

Comparison of beef cattle and sheep production profitabilities in the Czech Republic

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Introduction

Permanent grasslands covers cca 920 000 hectares, what is about 21.7% of total farmland area in the Czech Republic. Farmers involved in grasslands management usually decide between use suckler cows or sheep for grazing. The main aim of this study was to compare the economic efficiencies of beef cattle vs. sheep low input production systems.

Material and Methods

Two approaches were used.

Simple bioeconomic model – deterministic simulation of the beef cattle and meat sheep production system.

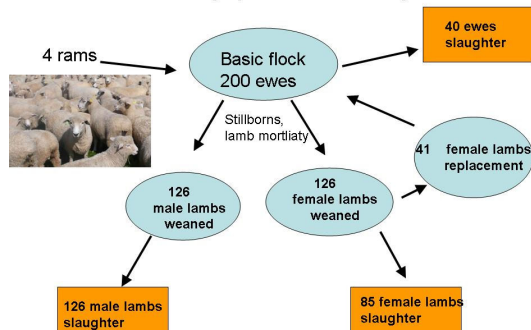
Basic conditions: 100 ha of permanent grasslands

stocking density 0.3 LU (livestock units/ha)

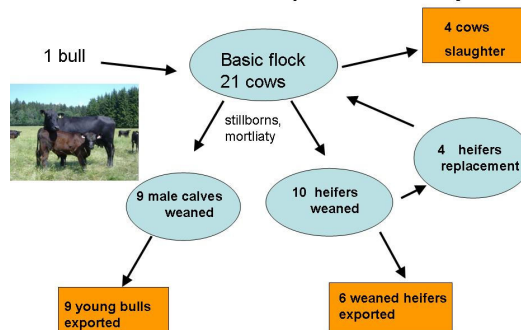
LU coefficients used:

cow, bull	1.0 LU
heifer	0.6 LU
calf (1-6 months)	0.3 LU
ewe	0.15 LU

Model of sheep production system



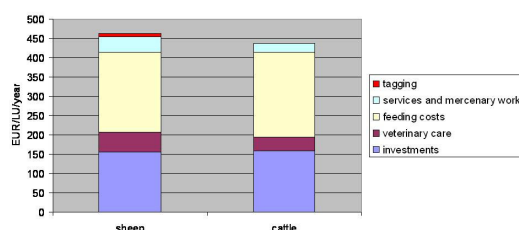
Model of beef cattle production system



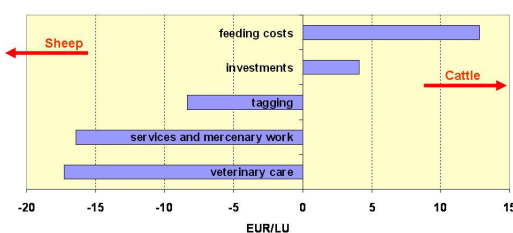
Results and comments

According to results of bioeconomic model sheep production system had higher costs of tagging, labour and veterinary care, while the costs of investments and feeding costs are higher in the beef cattle.

Comparison between cost structures for sheep and beef cattle production systems

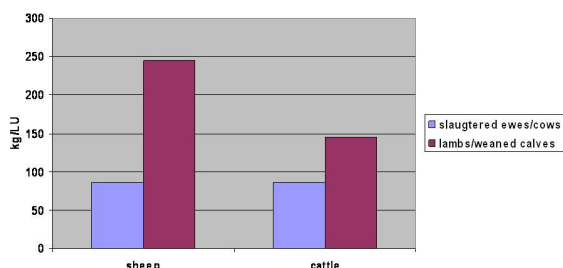


Differences between chosen cost items for sheep and beef cattle

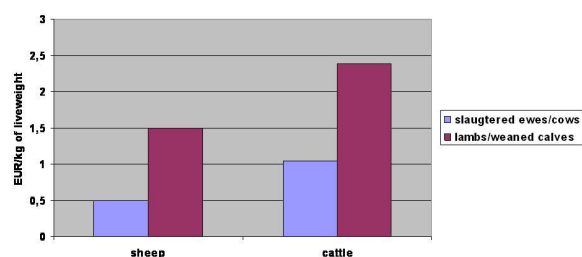


Due to higher prolificacy the production of kg of liveweight of marketed animals is higher in sheep than in beef cattle production system. On the other hand the prices per kg of liveweight of marketed animals are higher in cattle and for this reason the total income for animal products per LU and year is slightly higher in cattle production system.

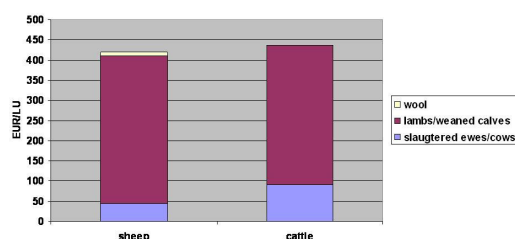
Production of animals for sale
(kg of liveweight/LU/year)



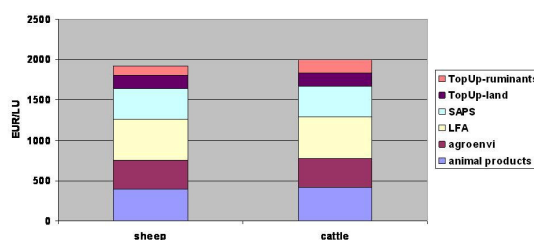
Animal prices (€/kg of liveweight)



Income – animal products
(€/LU/year)

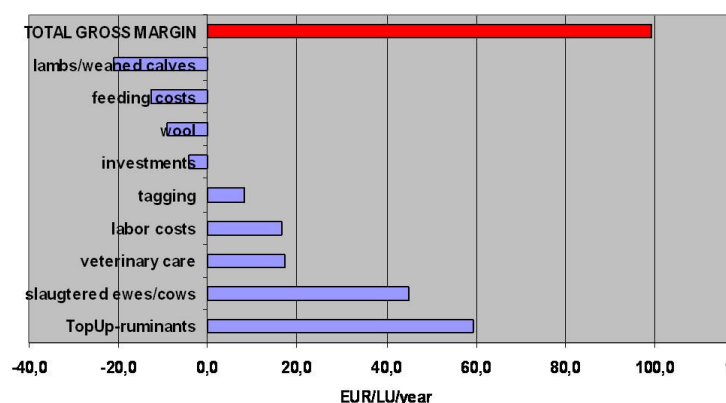


Total incomes per LU
including subsidies



Profitabilities of both production systems are significantly influenced by subsidies from the national or EU budgets. Supplementary top-up payments per LU of grazed animals is by 53% higher for beef cattle than for sheep. This disproportion stems from EU regulations (no. 1782/2003), and negatively influences the sheep industry development in the Czech Republic, as it is the most important factor affecting differences between sheep and beef cattle profitabilities.

Factors affecting differences between sheep and beef cattle profitabilities



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