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# Design and management of silvopastoral systems with pigs in North-western Europe

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The integration of pigs in agroforestry systems can offer multiple benefits such as the efficient use of land, increased animal welfare and a better image for the farmer. Thereby, the use of breeds which are adapted for living outdoors is advisable. These include amongst others Tamworth Pigs, Duroc or Mangalica's. Regarding the crop component, a broad range of tree and shrub species can be used. Oak (*Quercus* spp.), walnut (*Juglans* spp.), chestnut (*Castanea sativa* Miller), hazelnut (*Corylus* spp.) and willow (*Salix* spp.) are of particular interest if the fruits or twigs of the trees are to be used as feed for the pigs. Tuberous plants such as Jerusalem artichoke (*Helianthus tuberosus* L.) or chicory (*Cichorium* L.) can be used in the understory layer to stimulate the rooting behaviour of the pigs. Alternatively, plants with medicinal properties for pigs such as daisy (*Bellis perennis* L.) can be used. Pigs can damage the trees by amongst others scrubbing, biting or browsing of twigs, buds or fruits. Depending on the purpose of the tree component, e.g. the production of fruits or quality timber, the protection of the trees against the pigs is thus often indispensable. This can either be realized through the installation of a solid enclosure or the use of electric fences. Depending on the site-specific circumstances (e.g. soil conditions, vegetation) and the density of pigs it can furthermore be advisable to apply a fast grazing rotation to avoid the formation of bare soil and subsequent negative effects such as nutrient losses and erosion.

**Figure 1: Mangalica pigs used in a fast grazing rotation in a Belgian agroforestry system. Source: Ruben Mistiaen, Consortium Agroforestry Flanders.**

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