

New land use planning tool for farmers

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PeltoOptimi is a tool for the long-term utilisation of parcels of land that takes into account the production potential of the farm and the environment. Credit: Tapio Tuomela

The EU favours afforestation of fields that do not provide high yield, but many farmers would like to keep even their poorer fields for a rainy day. How can you efficiently reconcile crops with cultivated grasslands and

afforestation? Researchers say that the answer is a tool called PeltoOptimi.

Pirjo Peltonen-Sainio, a research professor at the Natural Resources Institute of Finland, is developing PeltoOptimi, a tool for the long-term utilisation of parcels of land that takes into account the production potential of the farm and the environment.

PeltoOptimi divides fields into three categories based on the land parcel data. Parcels to be extensified often suffer from an unbalanced [rotation](#), compacted soil or low pH, which leads to low yield. They need actions that will restore their agronomic traits.

Characteristics of a poor parcel include low production potential, a small surface area and an unfavourable location. If the soil is peat, PeltoOptimi suggests afforestation of the parcels. Parcels of land where the production is to be intensified are the most valuable parcels of a farm.

"At present, parcels with a high yield suffer from shortage because investments are made also in poor parcels. If a [farm](#) invests in the high-yield parcels, its overall production level will not decrease even if some lands are removed from the scope of improved production," Peltonen-Sainio says.

Thirteen to 15 percent of the arable area in Finland is still subjected to lack of rotation, i.e. cultivation of the same cereal species four years out of every five.

"These parcels require varied rotation that will secure their production potential. Such fields are extremely important, and biodiversity will also benefit from varied crop rotation," Peltonen-Sainio says.

PeltoOptimi takes changing conditions into account. If the need for grass fodder decreases, the tool calculates which parcels should be switched to annual crops. The farmer can also edit the parcel data.

The [tool](#) will be tested at pilot farms, and its first parts will be published in September.

Provided by Natural Resources Institute Finland

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