Ecology, physiology and behaviour

Effect of landscape structure on European hare (*Lepus europaeus*) resting place locations

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We examined the abundance and distribution of European hare resting places in various landscape structures as well as the preferred vegetation height for resting places, resting place dimensions, and their distance from field edges. Fieldwork was conducted in two sessions during spring and autumn at the Vrbová Lhota-Ratenice and Cerhenice located in the Central Bohemian Region of the Czech Republic. Resting places were monitored in 16-hectare squares divided by linear transects. These lines followed the routes of field walks conducted for data collection. Resting places were located visually. For each resting place, we recorded the GPS position, cover type (or crop species), surrounding vegetation height, and resting place dimensions. Simultaneously, field maps were prepared, depicting field shapes and cover types.

Hares preferred senescent grasses, permanent grassland, peas, and at the Vrbová Lhota-Ratenice location with smaller soil unit areas for resting places. The preferred average vegetation height for resting places was 8.2 cm in the first monitoring session in spring. In the second session, this value increased to 30.4 cm, and in the third, autumn session, it reached an average height of 23.6 cm. Hares exhibited different preferences within the monitoring areas. At the Cerhenice site, vegetation reached an average height of 25.0 cm, while at the Vrbová Lhota-Ratenice site, it reached 15.4 cm. Most recorded heights were within the 5 to 15 cm interval. Resting places at Cerhenice reached 54 m on average away from the edge of the soil unit, while at Vrbová Lhota-Ratenice, the average distance was 26.7 m. The number of resting places decreased with distance from the edge in this area, whereas in Cerhenice, their number increased. During the spring months, the average length of resting places was 37.6 cm, decreasing to 35.3 cm in autumn. The width during the spring monitoring averaged 15.9 cm, while in the autumn it reached 12.9 cm.

The results of this study, particularly regarding the preference for older vegetation, permanent grasslands, peas, and vegetation height, can be used as a basis for mitigating the impacts of agricultural intensification and for streamlining measures to improve habitat conditions for hares.