

SEASONAL DYNAMICS OF *MICROTUS* VOLES IN RELATION TO HABITAT PRODUCTIVITY – PRELIMINARY RESULTS

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Food availability is presumed to have considerable influence on the dynamics of microtine rodent populations. In the study, conducted in grasslands of eastern Poland, I investigated population dynamics (with CMR method) and space use (by radiotracking) of *Microtus oeconomus* and *M. arvalis* in three different habitats: dry (low-food), moderate and wet meadow (high-food). Preliminary results for 2005-2006 are presented.

Mean dry vegetation biomass (aboveground green parts) in these habitats was (from low- to high-food habitat): 127, 205, and 335 g m⁻². Vole numbers as well as their total biomass (two species pooled) exhibited different seasonal dynamics in three different habitats. Mean vole density indexes were 0, 92.3, 122.8 ind./ha for *M. oeconomus* and 81, 7.7 and 0 ind./ha for *M. arvalis* in dry, moderate, and rich habitat, respectively. Mean vole biomass estimates were 15.4, 30.1, and 39.4 kg/ha. Mean home range estimate of males (nearest neighbor convex hull method) was 303 m² (range 72.9 - 1133.3).

In the dry habitat, there was high winter mortality and large seasonal variation of vole numbers. The population declined in winter, and reached peak densities in autumn. In the moderate habitat, there was also high winter mortality, with peak densities in early summer. In the high-food habitat, densities were stable over whole year. High proportion of voles survived winter and took part in reproduction in the whole next breeding season. Seasonal changes in vegetation biomass affected vole numbers only in low-food and moderate habitat. In the rich habitat, food supply was sufficient to sustain similar densities of voles whole year. High vegetation cover might here also better protected voles from predation by raptors.