

EFFECT OF ANIMAL WELFARE AND FEEDING SYSTEM ON CHAROLAIS YOUNG BULLS MEAT QUALITY



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OBJECTIVE

The aim of this study was to evaluate the effects of two different feeding systems and different level of animal welfare on meat quality traits of conventionally processed Charolais young bulls (CH).





II Group

maize crumb

maize flour

CP% = 13.76

CP%=15.56

Starch%=42.75

tarch%=30.83



DM basis

Was evaluated on 144 CH, using schedules based on evaluation of ethological, physiological and pathological indexes. Welfare evaluation was performed in two times: at beginning of the study (SBA) and one month before slaughter (SBR).



Colour, pH, shear force on raw meat (WBSr) and Cooked meat (WBSc) and water losses (Drip loss -DL; Cooking loss - CL) were performed on 19 Longissimus Thoracis (10th-11th ribs) after 7days of ageing time.

RESULTS

Results of animal welfare evaluation showed that I group had a little reduction of animals without problems (SBA=53% vs SBR=48%) but in II group there were not any animals without problems both in SBA and in SBR. Therefore in the II group we observed that all animals had ethological and/or physiological and/or pathological problems (SBA and SBR).

Evaluation schedule of ethological, physiological and pathological indexes

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L			1	2	3		1	2	3	1	2	3	1	2	1	2	1	2	3	1	2	1	2	1	2	3	1	2		2	

Animal welfare evaluation

		Animals without	Animals	Behaviour problems	Patologies	Stress problems
		any problems	with problems	*	**	***
SBA	I group (%)	53.1	46.9	21.9	28.1	3.1
301	II group (%)	0.0	100.0	4.5	92.9	100.0
SBR	I group (%)	48.4	51.6	32.3	25.8	3.2
JBK	II group (%)	0.0	100.0	2.7	93.7	98.2

Furthermore at slaughter it was evaluated liver and lung pathologies and it was observed that animals with problems were: 9% in I group and 28% in II group. Therefore II group showed a lower welfare level than the I group. Meat quality data showed significant differences in pH, WBSr and cooking

Meat quality parameters

7	<u>I GROUP</u>	II GROUP	DAGE	
n	10	9	RMSE	P
pН	5.70	5.55	0.091	0.0005
CL (%)	20.84	31.29	3.275	<.0001
DL (%)	1.30	1.23	0.376	n.s.
WBSr (kg)	9.09	11.34	1.821	0.0079
WBSc (kg)	11.84	14.14	2.999	0.0830
Lightness	40.41	40.86	2.198	n.s.
Chrome	16.98	16.02	1.834	n.s.
Hue	52.93	54.36	4.438	n.s.

CONCLUSIONS

This work shows that meat of II group has a lower quality than I group. Maybe, these differences are not due to feeding system but are due to animal welfare.

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