



## Organic farming can benefit birds in agricultural landscapes

**A recent study** has examined the effects of different farming practices on bird numbers and species found on farmland during the winter in six European countries. Overall, the greatest number of birds and species were on organic farms, especially when the farms were in landscapes where 80-99 per cent of the land was used for agriculture.

**The abundance of food** available to birds that live on farmland has fallen in recent decades, making it harder for the birds to survive the winter. Intensive farming, the type of field cover and weeding practices have all contributed to declining food sources.

The study investigated the effects of different farm management practices on birds living on agricultural land during the winter in seven areas across six countries: France, Germany, the Netherlands, Poland, Spain and Sweden. These practices covered: the intensity of agricultural activity (judged in terms of yield), the type of farming (conventional or organic), typical farming routines, such as the application of pesticides, fertilisers and ploughing and mechanical weeding, and the type of field cover. In addition, the researchers assessed the relationship between landscape complexity and the influence of organic farming.

Overall, there were more farmland birds and species found on organic farms. It is possible this could be partly attributable to the greater cover of green manure crops (crops grown for nutrients and dug into soils) in organic farming compared with conventional farming. A greater number of birds were found on farms which had fields covered with stubble, pasture and green manure crops, and more types of species were found on farms with pastures.

However, when the researchers also took into consideration the influence of landscape, it was found that organic farming increased bird numbers and species only in simple landscapes, that is, landscapes where 80-99 per cent of the land is used for agriculture. In cleared landscapes, where 100 per cent of the land is agricultural, bird numbers were similar for both organic and conventional farms, possibly because there is a low species pool. However, in complex landscapes, where less than 80 per cent of land is farmed, there were fewer birds on organic farms compared with other landscape types.

An addition, there were fewer birds and species found on organic farms where mechanical weeding had been frequently carried out during the growing season. Mechanical weeding reduces the amount of food that is available for birds to eat, such as insects and worms.

It is suggested that some farming practices could be adapted to improve conditions for wintering farmland birds. For example, reducing mechanical weeding frequency in simple landscapes would increase food supply for birds. Furthermore, the researchers recommend that agri-environment schemes are improved by taking landscape complexity into account. For example, organic farming is a more effective means of boosting biodiversity in simplified landscapes than in complex landscapes. Non-crop habitat could also be substantially increased in cleared landscapes to increase the pool of species.

**Source:** Geiger, F., de Snoo, G.R., Berendse, F. *et al.* (2010). Landscape composition influences farm management effects on farmland birds in winter: A pan-European approach. *Agriculture, Ecosystems and Environment*. 139: 571–577.

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