

Towards the Finnish LR and CWR Conservation Strategies

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The Finnish PGR program covers the genetic resources in agriculture, horticulture and forestry and aims to secure the valuable plant resources, such as crop wild relatives (CWR), landraces (LR), old cultivars and other valuable breeding material. However, there has not been thorough *in situ* and *ex situ* inventories of the CWR or LR within Finland. Moreover, national conservation strategies are needed to ensure the future of CWR and LR. During the ongoing EU- funded PGR Secure project we compile CWR *in situ* and *ex situ* inventory and gap analysis of the Finnish CWR taxa. We also perform the nation wide *in situ* LR inventories on apples, pears, potato onions and cereals.

Towards CWR Strategy

The CWR checklist was created by taxonomically harmonizing the list of Finnish CWR taxa obtained from the PGR Forum CWR Catalogue for Europe and the Mediterranean (Kell et al., 2005) with the Field Flora of Finland (Hämet-Ahti et al. 1998). Threatened and protected subspecies not on the draft list were added whereas hybrids, synonymic taxa and apomictic species removed. This resulted in a checklist of 1905 CWR taxa.

Native and archaeophyte taxa were selected for prioritization, neophyte and non-threatened subspecies removed. Data was collected on 3 main criteria (value, use and threat) and 12 subcriteria for prioritization. The prioritized national inventory has 209 CWR taxa.

The *in situ* gap analysis found that approx. 25% of the priority taxa were found in the existing collections in the Finnish Botanic Gardens, Finnish Forest Research Institute and NordGen, however many not sufficiently conserved. 75% were not found in *ex situ* collections at all. Inclusion of some of the priority CWR taxa in the collecting targets of the Native Finnish threatened plants seedbank project brings a possibility that more CWR taxa will be brought into long-term *ex situ* conservation in the near future.

The preliminary results show 5 most CWR taxa rich areas within Finland.



CWR taxa *Vaccinium uliginosum* and *Fragaria vesca* used in breeding in Finland to create commercial varieties of blueberry 'Arto' and strawberry 'Minja'.

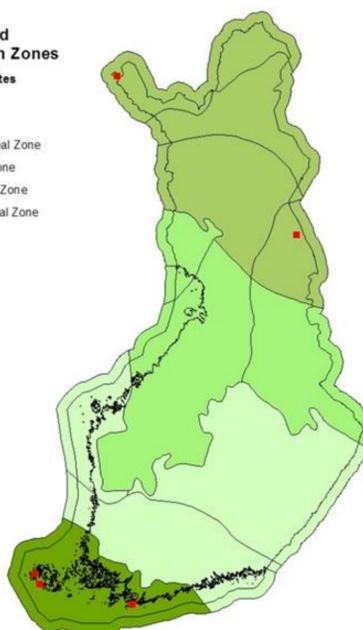


CWR in situ Reserves

Reserve Sites and Forest Vegetation Zones

Proposed reserve sites
■ sites 1-5

■ Southern Boreal Zone
■ Hemiboreal Zone
■ Middle Boreal Zone
■ Northern Boreal Zone



0 50 100 200 Kilometers

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Towards LR Strategy

MTT has set up the nation wide *in situ* inventories on native apples, pears, potato onions and cereals. Complementary inventory was not realistic because of large number of plant species under mandate or Finnish PGR programme.

The apples, pears and potato onions were selected as target plants because of gaps in *ex situ* collection and facilities of DNA microsatellite analysis. Cereals were selected because there are farmers involved in environmental support system..

We combine the viewpoints social sciences, botany, GIS, genetics and - the most important - local people. We use old literature (e.g. pomological, breeding) to analyze the gaps in *ex situ* collections.

To reach LR growers we use media (TV-programmes, print media), public events and networks of scientist and authorities. To locate candidates of LRs, the local knowledge is essential.

To identify the plant variety it is used the morphological analysis following with the DNA microsatellite analysis. The results of these analysis is combined with the local knowledge and old literature to evaluate the origin and cultivation history of the plant sample.

As a result of this analysis process we can confirm if the plant sample is a LR or not. After confirming LR, the facilities on farm or garden are studied to evaluate the possibilities for *in situ* conservation.

From the basis of the inventories and gap analysis we will aim to describe methods how the genetic resources of CWR and LR may be conserved for future use and give recommendation for the implementation of these strategies nationally.

Since these analysis and preparation of the national conservation strategies are undertaken simultaneously will enable us to compare the similarities and differences between the processes towards the LR and CWR conservation strategies in Finland.

Finland's LR and CWR conservation strategies will utilized in preparing the proposal for the European conservation strategies in PGR Secure-project.