

BREEDING LOCAL RABBIT IN NORTHERN AND SOUTHERN ALGERIA: SITUATION OF PRODUCTION AND CONSUMPTION OF RABBIT'S MEAT

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Abstract

In order to know the situation of the production and consumption of rabbit meat in Algeria, a survey was conducted among 225 farms with a total of 3.400 rabbits including 646 breeding does on average between 4-5 rabbits per farm. Our study has covered northern regions of Algeria (Bouira, Medea, AinDefla, Ksar El Boukhari) and South regions (Biskra and Boussaada). The results showed that breeding is essentially traditional. Farms followed by men predominate in the areas of Ksar El Boukhari, Bouira, Biskra where they represent 73% on average. Size and the average number of reproductive females is on average of four to five rabbits does breeding. The production of rabbits is intended primarily for own -consumption (44% of farms) and 26% marketing. The breeding of the rabbit local ground is performed in 46% of all livestock. In the rest of the farms, rabbits are housed in old premises (46% of farms), cement buildings (29% of farms), wooden cages and craft (14 and 20% of farms respectively). Depending on the season, the feed is composed of spontaneous herbs ,dry bread , vegetable peelings, dates in 68% and 56% of the studied farms, respectively. Prolificacy is between 6-10 pups per litter in the majority of surveyed farms. The total number of calving is 45% of the surveyed farms. Weaning is between 40 to 45 days in 42% of farms. The number of newborn deaths (1-3) was 56% of farms. Animal watering is done every day in 86% of farms.

Keywords: livestock farmer traditional rabbit production

1. INTRODUCTION

The rabbit farming in Algeria remains a marginal production. In rural areas, it still takes a farmer character. Therefore, little knowledge exists on this farm. To characterize, work has been conducted mainly in the Tizi ousou region (Zerrouki et al, 2001; Belhadi 2004; Djellal et al, 2005; Djellal et al, 2006). Algerian cuniculture according to a traditional mode still exists, farmer-type, family, small numbers compared to rational farms. This breeding is obvious in the village families since it is considered a secondary source of income and noble proteins. Practiced on a small scale, this type of production may allow each family to produce meat for its own purposes namely for home consumption. But production in large quantities can generate income, profits for the entire family, knowing that the farm is an activity that is still high in most cases. Rabbit breeding is found in practically all regions of Algeria with a marked concentration in deprived areas, arid or desert as well as in peripheral areas of small urban centers. It provides an important protein intake. Similarly, it has the major advantage to enhance many lots of unusable products and by-products. Algerian rabbit breeding has remained slightly outside the technical progress made in this area. In addition, the rabbit has often been neglected in development projects because we do not know his real contribution to the coverage of animal protein needs of the populations studied. However the nutritional qualities of the meat of the rabbit (less fat and more protein), the high productivity (high prolificacy, ease of breeding that does not require large areas also led us to bring more interest in this farming is not new to the country. The present investigation aims to highlight the main features of the traditional family rabbit farming in some areas of the north and south of Algeria.

2. MATERIALS AND METHODS

Our study aimed to characterize the family rabbit farming in six regions of northern and southern Algeria on 225 farms: Medea (25), Ain Defla (30) Bouira (40) Ksar Boukhari (35) Boussaada (50), Biskra (45). The methodology is based on a survey form designed and adapted to local conditions in order to know the characteristics of the farms to investigate particular. The survey form is divided into five sections which are explained by closed questions with multiple choice and open-ended questions that allow the breeder to choose a specific answer or give advice freely.

3. RESULTS AND DISCUSSION

3.1. Identification of farmers

The farms are mostly driven by men (59%), followed by women 26%, or 192 farms and children with 16% (Figure 1). These results are in agreement with those of Jaouzi et al, 2006, which found that the husband is the head of livestock in 61.0% of cases. However, in the Bouira region women dominate in farms (73%). These results confirm those found by Saidj et al (2013) found that in the region of Bouira 87.2% of farms are led by women. They are housewives, which is a high rate, although there is a remarkable difference between the regions visited. A high rate of men in Ksar El Boukhari mostly (86%) and where it is found in this region the total lack of women's participation. Ultimately, the traditional rabbit breeding remains localized in poor rural areas where it is essentially a family business whose revenues are fueling the female cash;

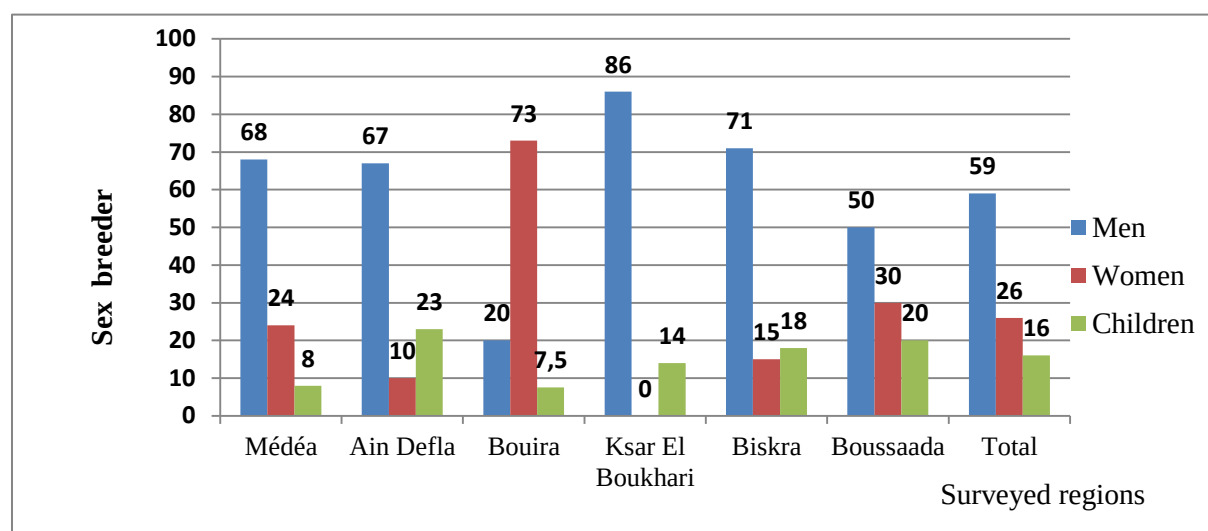


Figure 1: Distribution of farmers according to the sex, age and region.

3.2. Size of the number of breeding females farms

Regardless of region, **Figure 2** shows that over 45% of farms have more than 4 breeding females. The survey carried out at 225 farms with a total of 3400 rabbits including 646 breeding does on average between 4-5 rabbits per farm (we do not include the number of breeding rabbits for 6 and > 6 per farm). We have not been able to visit all existing farms in the six regions studied, which gives us a low total effective, compared to the actual number found by Lebas and Bolet (2008) in Tunisia, which is around 5000 breeding does. According to Bergaoui (1992) in Tunisia, the number of family breeding by females is 10.5. According to Djellal et al (2006), the unit of a four females is the average size of farms with a frequency of 80%, against one by five to eight female is less frequent (17%).

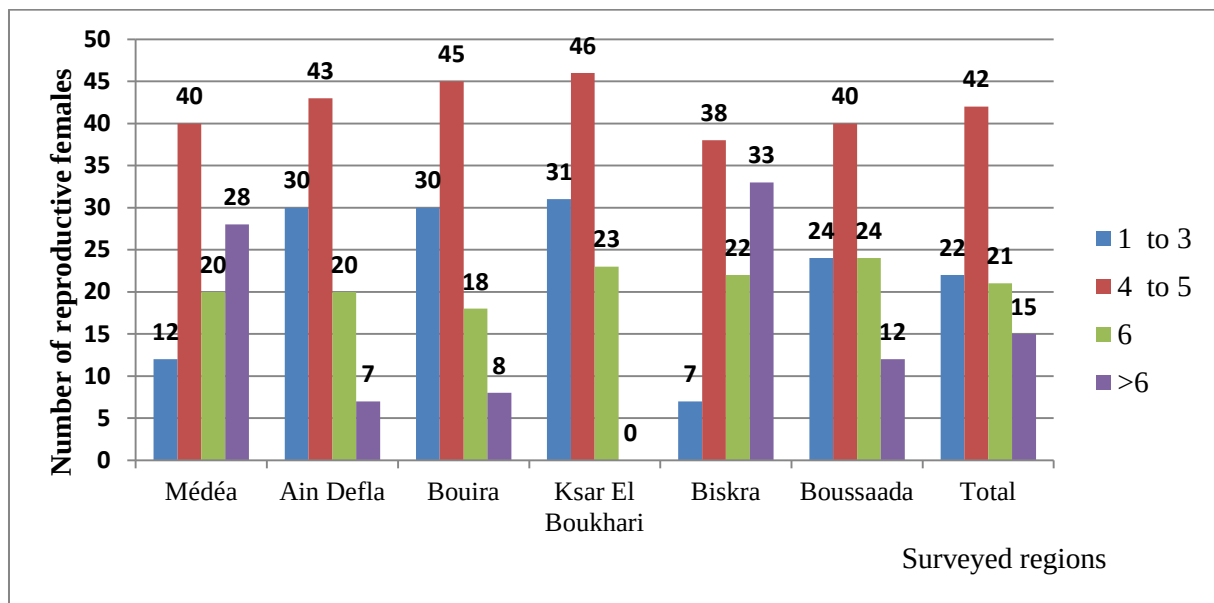


Figure 2: Number of reproductive females

3.3. Number of litter size

Informations concerning this parameter are given by the breeder approximately because some births occur in burrows, and people in charge of breeding do not check the nest thoroughly. Women who work the farms do not thoroughly check the nests for fear that female leave their litter. Our survey showed that 58% of females have a litter size between 6 and 10 rabbits while for 19% it is higher than 10. On the same local population in traditional breeding, Djellal et al (2006) report that litter size at birth varies from five to eight total born with four to seven live births. The investigation by Jaouzi et al (2006) reported a mean number of total born rabbits 7.2 per birth for 95.1% of farmers concerned.

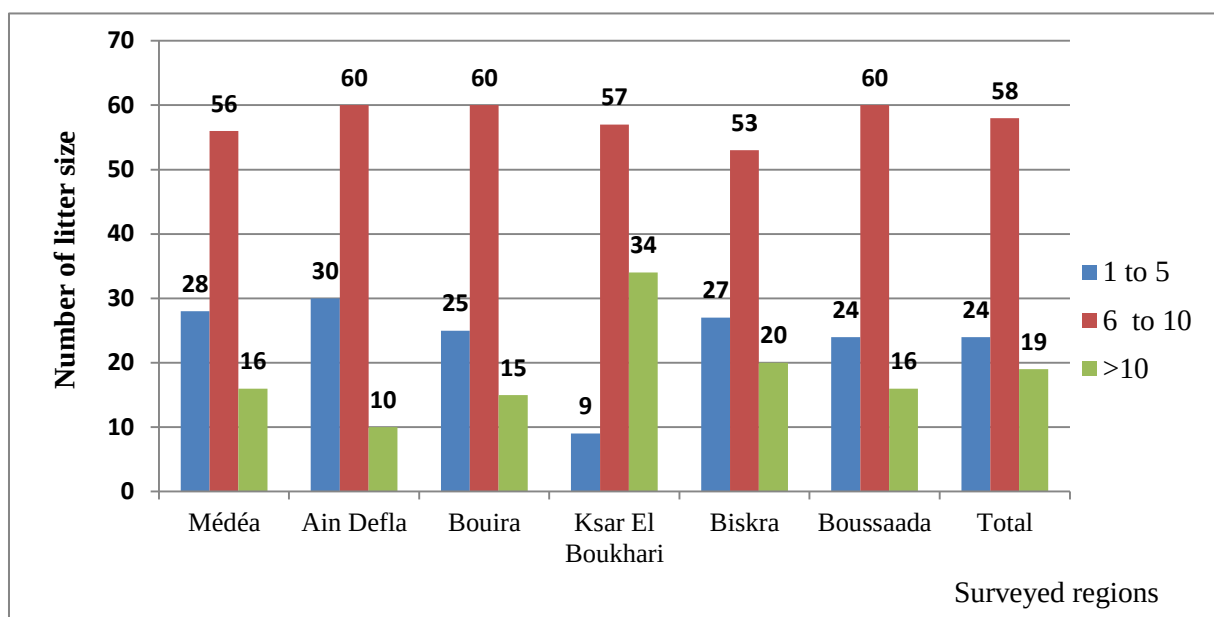


Figure 3: Number of litter size

3.4. Different modes of habitat

The livestock is either in converted buildings or outdoors or even in buildings with opening to a courtyard outside to let the animals out. This type of farming is described by Djellal et al (2006) with 70% of farms made in built and 30% outside. In neighboring countries (Morocco and Tunisia) Bergaoui (1992) and Lebas and Bolet (2008) find the same housing models rabbits.

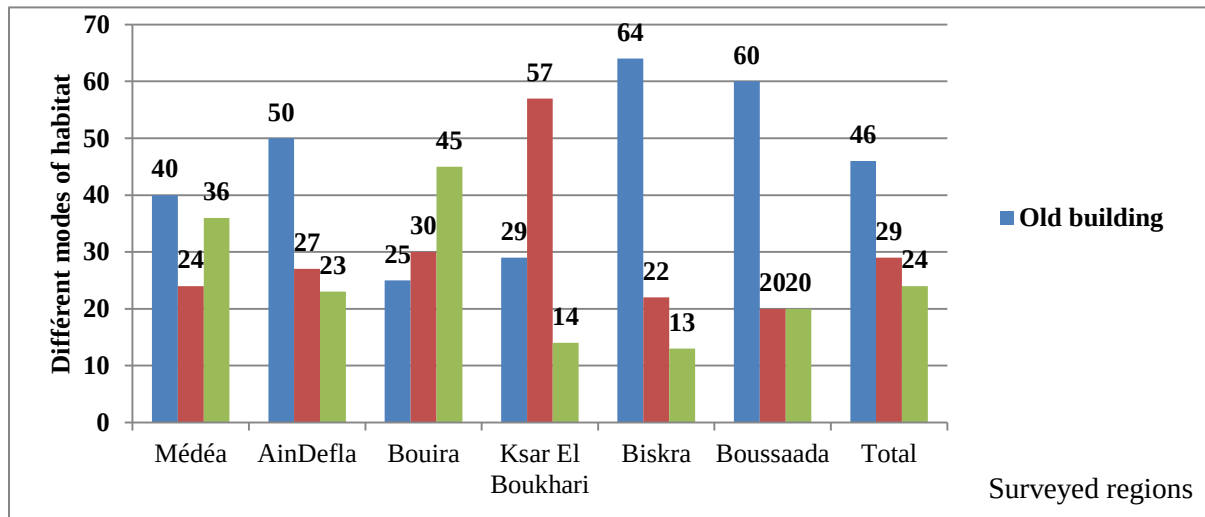


Figure 4: Different mode of housing

3.5. Different types of farming

The surveys carried reveal a variety of habitats rabbits by region and availability. 46% of farmers do their breeding on ground with 70% in the region of Boussaada and 58% in the region of Biskra. Wooden cage farming is less common at 14%. Using homemade cages is more widespread in the region of Ksar El Boukhari 43%. The cage farming are similar to those Polish farms (Brzozowski et al, 1998) where they are home made from a variety of locally available materials imitation industrial cages, usually made of wood, wire mesh or masonry to 2 to 3 rows of concrete blocks (Bergaoui and Kriaa 2001; Djellal et al, 2006). These observations are consistent with those reported by Kpodekon et al (2000) on raising rabbits in Benin. Our results on the breeding ground correspond with those identified by Berchiche and Lebas (1994), where 31.5% of the rabbits are raised to the ground and 46.7% in cages. In Morocco, the breeding ground represents 86.9% of which 42% in one building and 58% below the ground level in wells or matmouras (Jaouzi et al, 2006). Livestock in wire cages is not widespread. It represents only 10% of farms;

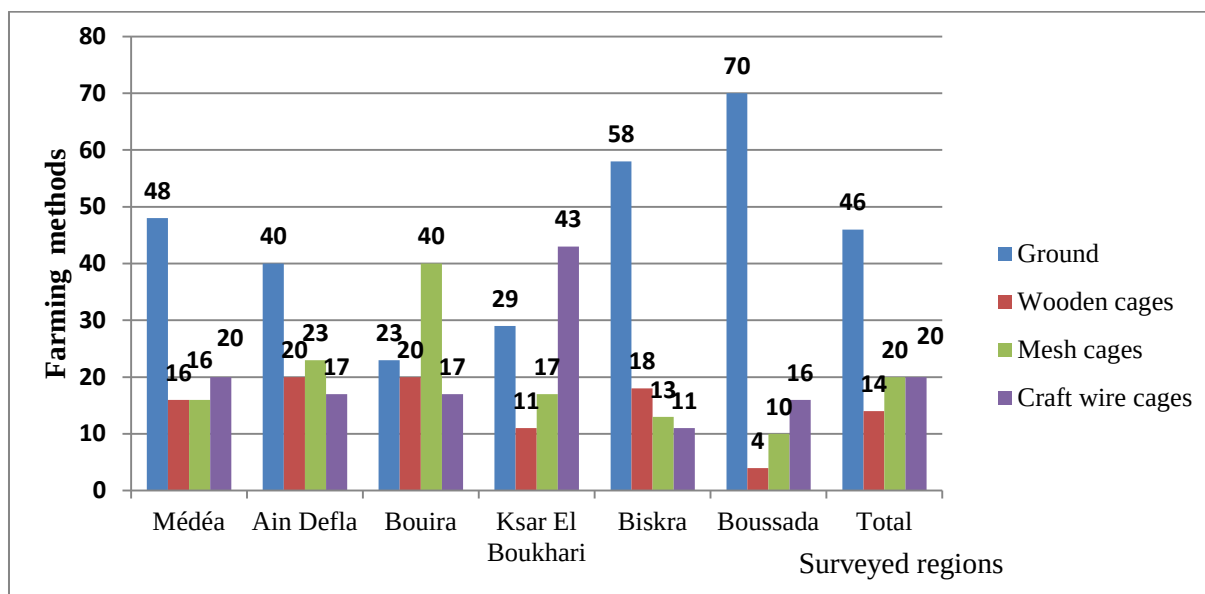


Figure 5: Farming methods

3.6. Number of litters per year / female

According to the **figure 6**, a majority of farmers in the region Boussaada record more than 5 litters a year and a percentage of 80%. However, in AinDefla, Ksar El Boukhari Biskra regions we recorded (57,56,50%) respectively the number of litter per year equal to 5 litters. For the rest of breeders the number of litters produced equal to 4 produced is very low in the region of Ksar El Boukhari (5%) and completely absent in Boussaada.

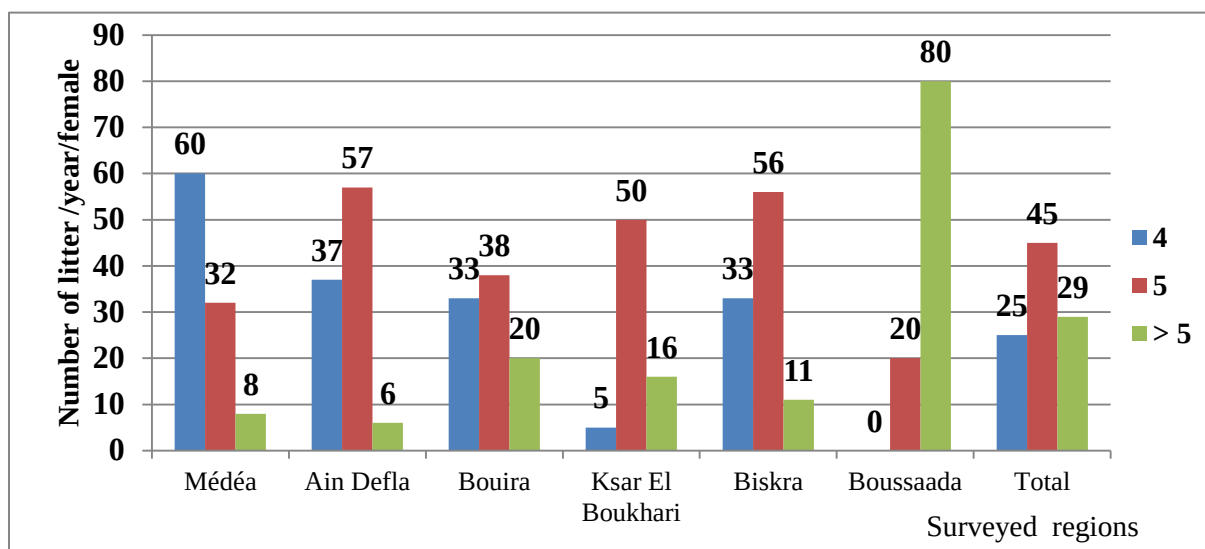


Figure 6: Number of litter /year/female

3.7. The duration of lactation.

Early weaning occurs at 28 days in 60% of farms surveyed in the region of Boussaada. While only the Biskra region, where farmers do not practice this withdrawal period.

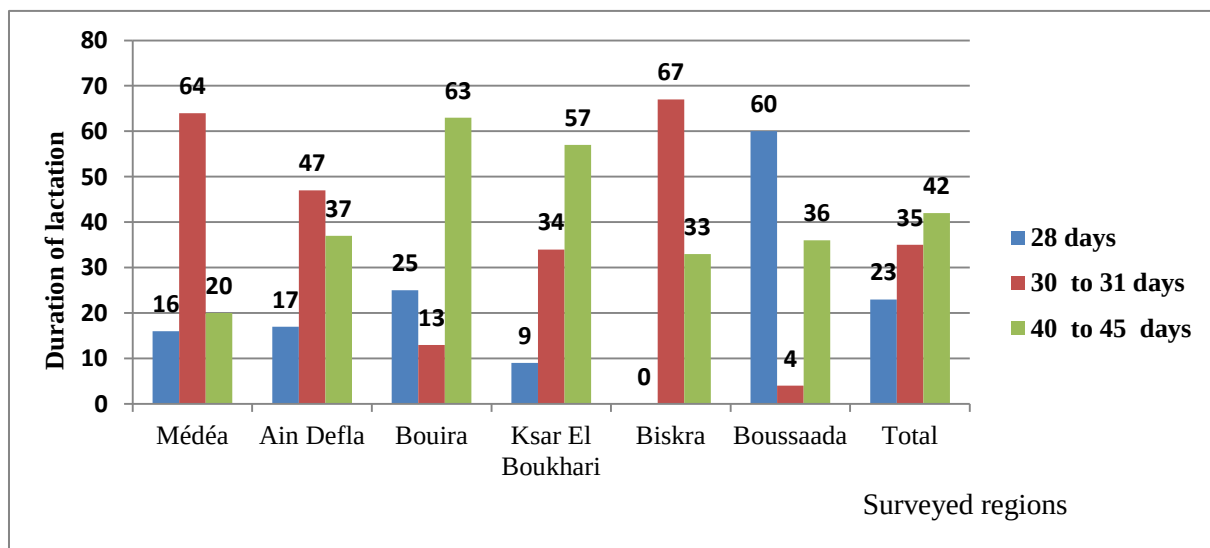


Figure 7: Duration of lactation

3.8. Number of new born per litter dead

The majority of farmers in the region Boussaada reported between one and three dead newborns per litter (90%), and four to five stillbirths per litter is present in Ain Defla (47%). However, the number > five is completely absent in the Boussaada region.

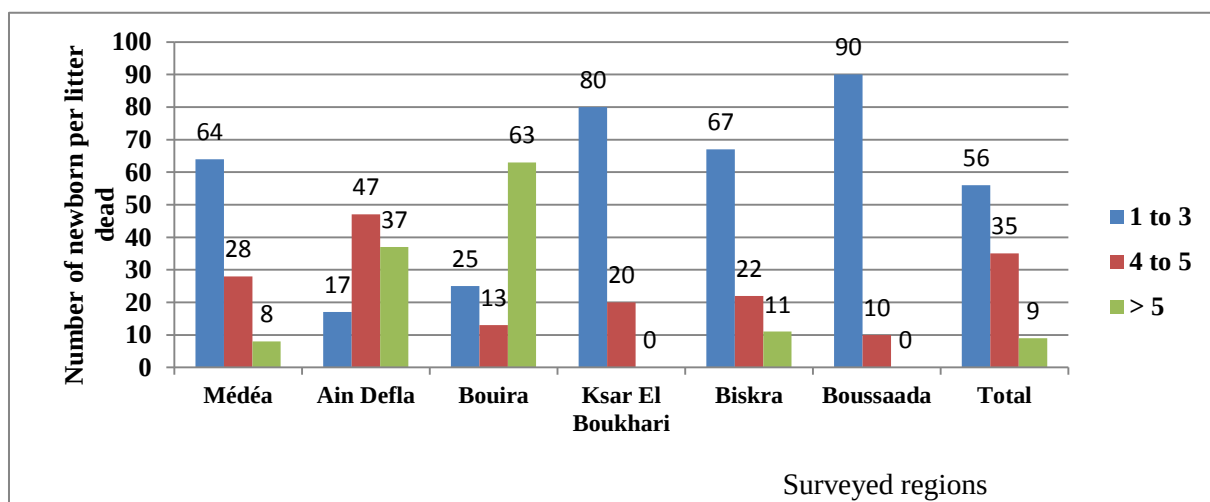


Figure 8: Number of newborn per litter dead

3.9. Purpose farms

Almost 44% of farms have a purpose of consumption. Women who care for livestock, being housewives, earn some money by selling the excess meat, once satisfied family consumption. In the regions of Biskra Boussaada, the rabbit is available at the weekly market on weekends (Friday) and especially in the month of Ramadan. An exceptional case is observed in the Medea region where the rabbit is sold for use (64%) and where only 20% are intended for home consumption. According to Tahar and Fettel (1990) on the same population, the main focus is the consumption with 66% of

production, but the rest is sold. All surveyed farmers produce only meat whether for sale or for home consumption. The rest of the production is not their concern (eg skin or hair). The Rabbit is sold individually (coin) at the markets or carcass at the butchers and average prices are respectively (950 AD) and the unit (750DA)/ kg

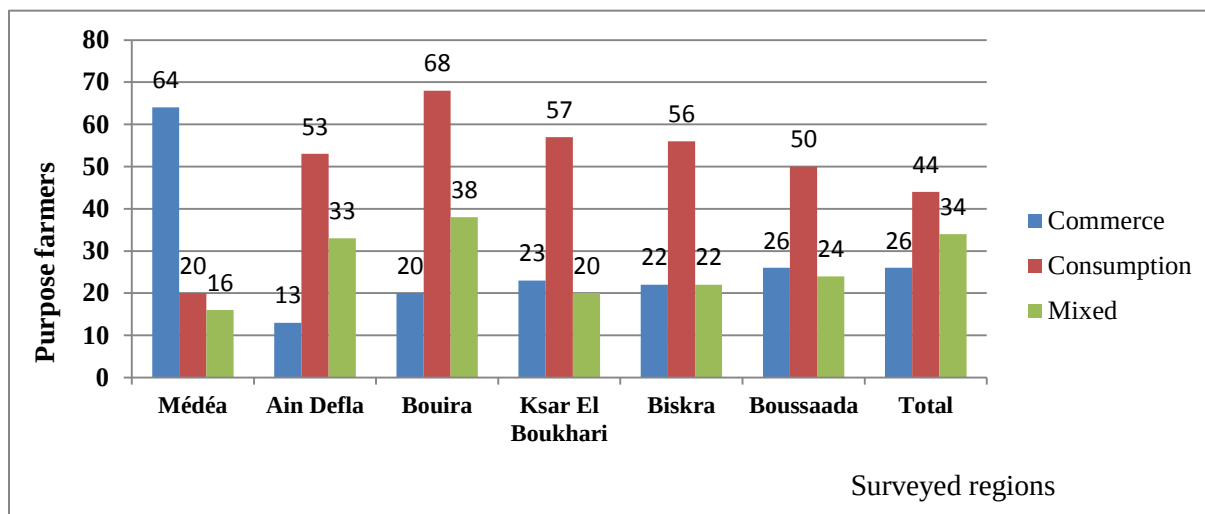


Figure 9: Purpose farmers

3.10. Distribution of farms by age

Farms encountered are of traditional type. Breeders of Medea region (60%) practice this activity from 3 to 10 years, most areas visited for over 10 years. Recent farms under 3 years, which is almost equal in the regions of Boussaada, Bouira and Ain Defla (56,55 and 50%) respectively.

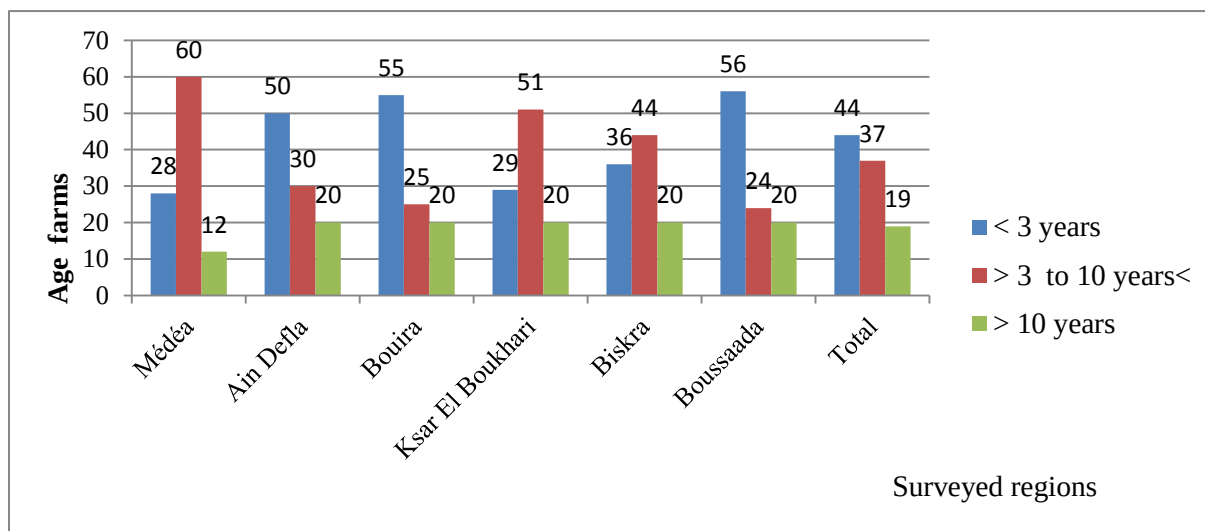


Figure 10: Age farms

3.11. Nature of food and meal frequency

Food is very varied, it is composed of fresh grass, dry bread, dates of kitchen scraps, hay and straw, and seldom leaves of trees wheat bran or barley. This type of feeding in farm rabbit is described in the neighboring Mediterranean countries by Djellal et al (2006) in the Kabylie region of Algeria, Barkok (1992) in Morocco, Ben Larbi et al, 2008 in Tunisia. Lebas and Bolet (2008), Bergaoui (1992) and Finzi (2006) in Tunisia and Aguirre et al (2000) in mountainous regions of Spain.

Conclusion

After this study, it appears that the rabbit breeding in Algeria is relatively recent. The method of management is a personal and family-dominated and who had no training and no part of any association. The farms are conducted in full settlement and production is free. The male lives permanently with the females and kits. Some breeders wean early bunnies (Boussaada region). Rabbits are conducted both in outdoor burrows in old abandoned buildings. The accommodation ensures comfort but must be well maintained and cemented to prevent rabbits from digging. Rabbit production is intended primarily for home consumption. Some is sold by collectors who regularly pass by rural or directly in the areas weekly markets in the city. On the diet plan and considering the potential of the not yet well exploited rabbits, improved diet should be continued in order to increase the performance of local animals and that in order to bring the possible level of performance achieved in the rational farms.

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