



## Designing silvoarable practices

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Silvoarable practices or alley cropping are one of the most promising agroforestry practices in Europe and USA where they represent less than 0.5% of the potential arable land. Silvoarable practices integrate crop production with trees or shrubs in the same land management unit. Trees could be homogeneously distributed in the plots, or surrounding the plots constituting hedges or hedgerows. When trees are going to be established in the arable lands, it is important to have enough spacing among trees to allow crop mechanization. It is also important to maintain arable practices from the beginning of the tree plantation in order to allow trees to go deeper in soil and anchoring better the trees, which, on the other hand are also benefited by the excess of nutrient that are uptaken by the deeper tree roots than the arable crop tree roots. Moreover, tree lines should be North-South oriented in order to reduce the shade of the trees on the crops when they are East-West oriented, therefore limiting crop production.

When trees or shrubs are grown surrounding the plot of the crops the plot environment is improved causing better crop production, mainly when strong winds cause soil desiccation that limits crop production. Especially important is to select adequate crop species that perform better under shade, as most of the crop species have been selected to be developed in open sites.



Figure 1. Mint cultivation between cherry trees

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