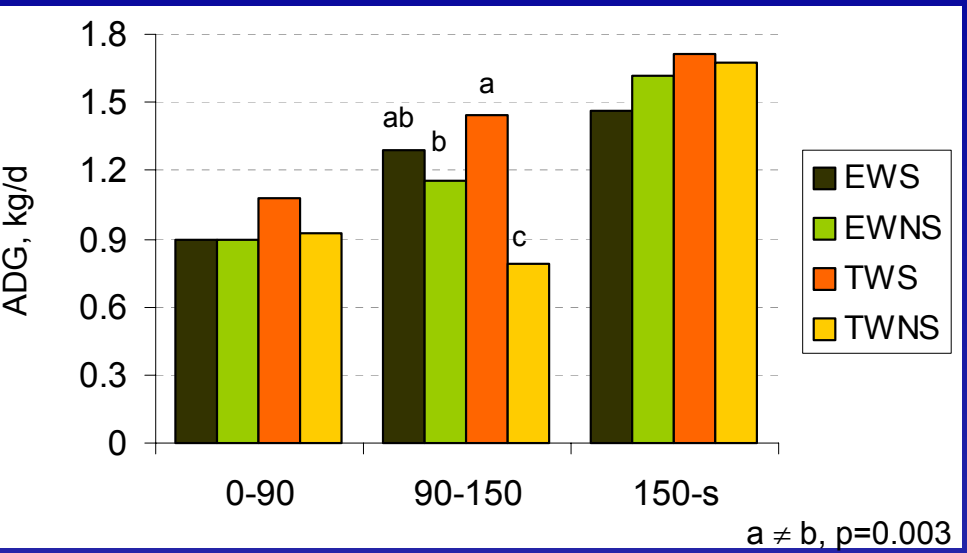
Weight, kg	EW	TW
0 d	588	561
90 d	562	542
150 d	554	545
365 d	569	564

NS

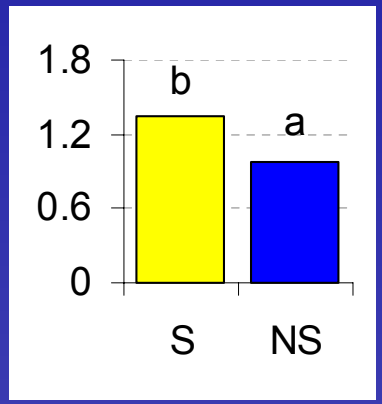


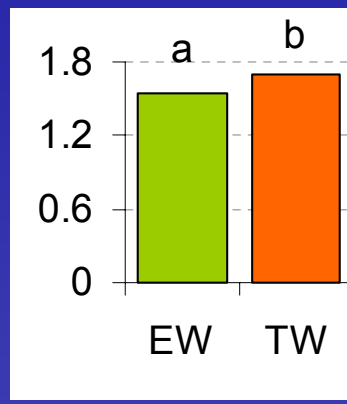
Calving interval: 373 days (EW) *vs*. 400 (TW) (p=0.05)

Calf performance



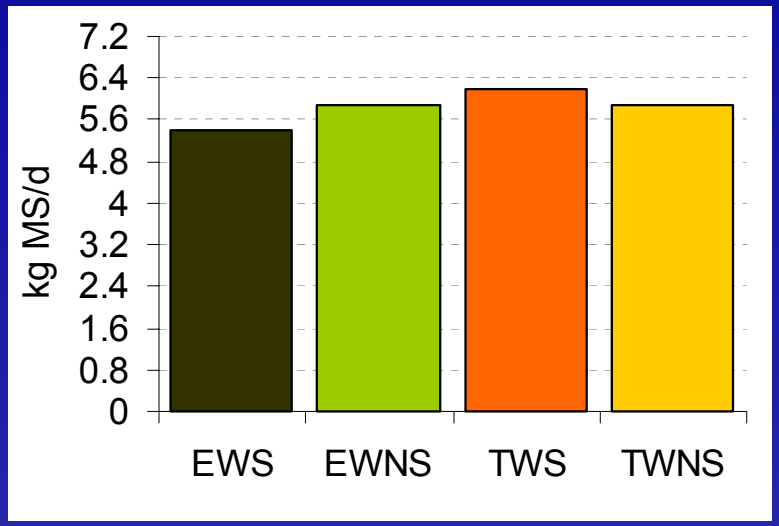
- 0-90 similar ADG
- 90-150: higher ADG Suppl., with interactions
- 150-slaughter: Higher ADG TW



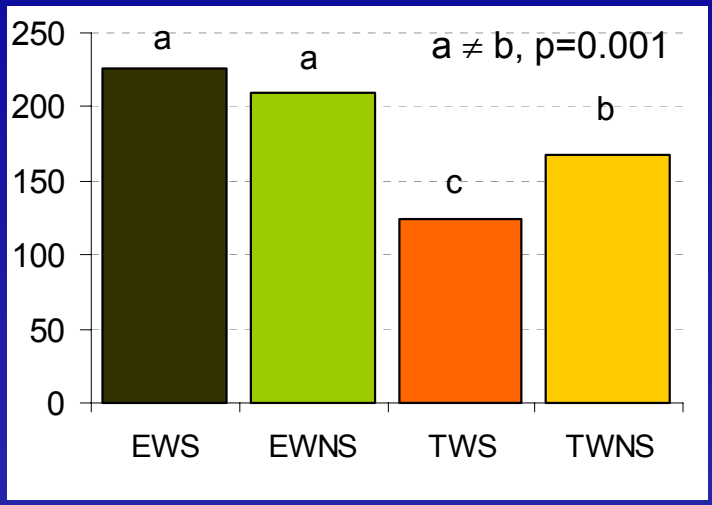


Concentrate intake

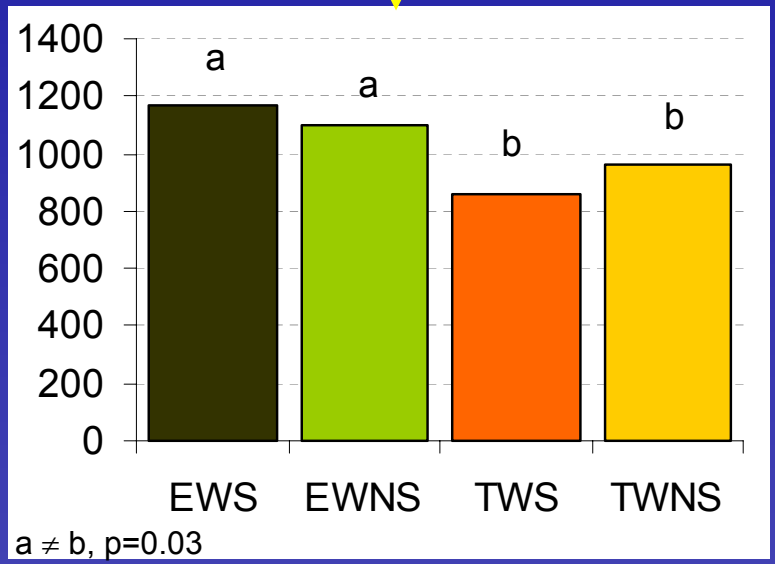
Daily DMI 150-slaughter



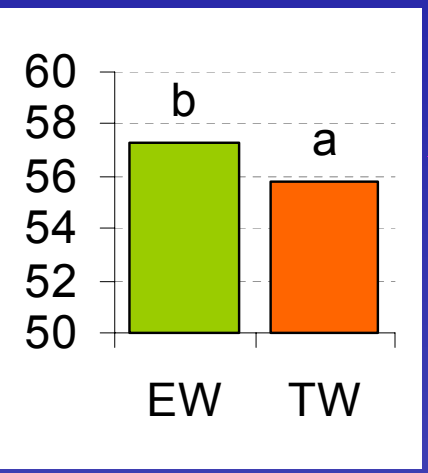
Feedlot length, d
(weaning to slaughter)



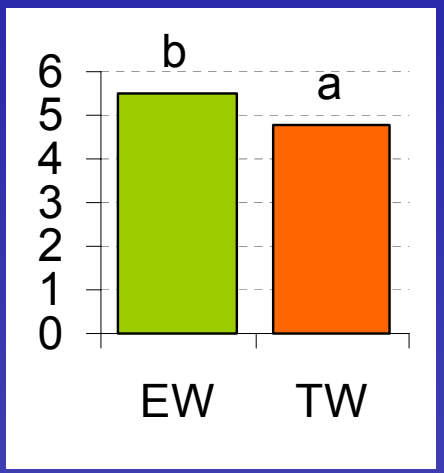
Total DMI, kg



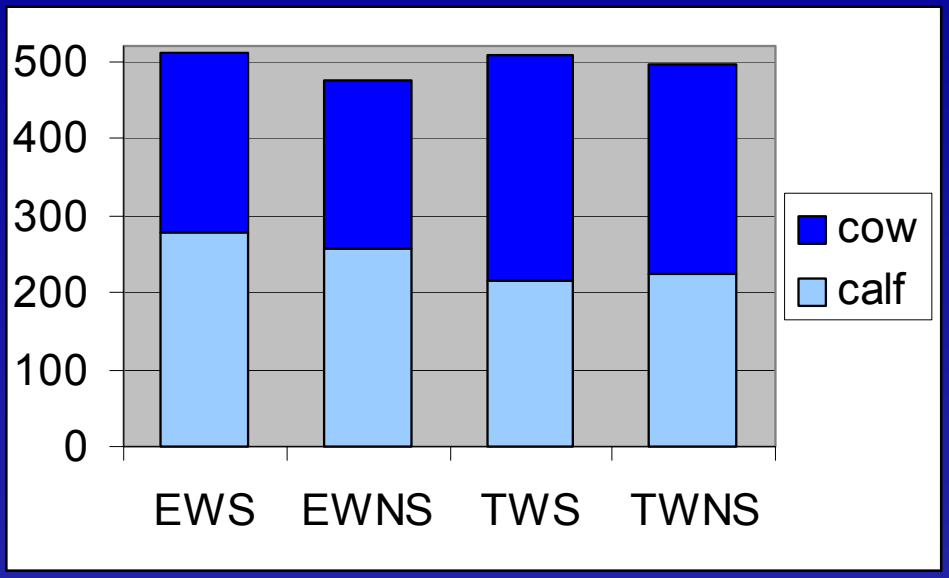
At slaughter	EWS	EWNS	TWS	TWNS
Age at slaughter,d	316 [a]	313 [a]	281 [b]	314 [a]
Cold carcass weight, kg	258	257	253	247
Carcass yield (%)	59.3	57.3	56.2	55.5
Conformation	U- (10.4) [ab]	U (10.9) [a]	U (10.9) [a]	U- (9.6) [b]
Fatness score	2 (5.3)	2+ (5.7)	2 (4.7)	2 (5.0)



Weaning age affected carcass yield and fatness score: EW>TW



Economic performance

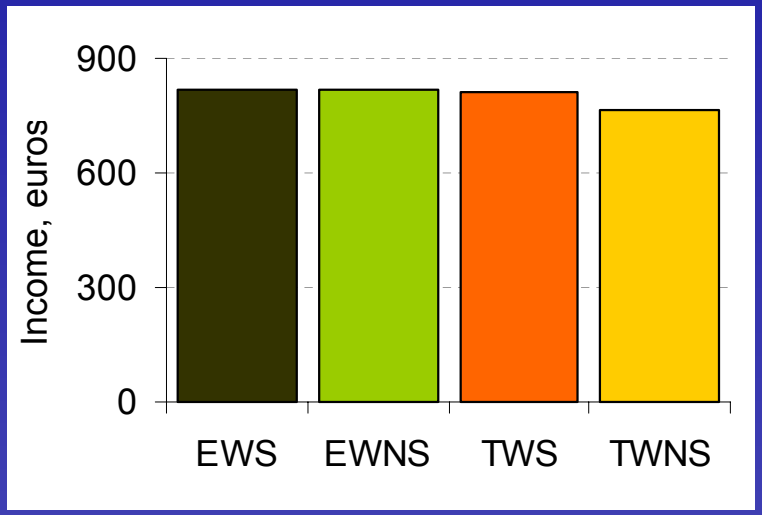


Feed costs

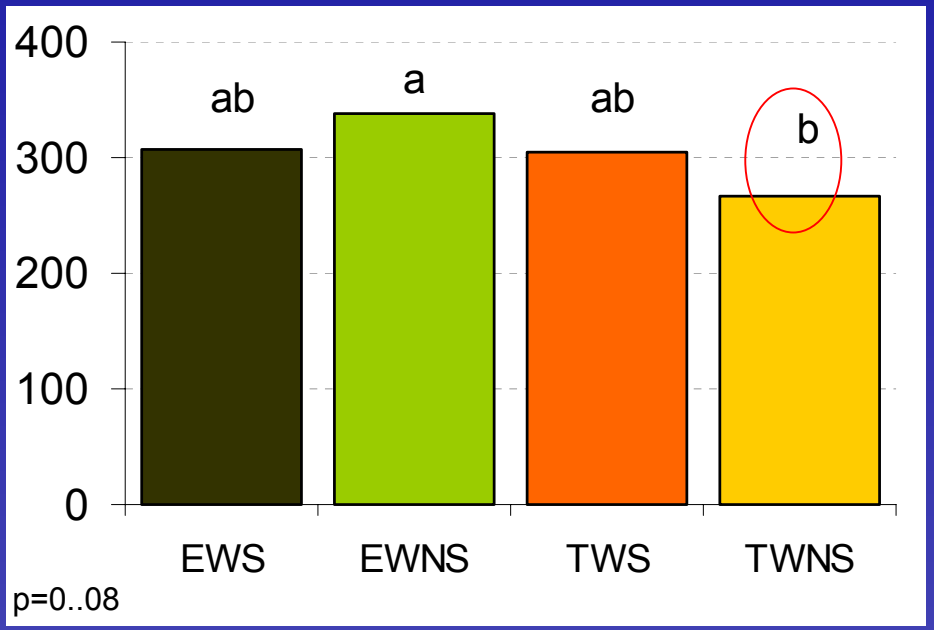
Lower for EW cows

Higher for EW calves

Income: NS



Gross margin, euros



Conclusions:

- No differences in cow performance

  … tendency of a better reproductive performance EW
- Lower feed costs of EW cows
- EW increased feedlot phase and calf feeding costs
- TWNS is the least advisable from an economic point of view