

PERFORMANCE AND QUALITY OF MEAT OF BEEF CATTLE FED WITH A COMPLEMENTARY FEED BASED ON HERBAL PRODUCTS THAT COULD BE USED IN ORGANIC FARMING

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INTRODUCTION

The growing awareness of consumers in terms of quality of animal products, welfare and environmental impact of farming, together with the recent ban of antibiotics used with auxinic purposes (eg. Monensin) induced farmers to consider alternative products for allopathic synthetic drugs.

The attention given by organic farming on phytotherapy, and on alternative medicines in general, has had the merit of encouraging the reevaluation of these practices also in conventional farming.

OBJECTIVE

Evaluate zootechnical performance and quality characteristics of meat of Piemontese beef cattle fed with a complementary feed based on herbal products.

MATERIALS AND METHODS

In a conventional farm in the province of Turin, 20 of Piemontese beef cattle breed were divided into two homogeneous groups by age (12.0 ± 1.3 months) and by weight (578.0 ± 28.2 kg). During the 60 days before slaughter, 50 gr/head/day of a complementary feed called Taurus[®], based on herbal products, was administered to the animals of one of the two groups.

During the test, measurements of live weight and observations about the behaviour of the animals in the stable were made. Finally, the growth of the animals and the physical-chemical characteristics of the samples of muscle *Longissimus thoracis et lumborum* have been determined.

Taurus[®] contains derivatives of *Borraginaceae*, *Lamiaceae* and *Zingiberaceae* which bring rutin, quercetin, minerals, organic acids, gingerol and glycosides, which are considered to increase appetite, to improve the absorption of food and to exert a calming effect.

RESULTS

The animals that have been treated resulted more mild, relaxed and inclined to be weighed. They have also highlighted a more growth (+200 gr/day) and an average live weight at slaughter much higher compared to those of the control group.

Stated these differences on the performances, no significant differences have appeared between the two groups with regard to the quality parameters on the meat.

Table - Physical parameters of meat samples (average \pm sd)

		TREATED	CONTROL	P
L	Brightness	31.10 \pm 0.962	32.17 \pm 1.935	ns
a	Redness index	21.51 \pm 0.292	22.19 \pm 1.162	ns
b	Yellowness index	5.98 \pm 0.229	6.26 \pm 0.646	ns
Chromaticity		22.32 \pm 0.336	23.06 \pm 1.290	ns
Colour		0.27 \pm 0.007	0.27 \pm 0.014	ns
WB	Shear strength (kg)	7.91 \pm 1.690	8.10 \pm 1.484	ns
DL	Drip losses (%)	3.07 \pm 1.931	3.95 \pm 2.909	ns
CL	Cooking losses (%)	15.91 \pm 2.224	19.12 \pm 3.244	ns
MCS	Contraction	20.29 \pm 1.676	18.08 \pm 1.208	ns
CLmcs		21.80 \pm 0.715	25.22 \pm 3.427	ns

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BIBLIOGRAPHY

A.O.A.C. (2000). Official methods of analysis. 17a ed. A.O.A.C. Washington. - Barbera S., Tassone S. (2006). Meat Cooking Shrinkage: measurement of a new meat quality parameter. *Meat Science* 73, 467-474. - Bocard R., Butcher L., Casteels E., Cosentino E., Dransfiel E., Hood D.E., Joseph R.L., Mac Dougall D.B., Rhodes D.N., Schön I., Tinbergen B.J., Touraille C. (1981). Procedures for measuring meat quality characteristics in beef production experiments. Report of a working group in the commission of the european communities (CEC). Beef production research programme. *Liv. Prod. Sci.*, 8, 385-397. - Destefanis G., Brugiapaglia A., Tassone S. (1997). La qualità della carne bovina Piemontese distribuita al consumo. *La razza bovina Piemontese*, anno XXVIII, n.4.