

USING OF THE BEEF GALLOWAY BREEDS IN THE FOOTHILLS

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Summary

Selected parameters of the efficiency in the Galloway breeds and herd of the Bohemian Spotted Cattle hybrids with Galloway bulls and variety changes of the grazing grass were observed in Bohemian Forest foothills conditions. Age of the 1st calving has been in the galloway's cows 937.2 days and meantime 371.3 days. Calves weights in 120 days of the age were in the group G 137.9 kg and in the C x G 190.7 kg and at weaning at 210 days of age 160.2 kg (230.7 kg). It was reached the species variety progress of the grazing grass in connection with the low grazing's selectivity in the Galloways and F1 Galloway hybrids.

Key words: cattle, beef cattle, growth, fertility, grazing ecosystem

Introduction

Breeding of the beef cattle in foothills is more and more enforced beside milk cows breeding in the Czech Republic. Landscaping function by feeding down of grazing grass is indispensable part of the breeding. These areas are possible to keep and better by farming correct forms. Farming systems which support resumption and maintenance of the marginal regions are generally fewer economical viable and being extensive and farming in these areas is less profitable. Breeding cattle is effective only in case of state subsidy, whose goal is to provide on the one hand able competitive agriculture on the other hand cultural landscape in mountain region (Kvapilík, 1995). The are the natural conditions lower advantageous the preferable are extensive cattle breeds with reference to low nutrition and breeding requirements (Teslík et al., 2000). Using of the beef cattle in marginal areas in relation to landscape ecological stability was observed within research projects on Agricultural faculty of University of South Bohemia.

Material and methods

In the Bohemian Forest foothills conditions (1000 m) were observed since 1995 in two breeds (Galloway cattle and hybrids Bohemian Spotted Cattle with Galloway) growth parameters in calves (average increase of weight, weight in the age 120 and 210 days), reproduction parameters (first calving age and meantime). The grazing influence on overgrowth structure of herbage was tested, too.

Results and discussion

Effectiveness beef cattle herds are influenced especially by reproduction results. Average age by first calving (table 1) was 937.2 days in cattle with the variability from 674 to 1092 days. It is coming with downgrading conditions attend to (regardless of breed) age prolongation by first calving (Frelích et al., 1997). Average length of meantime was 371.3 days. Cattle calving have not been during year even. Cattle were mostly calved in the months April – June. Dufka et al. (1996) recommends for the beef cattle breeding the most optimal time period for calving from January to March, because the grazing grass is better utilized, which positive influences milk – yield cattle and calves weight.

It was discovered higher increase of weight in the hybrids group against group G owing to higher milk yield of the cattle and by heterosis effect. Weight (table 2) in the age 120 days and 210 days was significant higher (60.2 kg let us say 230.7 kg) against the group G (137.9 let us say 190.7 kg). Average daily increases of weight were by both groups higher to 120 days of age. The expressive decrease of growth intensity from 120 to 210 days has been in the group calves G (- 37.9 %), which was influenced especially by later calving time period.

It is possible to document by the research results grazing cattle on the herbage structure the positive effect of the continual grazing. It was developed the species variety of the observed herbage by regular fertilizing and extensive grazing (table 3 and 4). Beside positive influence of the Galloway cattle grazing on the herbage species variety is very significant also melioration effect, which is possible to document by changes of structure ruderal grazing grass. Strong regression of the sorrel is related to low grazing selectivity, which is for the Galloway specific.

Discovered results verify Galloway using in foothill conditions in relation to modesty, excellent mother traits and out of production function by landscape maintenance.

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Table 1 Selected parameters of the fertility in Galloway cattle

Parameter	Galloway dams			
	count	average	min	max
1 st calving age (days)	19	937.2	674	1092
Meantime (days)	12	371.3	295	473

Table 2 Results calves growth of the Galloway and hybrids of F1 generation with Bohemian Spotted Cattle

Parameter		G	C x G	t-test
Live weight at 120 days of age (kg)	count	23	31	2.09++
	average	137.9	160.2	
	min	99	101	
	max	187	200	
Average daily gain from birth to 120 days of age (g)	count	23	31	2.07+
	average	982	1168	
	min	655	675	
	max	1391	1500	
Live weight at 210 days of age (kg)	count	23	31	3.06++
	average	190.7	230.7	
	min	128	183	
	max	278	286	
Average daily gain from 120 to 210 days of age (g)	count	23	31	20.3+
	average	609	784	
	min	220	456	
	max	1253	974	

Table 3 Development of the total species amount in grazing growth with different nutrient reserve by the absence of the fertilization and by continual grazing by Galloway

Station with base source of nutriment	The total number of species in grazing growth				
	n				
very strong	12	17	22	24	35
Strong	19	26	25	28	39
medium	22	28	31	29	37

Table 4 Development areas structure of the ruderal grazing growth during their continual grazing of Galloway without fertilization

Agrobotany group - species	Development of vegetation in grazing growth				
	% D				
Empty areas	2	1	+	.	.
Grass total	61	37	68	54	50
Trifolium total	4	3	5	20	33
Other plant total	33	29	27	26	17

%D = ability to cover of individual species, resp. of agrobotany groups (in %)

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