RABBIT PRODUCTION IN SMALL RABBITRIES IN TEXCOCO MEXICO

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ABSTRACT

Data and information collected on a weekly basis through an entire year from four small rabbitries located in Texcoco county, Mexico, were used to characterize productivity and economics of rabbit production. Based on previous studies rabbitries were selected according to doe number. The number of fattening rabbits produced by doe and year increased as the number of does did, resulted figures were 12.2, 24.2, 15.7 and 53.9, when does numbers were 5, 26, 37 and 58, respectively. Also, only the smallest production unit showed no profit. There exists a big potential to improve productivity in the Mexican rabbit units, although good quality data and information are needed for prospective studies and development programs.

Key words: productivity, family unit size.

INTRODUCTION

Quality technological and economical data and information about rabbit production systems in Mexico are scarce. This low availability of such information is due, among others factors, to the low relative economic importance of the domestic rabbit, compared with other productive animals such as cattle and poultry, and the small size and dispersion of production units across the Mexican territory; most rabbitries in Mexico are in hands of small scale family producers. However, in the last decade some institutions and scientists have been involved in gathering basic data and information that can be used as a tool for defining new research lines and development programs in rabbit meat production and consumption. Efforts have been oriented to characterize technological aspects and production levels and economics of different production units (FLORES *et al*., 1998; GAMBOA *et al.*, 2002b; GARCÍA *et al.*, 1998). These studies have been done using in most cases survey sampling techniques, gathering data and information in the production unit, just at the time of the interview with the owner or his/ her relatives. Studies that involved gathering data across different seasons of the year are not frequent. The purpose of this study was to characterize some small production units through the entire year; in this paper only partial information is presented.

MATERIAL AND METHODS

Production and economic data and information of four small rabbit production units were obtained for an entire year in Texcoco county Mexico. Texcoco is located at 19° 21' – 19° 33' N and 98° 38' – 98° 56' W, and 2353 m average above sea level. Climatic conditions are annual average temperature of 15.9 °C and rainfall of 691 mm. Four rabbit units were selected based on previous studies (GAMBOA *et al.* 2002a). Initial information about location, animals, facilities and equipment was obtained. Thereafter, on a weekly base, production and economical data was collected through specific formats and with collaboration of the producer. Descriptive statistics were obtained using SAS (SAS/STAT, 1999); economical data analysis was performed using the same methodology as DURÁN (1987).

RESULTS AND DISCUSSION

At the beginning of data collection, the number of does by production unit ranged from 5 to 58 (Table 1). This variable is indicative of the production scale and related to many other important productive and economic variables. Rabbitries were selected to have representation of self-consumption, semi-commercial and commercial oriented production units. Previous studies in Texcoco have found that in small scale rabbit production units, the average number of does was 3.1 and that almost 90 % have less than 11 does (GAMBOA *et al.*, 2002; GARCÍA *et al.*, 1988).

Table 1. Productivity of four small rabbitries in Texcoco, Mexico.

Variable	Farm				Mean ± S.E.
	1	2	3	4	
Does	5	26	37	58	31.5 ± 11
Bucks	1	3	5	9	4.5 ± 1.7
Parturitions/year	20	95	114	437	166.5 ± 92.4
Parturitions/doe/year	4.0	5.9	3.1	7.5	5.1 ± 0.9
Calving interval (d)	91.2	61.9	118.5	48.4	80 ± 15.6
Fertility (%)	71.0	85.5	94.2	82.4	83.2 ± 4.7
Prolificacy	6.6	8.3	7.4	8.5	7.7 ± 0.4
Total kits born/year	132	794	846	3729	1375.2 ± 801.2
Kits born alive/year	119	745	821	3501	1296 ± 751
Kits born dead/year	13	49	25	228	78.7 ± 50.3
Kits dead in the nest/year	61	89	128	191	117.2 ± 28.1
Fattening rabbits dead/year	0	50	112	164	81.5 ± 35.7
Total rabbits weaning/year	55	599	712	3257	1155.7 ± 713.9
Rabbits weaning/doe/year	11	23	19	56	27.2 ± 9.9
Total fattening rabbits/year	61	629	581	3127	1099.5 ± 688
Fattening rabbits/doe/year	12.2	24.2	15.7	53.9	26.5 ± 9.9

S.E. = Standard Error.

The number of bucks, in all rabbitries, exceeded the one needed in relation to the number of available does; when possible increasing the number of does or reducing the number of bucks could improve biological efficiency. The number of parturitions per doe per year was variable, ranging from 3.1 to 7.5; as consequence calving interval were almost 120 d and 50 d, respectively. Big differences among rabbitries were observed among other factors, because of the use of different weaning criteria. In some small rabbitries the doe was rebred after the end of the lactating period and others just eleven days after parturition. Percentage fertility was over 70 %, which indicates that does and bucks were able to procreate despite different management conditions. Mean litter size at birth ranged from 6.6 to 8.5, showing big differences among production units. The number of kids to be grown is one of the most important variables since it affects future rabbit meat self-consumption and sales. Although some kids were born dead, a big reduction in kids number was due to mortality in the nest, and also during the fattening period in the rabbitries with more animals. The number of kids weaned by doe was dramatically different among rabbitries, the largest one outperforming the others, such performance resulted also in big differences in relation to the number of fattening rabbits produced per doe and per year, ranging from 12.2 to 53.9. All those figures are an indication that the potential to improve productivity through better production practices is tremendous, although several factors such as assistance through extension services, producer education and motivation, family labor and markets access must be taken in consideration.

Preliminary economic results showed that the proportion of sold carcasses over live rabbits was increasing according to unit production size. Commercial producers preferred to sale slaughtered animals in order to get a better price for their product and because house holders and restaurants demanded a product ready to be cooked. Frequently, very small scale producers sell their surplus fatted rabbits to mediators, who pay lower prices and even buy animals by bundle. Despite rabbitry size, feed costs were the most important; however forages are less used in commercial rabbitries where commercial feed from manufacturers is preferred. One out of four units showed no profits. The profit/cost relation was -0.041, 0.38, 0.15 and 0.10 from the smallest to the biggest production unit, respectively. The later despite having the best productivity did not have the best profit because of investments in equipment and facilities done through the year. Economic losses were obtained in small family production units in Oaxaca, Mexico (FLORES *et al*., 1998).

CONCLUSIONS

Productivity and therefore economics aspects in small size rabbitries have an enormous potential to be improved. It looks like the technological aspects of rabbit production could be solved with the implementation of better practices. However, a complete economical analysis is needed in order to know the full production potential and how to increase profit.

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