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## PRODUCTION OF PET RABBITS IN A MEXICO'S CITY FARM.

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### ABSTRACT

The one year breeding results are described for a nearby of Mexico's City breeding farm producing pet rabbits. Reproductive rhythm was mating of does on the 25<sup>th</sup> to 35<sup>th</sup> day after kindling. Four breed were raised: Mini-lop (6 does), Rex (24 does), Dutch (4 does) and Netherlands Dwarf (6 does). On average, 3.33 litters were weaned per initial doe. Weaning age was 27-31 days. The average litter sizes at birth were 5.40 - 7.18 - 6.59 and 5.22 for the 4 breeds in the above mentioned order. At weaning the corresponding data were 3.8 - 5.34 - 4.12 and 4.48 kits per litter. Most of the rabbits were sold at weaning at a price representing at minimum the double of the value of a meat rabbit, and frequently largely more, which makes this type of rabbit production profitable.

### INTRODUCTION

This study draws on the experience of a breeding farm producing pet rabbits for sale in pet shops in the city of Mexico.

The pet rabbit can be defined as a rabbit destined to be kept as a pet or to give companion, and that can also be raised for showing -competitions do not exist in Mexico-. Pet rabbits usually include the beautiful, smallest or rarest breeds, however any rabbit can be a good pet. In Mexico, it is calculated that there are as about 12 commercial breeds (meat, fur and pet breeds), with the addition of creoles, and some of them with several varieties. The information about reproductive, productive and pet management of dwarf breeds and even fur breeds is limited in Mexico. This rabbit farm has worked productively and profitable with an extensive reproductive rhythm corresponding to mating of the doe on the 25<sup>th</sup> to 35<sup>th</sup> day after kindling. This reproductive rhythm was chosen by taking meat farms as model, against recommendations founded in the literature, such as "not to mate the Dutch does in particular, more than three times per year to avoid their weakening" (Bosch 1979), and testing that dwarf breeds are in condition for breeding at the age of 5 months (Barrie 1991). In general, the authors ahve found the recommendations in literature were detached from the reality of a productive unit, where even though there is no show competition season, it does exist yield for the great pet that a rabbit can be in all the city pet shops, and the great amount of local fairs through out the country.

### MATERIALS AND METHODS

Productive data of 40 does was analyzed: 6 Mini-Lop, 24 Rex, 4 Dutch and 6 Netherlands Dwarf.

**Location.** The rabbitry is located in the San Francisco Tlaltenco town, Delegación Tláhuac, in the east of Mexico City. This rabbitry was initiated and is owned by the 2 first authors.

**Weather.** This "*delegación*", is characterized as temperate sub-humid climate with rains in the summer (June until September), with an average annual temperature of 15°C, an average annual precipitation of 700 mm and it is situated at more than 2000 meters above sea level.

**Housing.** The rabbitry is located in an old building dating from the 18<sup>th</sup> century, so the walls are made of stone and concrete with more than 5 meters of high and more than 0.5 meters of width, the roof is of galvanized plates, the floor is made of concrete and has an earth floored pit which is 30 cm deep, where the cages are placed in flat deck, and there are also batteries of four cages each with trays of galvanized plates. The cages are of those called "europeans" (78cm, 30cm, 56cm). There are no heaters, coolers, extractors, humidifiers, because the climate in Mexico City is the ideal for raising rabbits, so we have a "natural environment" inside the rabbitry.

### **General Management**

**Feeding.** Commercial pellets are used for all the animals (Purina EF). The animals are fed daily 100g to the dwarfs and 140 g to the medium breeds, for all the rabbitry with exception of the lactating does, which are fed *ad libitum* until the weaning (27-31 days) with no other kind of supplementation except for the hay available from their nests.

The water is fed daily in galvanized metal waterers of 0.5 liters.

**Nest boxes.** Wood and galvanized nest boxes are used. In two designs nest are floored, and are filled with a first layer of small pine shaving (5cm) followed by another layer of oats hay (5cm). The nest is placed 2 or 3 days before the expected kindling.

**Weaning.** It is carried out between 27 and 31 days after kindling, always depending on the day of the sale that is once a week, on the weekends.

**Registries.** All the animals have their own registry, given to any rabbit that comes in to the farm (new and selected ones). There is registration of pedigrees, male control, female control, litters, inputs, sales and medical treatments.

**Reproductive Management.** Although subjected to market changes, it is presumed to reach between 5 and 6 kindlings per year per doe, reproductive rhythm which is extensive between the actual rhythms applied for meat production. It corresponds in the present case to mate the doe between 25 and 35 days after kindling (Roca 1998). Detection of the heat is made by looking the color of the vulva that should be red to purple and swelled. The mating is natural and is made indistinctly by the morning or afternoon, without making big lots, because young rabbits are needed weekly for sale. Most of the does are palpated on the belly to confirm their pregnancy, in to a wide rank that goes, from the 15<sup>th</sup> to the 25<sup>th</sup> day after the mating, action that goes along with a visual examination of the doe.

**Criteria for Doe Rejection.** Not to wean even one young rabbit in two kindlings having giving her all the basic preparatory for a good kindling; weaning less than 50% of the normal average for it's breed in three litters; persistence of diseases or sickness after two treatments, sore hocks and for advanced age if does not give good litters. In calculus were included does with just one litter, because they were sold after.

**Selection.** The selection of breeds in this farm involves two main parameters: prolificacy and phenotype. Basic selection principles are applied which include: selecting animals that come from parents whom have had maintained a normal or higher production averages for the breed (at least for the first three kindlings), in addition of good racial characteristics and good maternal behavior, what take to not uniformize litters. These two main parameters open two

ways for selection: to follow the established breed standards or to follow the objective previously established by the farmer itself, like creating new varieties.

## RESULTS AND DISCUSION

From the production of one year data of the rabbitry (June 1996-June 1997), a total of 133 kindlings were analyzed, 25 of them correspond to the Mini-Lop, 68 to the Rex, 17 to the Dutch and 23 of Netherland Dwarfs (Table 1) including data of does that were thrown out.

**Table 1. Number of does and litters involved in the study**

BREED	N° Does	Observed in one year	
		kindlings/initial doe	Rejected does
Mini-Lop	6	4,17	2
Rex	24	2,83	7
Dutch	4	4,25	2
Netherland Dwarf	6	3,83	2

Production of weaned rabbits per litter (Table 2) was: Netherlands Dwarf 4.5 young rabbits, Dutch 4.1 and Rex 5.3, numbers that show good production ranks for this breed. The Mini-Lop has the lowest productivity with 3.8 weaned young rabbits per litter. It could be emphasized that changes were made in the installations during this year, which may have affected production.

From the results it can be seen that the prolificacy really matched to the corresponding figures in literature, but lower parameters were obtained than those for meat breeds.

**Table 2. Average productivity of the different breeds (mean  $\pm$  std)**

BREED	Born alive/litter	Weaned/litter	Birth-Weaning lost
Mini-Lop	5.40 $\pm$ 1.96	3.80 $\pm$ 1.94	1.60 $\pm$ 2.47
Rex	7.18 $\pm$ 2.84	5.34 $\pm$ 2.97	1.84 $\pm$ 2.93
Dutch	6.59 $\pm$ 2.12	4.12 $\pm$ 2.94	2.47 $\pm$ 2.42
Netherlands Dwarf	5.22 $\pm$ 0.95	4.48 $\pm$ 1.05	0.74 $\pm$ 1.53
<i>Average</i>	<i>6,43</i>	<i>4,74</i>	<i>1,68</i>

Even though most of the small and dwarf breeds are less prolific than the ones for meat, they have in their favor a higher commercial value than their counterparts for meat production. Effectively they are normally sold by piece and the cheapest breed at a double price than a meat rabbit, and they can reach very high prices for a rabbit. Birth to weaning mortality varies from 14 to 37% according to the breed, but that does not make raising less profitable due to high selling prices.

## CONCLUSIONS

It can be concluded that the reproductive management of these breeds could be changed to a more intensive rhythm than the one mentioned in most of the literature (that even propose a three open months rhythm). The suggested rhythm consists on does mating on the 25<sup>th</sup> to the 35<sup>th</sup> day after the kindling, getting satisfactory results without any weakness of the does. This management enables the farm to function productively and profitably, where the market is strong.

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