

NOTA BREVE

PRELIMINARY STUDY OF THE MAJORERA MILK GOAT PRODUCTIVE PERFORMANCE

ESTUDIO PRELIMINAR DEL RENDIMIENTO PRODUCTIVO DE LA CABRA MAJORERA

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Palabras claves adicionales

Producción de leche. Prolificidad. Agrupación Caprina Canaria.

SUMMARY

In the present paper we have made an evaluation of the milking and reproductive aptitudes of the Majorera Goat with a view to the productive characterization and definition of these animals, all from the Fuerteventura's Milking Control Programme.

In this study 452 animals have participated, belonging to 7 of the most representative farms on the island.

With respect to the reproductive aptitude, we have found interesting values of 1.95 ± 0.03 of mean prolificity; with an outstanding of 56.2 p.100 of double kidding, and only 4.6 p.100 abortions. Among farms the prolificity values oscillate between 1.73 ± 0.07 and 2.09 ± 0.08 .

The descriptive statistics control by control show us an acceptable persistency of production, observing that 85.4 p.100 of the animals complete 210 days dairy period, maintaining throughout the lactation values up to two kilograms.

In the end, we have obtained mean values of 546.83 ± 3.59 kilograms, with minimum and maximum values of 417 and 823.50 kilograms respectively.

RESUMEN

En el presente trabajo, se evalúan las aptitudes lechera y reproductiva de la Cabra Majorera con vistas a la caracterización y definición de estos animales, empleando datos procedentes de las siete ganaderías más representativas del Núcleo de Control Lechero de la Isla de Fuerteventura.

Con respecto a la aptitud reproductiva, son interesantes los valores de prolificidad (media $1,95 \pm 0,03$) con un porcentaje del 56,2 p.100 de partos dobles y sólo un 4,6 p.100 de abortos. Entre ganaderías los valores de prolificidad oscilaron entre un $1,73 \pm 0,07$ y un $2,09 \pm 0,08$.

Los estadísticos descriptivos control a control, muestran una aceptable persistencia de la producción observándose que un 85,4 p.100 de los animales completan los 210 días de lactación, manteniendo durante toda la misma valores por encima de los dos kilogramos.

Finalmente, en ese 85,4 p.100 de lactaciones completas, los valores medios alcanzan $546,83 \pm 3,59$ kilogramos, con valores mínimos y máximos de 417 y 823,50 kilogramos respectivamente.

INTRODUCTION

The Canary Goat Racial Group have been formed by the historical cross-breeding between the Canary Pre Hispanic Goat, now stincted, with North-African procedence (Tejera, 1993) and other breeds of several branches came after the conquest of these Islands by the Spaniards.

The influence of Nubian, and Pirenaic goats is morphologically evident (Delgado *et al.*, 1990).

Today the racial group is officially recognized (BOE 6th July, 1985), as a breed. This breed is formed by three ecotypes adapted to three different environments. The Tinerfeño type is principally adapted to wet zones, the Palmero type to high mountain areas, and the Majorero type to dry semidesert regions.

The last type is adapted to the characteristics of much of the undeveloped countries. For this reason it has been exported to other arid zones of Spain and other countries, such Venezuela, Cabo Verde, Marocco, Argentina, etc. This international interest by the Majorero type is scouring at this moment, because recently the farmer associations of the Fuenteventura Island have received several official requirements of Majorera stocks.

Even though the Majorera type of the Canary Dairy Goat have the highest stocks among the three types belonging to this racial group, and in spite of considering this type as the best milk producer of the breed, up to this moment there has existed very few studies on the dairy aptitude of this type.

Under the Majorera type we find two management systems in their exploitation: one extensive, with natural resources as main source of feeding, and another intensive with a extreme deviation of feeding towards the concentrates.

The present paper shows the result of a preliminary study, in order to offer additional information on the Majorera Type and, in general, on the Canary Dairy Goat; information very much in demand at the present.

MATERIAL AND METHODS

The lactations of 452 does belonging to the seven most representative herds of the Fuerteventura Island have been employed in the present study. We have collected as continuous variables the following registers: 7 control after kidding with a periodicity of 30 days and the typified lactation at 210 days length obtained with the Fleishmann method (Craplet and Thibier, 1973).

We also registered the discontinuous variable *Number of Kids*, in order to estimate the reproductive capacity of this type.

These data were kept in a computer base (Data Base IV¹) and they were analysed with the PROC. MEANS of the S.A.S.² program (1982) obtaining the central and dispersion descriptive statistics for the continuous variables, and the same related to percentages in the discontinuous variable.

We have studied as well the mean behaviour of the lactation and the

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RENDIMIENTO LECHERO DE LA CABRA MAJORERA

differences among farms.

RESULTS

In our study the Majorera type has shown a constant lactation, maintaining yields up to two Kilograms throughout all the complete lactation period. This is shown in **table I** with other descriptive statistics.

In **figure 1** we represent graphically the behaviour of the milk production throughout the lactation period. The little variation observed is also evident.

The descriptive statistics of the kidding type for each herd and for the total population is shown in **table II**. In this table we can observe an high

Table I. Descriptive statistics of the milk yields, control by control, and of those typified for lactations of 210 days length for all the population participating in the Milking Control Programme. (Estadística descriptiva de los rendimientos lácteos en los distintos controles y para lactación tipificada a 210 días. Datos relativos a toda la población incluida en el programa de control de lactación).

C	N	Min	Max	Mean	SD	SE	VC
1	452	1.8	4.7	2.628	0.407	0.019	15.48
2	452	1.7	4.2	2.646	0.384	0.018	14.51
3	452	1.8	4.5	2.673	0.385	0.018	14.40
4	452	0.4	4.2	2.653	0.409	0.019	15.43
5	452	1.5	4.3	2.591	0.426	0.020	16.44
6	445	1.5	4.0	2.424	0.432	0.020	17.81
7	386	1.5	3.8	2.275	0.437	0.022	19.20

t 452 417.0 823.5 546.830 70.597 3.593 12.91

C= Control; t= 210 days; SD= Standard deviation; SE= Standard error; VC= Variation coefficient.

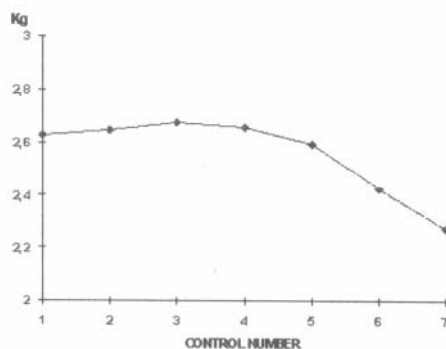


Figure 1. Behaviour of the milk production throughout the lactation period. (data from Fuerteventura's Milking Control). (Evolución de la producción láctea a lo largo de la lactación (datos del control lácteo de Fuerteventura)).

prolificity, with mean parturition around two kids. This table shows the distribution of the types of kidding in the population and inside herds. We can observe as the greatest frequencies are in the double parturition.

DISCUSSION

Gall (1981) mentioned in goats as normal lactation length between 200 and 300 days. This study has been based on typified lactation of 210 days length, a duration reached by 85.4 p. 100 of the studied population. This is a good percentage, even though other members of the Canary Goat Group have presented slightly better results, around a 89 p. 100 (Fresno *et al.* 1992).

The lactation length is linked to the selective level of the breeds, so we have seen reviewed by Sands and McDowell (1978) duration between

Table II. Relative frequency (p. 100) of the Number of Kids herd by herd, and for the total population. Abortions are included. (Frecuencias relativas (p.100) del número de chivos en cada rebaño y para la población total. Los abortos están incluidos).

Herd	Abortions	Number of Kids		
		1	2	3
AO	2.70	18.92	51.35	27.03
AR	3.57	25.00	57.14	14.29
IC	0.00	24.07	68.52	7.41
IF	10.99	14.29	58.24	16.48
IJ	2.74	19.18	60.27	17.81
IO	8.54	19.51	43.90	28.05
IS	0.00	35.44	55.70	8.86
Total	4.73	22.07	56.08	17.12

260 and 365 days for selected breeds such as Saanen, Alpine, Toggenburg, English Nubian and La Mancha, while other unselected breeds such as Jamunapjari, Barbari, Beetal, South American Creoles and African Boer never present lactation over the 120-218 days. Even though the selected breeds never reach as long as the mentioned when they are exploited in undeveloped countries, for this reason the effect of the environmental factors over the lactation length are also very important.

The daily milk records registered in this study are very interesting, because up to two kilograms are obtained during all the lactation period, reaching the productive pick very soon, this demonstrates a good aptitude for longer lactation periods.

With respect to the total lactation yields we can see that the mean of the population of 546.83 kilograms make this type as the best producer of the Canary Goat Group, because lower

yields have been pointed out for the other two members; 347.23 kg for the Tinerfeño Type (Fresno 1989) and 362.6 kg for the Palmero Type (Capote *et al.* 1992) and also locate this animals among the best producers of the world (production of selected breeds in developed countries: 470-1277 kg), taking into account the traditional revision of Sands and McDowell (1978) and Gall (1981), above all considering that this animals has not been submitted to any selective process, at least with the modern precepts of the Quantitative Genetics. Our results are nearer of those of the selected breeds (300-1000 kg) when they are also exploited in subtropical conditions.

When we take into account only native breeds of undeveloped countries, the Majorera goat clearly stand out of their production of 40-228 kg

Observing the Spanish panorama the Majorera goat is located in a good level. With data obtained from Milking Control Programs, Hernández (1991) mentions mean productions of 283.3 and 485.9 kg for the Murciano-Granadina with one and two registers by day respectively, 433.2 kg for the Malagueña Goat and 345.4 kg for the Payoya. Other authors have published the mean production of other Spanish native breeds but refereed only to some concrete herd, in this way Herrera and Sánchez (1990) present the mean production of 438.5 kg for the Florida Goat and Rodríguez (1989) present 427.4 kg for the Verata Goat.

We have found leading does with productions of up to 800 Kg near the best productions of the most selected breeds, yields located in these breeds

RENDIMIENTO LECHERO DE LA CABRA MAJORERA

of around 1000 kg, even though the goat highest record is 3400 kg.

It is known that goats are the most prolific species of the domestic ruminants, Naudé and Hofmeyr (1981) mentioned the mean of the species located slightly up to 1.5 kids born alive by parturition. This demonstrates the good prolificity of the Majorera Goat, who offer a mean of 1.95 for the same variable, showing some herds of this type with a mean of up to 2 kids born by parturition. This high prolificity is absolutely fixed in the population as is shown by the few differences existing between herds.

With respect to other breeds of the Spanish ambit we have observed that the Majorera is above of them in this variable. Hernández (1991) presented the following means for the most significant Spanish Breeds: between 1.55 and 1.77 for the Murciano-Gra-

nadina, 1.64 for Malagueña and 1.43 for the Payoya.

Even though, we have to point out that this study reflects the potentiality of the Majorera type under intensive conditions. Then, it can not be extensive directly to the animals exploited in extensive conditions, but their genetic potential is the same, because there exist a continuous migration of animals between both types of management. For this reason, we can consider these results as representative of the productive potentiality of this ecotype.

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