



Planting and maintenance of solitary trees

Goal	Conservation and promotion of vertical structures in the landscape
Target group	All farms of any production type can apply this measure
Description of the measure	<p>Old trees, especially pollard willows or elms, including deadwood, shall be protected.</p> <p>Furthermore, more solitary native trees should be planted.</p> <ul style="list-style-type: none"> ▪ Trees may be planted along field margins, along paths, on meadows or pastures. ▪ Note to plant only native species. ▪ Digging a hole of 60 x 60 x 60 cm for plants/trees 1 or 2 years old (advisable to plant young trees) . ▪ Tree seedling should measure at least 125–150 cm and a diameter at breast height of minimum 5cm or be 1–2 years old to ensure the success of the plantation. ▪ A hollow of at least 1 m² around the planted tree seedling allows the water running direction to the tree instead of trickle off. ▪ Advisable to install protectors around the plants to avoid damages caused by herbivorous species. ▪ Straight after planting the tree should be watered. In Mediterranean countries, irrigation must be ensured during summer and dry seasons at least the 2 first years after the plantation <p>If necessary, trees can be pruned. Maintenance work on the tree crown may not take place during spring to avoid the disturbance of animals. Ideally, this should be done by an expert. In any case, it is very important to keep the leading shoot.</p> <p>If old trees grow along public paths, it is important to control them regularly and take branches down if necessary for security reasons.</p> <p>In a radius of about 10 m around the tree, soil must not be tilled in order to protect the roots. Furthermore, fertilizer and pesticides should not be applied in that distance.</p>
Suitable sites	<ul style="list-style-type: none"> ▪ Whole agricultural farm, with avoidance of waterlogging
How a good implementation looks like	<ul style="list-style-type: none"> ▪ Fresh planted trees are maintained and protected ▪ Trees are allowed to reach a high age ▪ Old trees show evidence of usable habitat ▪ Native trees with a distinct / discrete crown, at least 8 m high (fruit trees can be lower).

Effects on biodiversity (ecosystems, species, soil biodiversity)	 <p>Old, solitary trees serve as habitat for specialized insects. Hermit beetle, capricorn beetle and stag beetle – among others – feed on bark and dead wood parts. They further provide shelter and breeding habitat. Pollard willow, e.g., are the most insect-rich trees overall.</p>
	 <p>Old trees provide breeding holes for raptors and serve as perch in open landscapes</p> <p>Many birds are dependent on trees for nesting.</p>
	<p>Solitary trees in general are important landscape elements. They contribute to structural diversity and belong historically to the image of Europe's cultural landscape.</p> <p>Trees also fulfil important ecosystem functions, such as CO₂ fixation, but also erosion protection and water infiltration and purification.</p>
Other positive effects/benefit for the farmer	<p>Trees are important cultural assets and contribute to the positive image of farming.</p> <p>Trees provide food and shelter to livestock animals.</p>
Indicator/key data	<ul style="list-style-type: none"> ▪ Number of trees ▪ Number of trees planted in an appropriate manner
Risk and further recommendations	<p>Shading effects may result in lower yields.</p> <p>For younger trees without holes nesting boxes for birds and/or wild bees can be provided.</p> <p>In case of a high population of voles, a non-galvanized wire basket around the roots can be installed to protect the young tree from disturbance.</p> <p>Solitary trees are also valuable landscape elements on pastures. They serve as protection from sun and rain. If trees get planted on those sites, it is important to protect them by poles/fence from forage or destruction.</p> <p>Before planting of a tree the local nature conservation authority should be consulted. There might be cases where planting of trees is regulated e.g. when the planting area is within a landscape protection area.</p> <p>In Spain solitary trees' plantations in borders, must respect the local laws or in lack of these local law, the civil code says that high trees must be planted at least 2 m away from the border.</p>
Timeframe (When to start a measure and anticipated time for implementation)	<p>When to start:</p> <ul style="list-style-type: none"> ▪ For temperate regions, planting of trees should take place between November and end of April during frost-free periods. Planting in autumn has the advantage, that trees can build new roots already by growing season in spring. ▪ For Mediterranean regions, planting of trees should take place during the vegetative stop, or sap stop, between November and end of March during frost-free periods, and after rainy periods in autumn. During the sap stop trees can build new roots already by growing season in spring.

Additional special resources/ equipment/ skills needed	Pruning of trees is very specific depending on site, species and growth. Therefore, it is advisable to ask experts for help.
References	<ul style="list-style-type: none"> ▪ www.landwirtschaft-artenvielfalt.de ▪ Promotion of biodiversity in fruit plantations – NABU; REWE and Lake Constance Foundation, 2015 ▪ Stiftung Rheinische Kulturlandschaft, DBU: Abschlussbericht Maßnahmen- und Artensteckbriefe zur Förderung der Vielfalt typischer Arten und Lebensräume der Agrarlandschaften, 2018

Further information: Knowledge Pool

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