Herd structure in the bovine Calvana breed

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RIASSUNTO – Struttura dell'allevamento dei bovini di razza Calvana. *La struttura aziendale è uno dei fattori che maggiormente influiscono sulla redditività, sostenibilità e sopravvivenza stessa di una razza. Questo risulta ancora più vero quando sono coinvolte razze a numerosità limitata che sfruttano nicchie di mercato ben specifiche. Scopo del presente lavoro è fornire un quadro della situazione degli allevamenti di razza Calvana, razza che è classificata come a rischio di estinzione e inserita nel repertorio regionale previsto dalla L.R. 50/97 relativa alla tutela delle risorse genetiche autoctone.*

Key words: Calvana breed, herd structure.

INTRODUCTION – Farm structure is one of the principle components that influence profit, sustainability and survival of a herd, especially in endangered breeds. The sustainability of these herds is based on the capability to take advantage of specific niches of the market, of specific label or organic certification or "designation of geographical indications or origin for agricultural products".

An accurate management that considers market fluctuation in the long to medium term period and the possibility of taking advantage of public funds is necessary.

Due to the particular characteristics of the niche-products, the above mentioned conditions are extremely variable. As a result, only well managed and market oriented farms are able to survive.

The aim of the present work is to supply a description of the current situation of the Calvana breed. A profound analysis of the existing situation forms the basis of any conservation program (Jordana and Folch, 1998).

MATERIAL AND METHODS – The study was developed in collaboration with the Provincial Association Breeders of Florence and Prato (APA) and the Calvana's breeders association of the provinces of Florence, Prato, Pistoia and Siena.

The herd sensor on the territory was carried out thanks to the data supplied from the APA.

In 19 of the 21 herds that were analysed, a classical type analysis was carried out by specific-designed questionnaires aimed at gathering information about the breeder, the territory settlements, agronomic practices, the breeding structures and practices, on pastures as well as on the management of the heads. For the remaining herds the work is currently in progress.

RESULTS AND CONCLUSIONS – There are approximately 460 head of Calvana cattle, distributed in the province of Florence, Prato, Siena and Pistoia.

The breeding sites are localised in the neighbourhood of the inhabited centres (not more than 10 km), with the consistencies reported in table 1.

Table 1.   Distribution and number of farms.

	Farms		Heads	
Province	n.	%	n.	%
Firenze	5	26.32	149	32.32
Prato	9	47.37	204	44.25
Pistoia	2	10.53	47	10.20
Siena	3	15.79	61	13.23
Total	19	100	461	100

As shown in table 2, 63.16% of the farms are situated in hilly zones (less than 600 meters). One breeding site is situated in mountain and 6 are localised in the plains. Twelve of the pastures, where the animals graze, are localised in hilly zones, 4 in the mountains and only 3 in the plains.

Table 2.   Average altimetry, heads and pasture of farms.

		Plain	Hill	Mountain
Farms	n.	6	12	1
	%	31.58	63.16	5.26
Heads	n.	163	211	87
	%	35.36	45.77	18.87
Pastures	n.	3	12	4
	%	15.79	63.16	21.05

Table 3.   Average surface and agricultural destination of farms.

		max	min	mean area	stand. dev.	%
SAT	ha	1306.58	4.00	201.74	299.93	100
Other	ha	1028.11	0.00	66.03	233.78	32.73
Forage	ha	120.00	0.00	24.68	33.95	12.23
Pastures	ha	260.00	0.00	39.32	64.35	19.49
Woods	ha	370.00	0.00	71.71	112.72	35.55

Regarding the sizes of the farms (table 3), the total land area has an average size of approximately 201 ha. 71 ha are constituted from forests, 39 from pastures, 24 from forage and 66 from other type of cultivations. Approximately 76% of land is owned property of the farmers, approximately 16% is rented and remainder is of other origin. About 63% of the management are direct of the breeder who is also owner of the farms. Only 31.6% of workers are represented from pay wages and 5.3% from other types. The average age of the Calvana breeders is approximately 53 years, and approximately 3/4 are male. These male staff workers constitute approximately 76% of the working force. Almost the same percentages represented above are evident between the two working categories referred to as: undetermined time and determined time.

Approximately 21% of the companies are associated with the organic disciplinary and 21% with other types of disciplinarians. Approximately 3/4 of the land is worked. Grazing is carried out on 84% of the pastures and 37%, is carried out after harversting on the stubble. In the 68.7% of the farms (in addition to the Calvana

breed) it is possible to find other livestock such as cattle breeds, sheep, goats, horses and pigs. As the other cattle breeds as concerning we can find Chianina, Italian Brown, Italian Friesian, as well as crosses between the several breeds. The size of the herds shows wide differences. The average herd size is 24 heads of cattle, 23.86% of them are 1 year-old calves and 19.31% are heifers. As the females as concerning, primiparous, second parity cows and third or higher parity cows, are 8.24, 7.16 and 37.09%, respectively; 4.34% of the herds are bulls. The age of the first mating is about 22 months for the males and approximately 21 months for the females. The mating act is generally natural and occurs along of the year. Only a quarter of the breeders limit the mating period to the spring season.

The birth of the calves occurs all year round with a peak in the summer and spring (spring 36.11%; summer 26.67%; autumn 14.44%; winter 22.78%). Twin births are rare and the average calving interval is around 12 months. Weaning occurs after the first 6 months.

The animals are sent to pasture from March-May until November-December. The pasture is usually of high quality, with a limited dry period during July and August. In 37% of the cases the animals are always maintained on pasture, located not more than two hours away from the farm centre. In general the pasture grounds have an extension of approximately 42 ha and in 44% of them the slope is acclivous, in 40% plain and 16% very acclivous. Drinking troughs and sometimes also fodder troughs for diet integration are often present on the pastures. The main purpose of the breeding, (which in the 63.2% of the cases is semi-intensive), is generally (in 63%) finalised to reproduction. In addition, the objective is the production of young bulls of an average weight of 500 kg to be slaughtered at 21 months of age. The career of the cows has a duration (with exceptions) of 14-15 years on average. The stables, present in 90% of the farms, are constructed in either masonry and wood, or wood and sheet, and have a medium surface of 358 m². Usually they are in good condition and are fenced in three quarters of the cases studied. The farms often have barns, storage areas and there is the possibility to use tractors (94.7%) and tools (79%). Generally, the foodstuff is auto produced. The natural pasture is usually grazed, rarely improved pasture and meadows are used green either as green forage or hay. In turn, the grassland is mainly used for the production of hay, by using annual forage crops. Calvana is a quite good browser, consuming some edible parts of woods and maquis (leaves and regrowth). Part of the food stuff, such as hay, maize, barley and mixtures, are acquired outside the farm.

The alimentary integrations are administered usually during winter.

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