

Sweden

aFMM	Guidelines Deliverable D1.3 May 2020	Demonstrations sites Deliverable D1.4 July 2020
<p>Introduced tree species, in particular Douglas fir, Hybrid larch and Sitka spruce</p>	<p>The forests in Sweden are dominated by a few tree species, mainly Scots pine, spruce and birch. One way of meeting the need for increasing demand for biomass and at the same time mitigating the effects of climate change could be to use introduced tree species with other qualities than the native ones and in the case study area in Sweden we have chosen Hybrid larch, Douglas fir and Sitka spruce.</p> <p>In our guidelines we make short presentations of the different tree species regarding, biology, morphology, wood properties, production etc. We also present several reports and articles for further studies.</p>	<p>The tree species trial in Asa research park is part of a larger series of trials that now belongs to SLU's long-term trial which means that it will be measured and controlled for the future. In Asa, there are two trials planted on sites with various site conditions. The most accessible site and the one we firstly will use as a demonstration site is the one called "block 1 Sågvägen". In that area we have six introduced tree species and two native. The roads at the research park are open and there are no road barriers.</p> <p>The experiment was planted in 1994 and 2500 seedling per ha was planted. The plots for each tree species is 40 x 40 m, marked and easy to find. The information of the demonstration site includes maps, instructions how to get there, historical facts, description of the site and results such as volume production and survival.</p>
<p>Boarder zones</p>	<p>Border zones are found around the landscape, areas between woods and fields, the land along the streams and ditches are all different examples of border zones. Those areas constitute transitions between forest and arable land and forest and water and are highly valuable for biodiversity.</p> <p>In order for a border zone to make the best use, it needs to be serviced through various measures. Different border zones need different care.</p>	<p>In Asa we have some good examples on border zones that can be used as demonstration sites. Unfortunately there are yet few, if any, experimental trials. The border zones in Asa are transition between forest and field or forest and water. We will describe these areas and the measures that is suitable for these particular border zones. Maps and description how to get there will also be provided</p>



	<p>In our guidelines for border zones we describe how these measures could be accomplished, which animals or vegetation that will benefit from it etc. We will also guide the reader to further reading by giving examples on literature in the subject</p>	
<p>Mixed forest spruce - birch</p>	<p>The forest in the case study area Kronoberg is dominated by spruce, but there is an increasing interest in using more birch.</p> <p>The guideline summarise existing knowledge about mixed spruce-birch forest and invite the reader to visit some field experiments/demonstration sites.</p> <p>Part one takes up knowledge of mixed forests with birch spruce; regeneration, management, volume production, fauna and flora. Part two describes an existing method with birch as a shelter above spruce during the first decades. The method is well established but as it is difficult to mechanize, larger forest owners rarely use the method. Part three describes mixture of spruce and birch during a full rotation. The method is less common but results from field experiments are presented.</p> <p>The guideline ends with literature list, mainly Swedish “popular scientific” texts but also some scientific articles. There are also links to films/videos about mixed stands.</p>	<p>Asa/Brudahall</p> <p>The demonstration site is located at Asa Research station, approx. 45 km north of Växjö. The experiment is established as comparison between plots with 100% spruce, 80% spruce - 20 % birch, 50% spruce - 50% birch.</p> <p>The plots are approx. 0,1 ha and it is easy to find and to identify different treatments in the field. By winter 2020 the stand was 35 years and dominant height 21 m.</p> <p>Maps are available together with description of the stand and the treatments.</p> <p>Results are available from establishing the experiment 1998 until last measurement winter 2019/2020.</p>
<p>Selection systems or alternative to clear-felling systems</p>	<p>There is a large interest and an intensive debate about other forest management systems than clear-felling systems in Sweden. Close to nature forestry, selection systems, target diameter cuttings, “forestry without clear-fellings” - many names and terms are used today.</p>	<p>Forest research have just recently started to establish research and demonstration plots to study other forest methods than clearfelling systems. Therefore, the demosites are very young and mainly show effect of first cuttings. Two or three such new experiments/demosites in the case study area are identified and will be documented.</p>

	<p>There is a great lack of knowledge in Sweden and many methods with different names are mentioned. The guidelines start with a broad overview of “forestry without clear-fellings” and list the advantages and disadvantages with different methods. The uncertainty and missing knowledge about different the method are highlighted as well as expected benefits.</p> <p>In the guidelines there are references to both published compilation of facts (in Swedish) and to relevant scientific articles esp. from the Nordic countries.</p>	
General	<p>The information will be available at a homepage, as text and as pdf files to download. As much as possible of other material, reports, compilations, articles will also be available as pdf files. The homepage will be hosted by either Southern Swedish Forest Research Centre or Asa experimental forest, both belonging to SLU.</p>	<p>Maps, descriptions, results etc. will be at SLU homepage, either Southern Swedish Forest Research Centre and Asa Experimental Forest</p>

