



Photo: Metla/M. Ahtiqvist

Park of Special Tree Forms

In the 1960s, a park was established alongside the Haapastensyrjä Unit. This park now contains a unique collection of special forms of domestic tree species. The park showcases the wide range of the natural genetic variation of our native tree species. The park contains, among others, golden and narrow-crowned spruces, cut-leaved birches and dwarf pines. The Presidents' Trees are also a special feature of the park. Presidents Urho Kekkonen, Mauno Koivisto, Martti Ahtisaari and Tarja Halonen have all visited Haapastensyrjä during their terms in office and planted their own dedicated trees in the park.



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*The centre of forest tree breeding
 in Finland*



Photo: Metla/R. Hagqvist

Metla - Haapastensyrjä Unit

Haapastensyrjä Unit is the centre of forest tree breeding in Finland. The station situated in Loppi, 65 kilometers north of Helsinki, was established in 1960, and managed by the Foundation for Forest Tree Breeding until 1999. In 2000 the station, along with the breeding activities of the Foundation, was merged with the Finnish Forest Research Institute (Metla). The station is now administered from Metla's Eastern Regional Unit.

Haapastensyrjä Unit has about 30 permanent employees, of whom six are researchers and tree breeding specialists. In the summertime there are about 20 extra temporary employees. In addition, a number of foreign students visit Haapastensyrjä each year and spend short periods working at the station.

Riihelä, the new office and laboratory building at Haapastensyrjä, was completed towards the end of 2007. The building, designed by Häkli Architects, was awarded a special commendation in the Wood Prize 2008 competition. Extensive use has been made of domestic and foreign timber species in the interior of the building. All of the timber used in the building is from Metla's own forests



Photo: Metla/R. Viirros

The key activities of the unit are traditional forest tree breeding and the development of new methods. The stages of forest tree breeding include the selection of trees, hybridisation, and the testing of the offspring of selected trees in test plantations. The aims of the development work are the speeding up the breeding operation, increasing seed production, and improving methods of vegetative propagation. One of the most important achievements of the development work has been the production improved birch seed in greenhouses.



Photo: Metla/M-L Annala

The main tree species in the breeding programme are Scots pine, Norway spruce and silver birch. Other tree species, such as aspen, alder, larch and curly birch, have also been bred. The breeding programme aims to improve the growth, quality and adaptation of the trees.

The results of the breeding work are applied to commercial forestry mainly through seed orchards. Metla plays a central role in this work as both the designer of new seed orchards and producer of grafts of superior plustrees for the establishment of the seed orchards.

In recent years, the activities of the unit have expanded to include forest genetic research and other forest research. The EU project Treesnips has studied the genetic basis of the adaptive qualities of trees. The wide-ranging project Forests 2050 investigates the way trees adapt to climate change. Other areas of research include the fungus/tree root interaction (mycorrhizae) and cultivation of sphagnum mosses for processing as biofuels.

The nursery area at the unit covers about six hectares, of which two hectares are greenhouses. The largest greenhouses are nine metres high and up to 100 metres long. They contain breeding orchards and birch seed orchards.

Some of the greenhouses are equipped with advanced automated equipment, allowing precise monitoring and control of growing conditions. The equipment of the research greenhouse also includes freezing facilities that are used to test the cold hardiness of seedlings. One of the greenhouses is designed specifically for the rooting of shoot cuttings, whilst the new laboratory provides the facilities for the production by tissue culture of plantlets of species such as aspen and curly birch.



Photo: Metla/M-L Annala