

## **Text 8**

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### **The Landscape Planning Approach for Agricultural Biodiversity Conservation**

Agricultural biodiversity conservation not only concerns the sustainable development of agriculture, but it is also an important part of the conservation of species diversity. In the recent years, biodiversity conservation further emphasises its realisation through landscape planning approaches. Therefore the following approaches can be taken in order to conserve agricultural biodiversity successfully: 1) On the landscape scale, maintain a higher proportion of natural and semi-natural habitats, pay attention to the diversification of crops and agricultural land, focus on the conservation and construction of corridor habitats such as hedges; 2) construct fringe farmlands between lands; and 3) within the plot, reasonably plan crop planting density, crop distribution and adopt methods such as intercropping and crop rotation. In addition, a large-scale implementation of landscape planning approaches also requires the support of policy measures such as conservation planning, land use planning, as well as ecological compensation. The most direct way to conserve agricultural landscape biodiversity is to improve agricultural practices, such as by changing farming methods, reducing the use of chemical pesticide, using biological pesticides, developing organic agriculture, etc.

On the landscape scale, building diversified and heterogeneous landscapes is conducive to the conservation of biodiversity. The main approaches for doing so include: the protection of non-agricultural habitats, paying attention of the conservation of natural and semi-natural habitats and maintaining their higher proportions in landscapes; paying attention to land use and diversification of crop species, preventing excessive homogenisation of landscape due to over-intensive production; and paying attention to the conservation and construction of corridor habitats, such as hedges and rivers, which are conducive for biological movement, protecting the connectivity of agricultural landscapes and preventing the local extinction of species caused by habitat isolation.

Between lands, constructing non-farm strips and farmland mosaics with high heterogeneity has become an effective landscaping approach. When planning marginal zones of farmland in order to conserve agricultural biodiversity, it is necessary to do it in accordance with the local conditions. Plan the vegetation composition, location and width of marginal farmlands rationally. These factors have a large impact on the conservation of biodiversity.

Within the pieces of farmlands, the landscape structure's impact on biodiversity can be seen from the impact spatial heterogeneity caused by crop structure, crop distribution, crop diversity has on biological organisms. In China, despite the fact that attention has been paid to the conservation of biodiversity by the government and other sectors and the importance of conservation has also been recognised, existing

biodiversity conservation plans and policies mainly target the planning of nature reserves and the conservation of rare species.

Under intensive production conditions, although the existence of semi-natural habitats such as shelterbelts/windbreaks and fields as well as the adoption of traditional intercropping and crop rotation methods help the conservation of biodiversity to a certain extent, the effect of biodiversity conservation still needs to be looked into due to a lack of relevance and purpose.