



[Back](#)

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Plant communities of field boundaries in Finnish farmland

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Abstract

To determine the importance of field boundary habitats for farmland biodiversity, we surveyed a total of 193 boundaries from farmland and agriculturally dissimilar regions in Finland. We measured the current plant species richness and composition of the boundaries. On the differences in vegetation characteristics, we describe six boundary types. The observed plant species were mainly indicators to wet soils and moderate to rich mineral nitrogen content. The most frequent species were tall, perennial monocots and dicots with high productivity of the vegetation. Moreover, herbicide-tolerant species were common. No species rare for Finland were found. In husbandry regions, the most frequent species were sown grassland species and typical grassland weeds. In cereal production regions, spreading root weeds tolerant of herbicides were the most frequent. Mean species richness was highest in the cluster Ca-lamagrostis (24 species (s)/boundary (b)), which we considered as representative of moist sites with some disturbance by agricultural practices. Species-poor were the clusters Elymus-Anthriscus (14 s/b) and Elymus-Cirsium (16 s/b), both found predominantly in cereal production in southern Finland. Our results suggest that the biodiversity value of boundaries is lowest in the most intensive cereal production and highest in areas of mixed farming.

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