

Food Selection of Roe Deer (*Capreolus Capreolus*) on Agricultural Habitats

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Abstract

In Hungary the roe deer (*Capreolus capreolus*) is the most widespread big game, estimated population in 2016 exceeded three hundred and fifty thousand [1]. The aim of this research is to find out what kind of differences and resemblances can be found in feeding strategies on the examined agricultural plain habitats. The feed selection habit of one of the most important big game in our homeland has not been researched yet in detail in the counties Csongrád and Békés, where the roe deer population is numerous and excellent. The detailed knowledge of the related specific feeding strategies contributes not only to the better cognition of this kind but also provides a developed opportunity for the game managers to reach better game husbandry results. Beyond the practical significance of the theme there are some other peculiarities to be cleared up in connection with the nourishment of roe deer: what kind of feeding strategies would be typical for the roe deer living on the plain at different food supply?

Keywords: *Capreolus capreolus*, food preference, roe deer.

1. Introduction

The aim of my research is to find out what kind of differences and resemblances can be found in feeding strategies on the examined plain habitats. The plant species combination of the feed ratio consumed was determined by the vegetation found on the monitored territory [1]. The quality of the feed is the most important factor which enables to influence the density of the population, the body- and trophy weight and the reproduction performance altogether and respectively [2,3]. Beyond the practical significance of the theme there are some other peculiarities to be cleared up in connection with the nourishment of roe deer. The practical and theoretical questions are what kind of feeding strategies would be typical and reasonable for the roe deer living on the plain at different seasons?

2. Materials and methods

We have estimated the cover (%) of the consumed plant species near the place of drop on a 4-500 hectare territory in 4-5 10 m² sample territories on the feeding height of roe deer (120 cm height) with the method of Mátrai et al. [4]. To show the relation between the specific plant species found on the habitat and in the feed of roe deer we calculated a Preference-index (PI) [5].

$$PI = (N_2 - N_1) / (N_2 + N_1)$$

where: PI = Ivlev's preference index, it's value ranges from -1 up to +1

N₁: the percentile consumption of the specific plants

N₂: the percentile supply of the specific plants

We have defined the vegetation supply on both hunting territories every month in such a way that while entering the data we have registered the changes in the habitat (harvest, reaping, etc). This kind of sampling showed the supply of the plant species (%) on every territory in a monthly

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breakdown. The significance test was made with the help of Bonferroni's Z-test [6].

3. Results and discussion

The food preference examination of roe deer dropped in Csongrád [7] showed that in the winter period the herbaceous mono- and dicotyledonous plants were not preferred. But in spring time until August their preference was high. From September until October we measured low values while examining the mono- and dicotyledonous plants, but their preference grew a little bit in November.

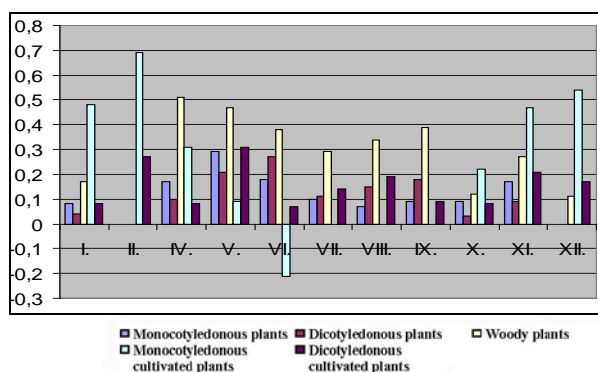


Figure 1. The preference of the main food components (PI) in Csongrád in the researched years (n=38)

The preference of woody plants was high all year long, except in January and February, but in April (locust), May (elder) and in November their preference was significantly higher than consumption of the other plants, just like it was noted in Tiszaalpár.

The cultivated monocotyledonous plants were consumed in the periods of food shortage, mostly in winter and spring time. However in June the preference of the monocotyledonous cultivated plants was not quite clear, because their availability and consumption varied. In the beginning of April the fall cereal was preferred but in June we detected the avoidance of these plants. This can be explained with the fact that after harvest the fall cereals were no longer available. Later, from the month October, the plants sown in fall were consumed again. The dicotyledonous cultivated plants were preferred almost all year long – except the alfalfa in winter – particularly consumed in April and May. The high preference of alfalfa can be seen from May until September (Figure 1).

4. Conclusions

According to the results achieved from different plain habitats we see that the statement of Tixier et al. [8] is justified, namely that the dominant plant species consumed by roe deer living on the same habitat are the same. It can also be stated that plants that can be found in abundance on the places of drop are the main food components of roe deer, similar consequence was drawn by Mátrai [9] who examined roe deer on three different habitats. Her point of view is that in winter period in the forest and temporary habitats the more diverse flora composition was not reflected in the diversity and uniformity of food. This also proves that the 1–3 food choices of roe deer are independent of the vegetation.

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