Interreg
North-West Europe
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MigFoRest

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WP1 - Joint strategy to implement assisted migration (AM) in North-West Europe

List of tree species to implement AM in North-West Europe

November 2024

All MigFoRest project partners took part in the tree species selection. The list with **34 tree species from 9 different genera** were proposed and in detail described for:

- Origin, range, and likelihood to migrate to NWE under climate change
- Ecological aspects of the species
- Adaptive capacity for climate change
- Economic importance
- Availability of forest reproductive material (FRM)
- If the species is included in the EU-directive 1999/105

Ranking system for the evaluation of the suggested species:

***Level 1** : Core species of the project that will be assessed genetically, assessed ecologically (invasiveness and biological potential), produced by the nurseries of the partners, planted in pilot territories, and potentially included in the new seed orchards.*
***Level 2** : Species that will be assessed ecologically and that can be planted in pilot territories (only from seedlings purchased in commercial nurseries) and especially in the living labs for evaluation.*
***Level 3** : Species that will be assessed ecologically and, if planted, only from commercial nurseries and only in the living labs but not in the rest of the pilot territories.*

Ten tree species from four genera were selected as core species, level 1, and will be assessed genetically, ecologically (including invasiveness and biological potential), produced by the nurseries of the partners, planted in the plot territories, and potentially included in the new seed orchards.

The list of core species has been approved by all involved partners and contains these 10 species:

Genus	Species	Decision MigFoRest	Level
Abies	*alba*	Native in parts of NWE (BF, Vosges, Central Massif), has high relevance	1
Abies	*cephalonica*	Highly resistant to summer drought, can replace *A.alba* in low elevations; available FRM	1
Abies	*pinsapo*	Highly resistant to summer drought, can replace *A.alba* in low elevations; available FRM	1
Quercus	*petraea*	Native in NWE - widespread; high relevance, tolerant to drought, could replace *F. sylvatica* in dry sites; valuable timber	1
Quercus	*pubescens*	Native to small parts of NWE	1
Quercus	*robur*	Native in NWE - widespread; high relevance, valuable economically; there are provenances adopted to drier climates	1
Tilia	*cordata*	Native in NWE, wide range, available provenances from the drier areas; resisted to drought, important for bees feeding	1
Tilia	*platyphyllos*	Native in NWE; pioneer at difficult stands, adopted to drought, bees feeding	1
Sorbus	*torminalis*	Native in NWE; can tolerate drought and heat, grows on sites of beech and oak; not in EU-directive 1999/105; Gene bank available	1
Sorbus	*domestica*	Native to parts of NWE; not in EU-directive 1999/105; A collection of clones in France available	1

FRM : forest reproductive material

The species from the level 2 can be planted in pilot territories and living labs after risk assessment, or seedlings will be obtained from commercial nurseries.

Genus	Species	Decision MigFoRest	Level
Quercus	*frainetto*	Natural migration to NWE under CC limited by high distance to native range; not in EU-directive 1999/105	2
Quercus	*pyrenaica*	Native to a small part of NWE (west France); poor economic value; not in EU-directive 1999/105	2
Quercus	*canariensis*	Unlikely to migrate under CC; not in EU-directive 1999/105	2
Sorbus	*aria*	Native in NWE, tolerant to drought, not in the EU directive 1999/105	2
Fagus	*sylvatica*	Native in NWE - widespread; high relevance; not tolerant to drought	2
Fagus	*orientalis*	Unlikely to migrate to NWE under CC; can hybridize with *F. sylvatica,* the most present deciduous trees in NWE	2
Acer	*platanoides*	Native to parts of NWE (Germany, Eastern France and Central Massif); not in four core genera	2
Acer	*opalus*	Native to parts of NWE (Southern France); not in four core genera; not in the EU directive 1999/105	2
Acer	*campestre*	Native to NWE; not in four core genera; not in the EU directive 1999/105	2
Acer	*pseudoplatanus*	Native to NWE; not in four core genera	2
Pinus	*sylvestris*	Native to small parts of NWE (Germany, Central Massif); not in four core genera	2
Pinus	*nigra (all ssp)*	Possible to migrate to NWE; not in four core genera	2
Pinus	*pinaster*	Native to parts of NWE (Bassin Aquitaine in France); not in four core genera	2

CC: climate change

The species from the level 3 can be planted in demo sites, but not in the rest of the pilot territories, after the risk assessment, or seedlings will be obtained from commercial nurseries.

Genus	Species	Decision MigFoRest	Level
Abies	*borisii-regis*	Challenging to provide FRM, not in EU-directive 1999/105	3
Tilia	*tomentosa*	Natural migration to NWE under CC limited by high distance to native range, significant presence in cities; not in EU-directive 1999/105	3
Acer	*monspessulanum*	Native to parts of NWE (Southern France); not in four core genera; not in the EU directive 1999/105	3
Pinus	*pinea*	Native to Southern France (could migrate to NWE), not in four core genera	3
Pinus	*peuce*	Unlikely to migrate to NWE under CC; not in four core genera	3
Pinus	*heldreichii*	Unlikely to migrate to NWE under CC, not in four core genera	3
Pinus	*halepensis*	Native to Southern France (somewhat unlikely to migrate to NWE). Unlikely to migrate to NWE under CC, not in four core genera not in four core genera	3
Quercus	*cerris*	Native to parts of NWE (Southern France)	3
Quercus	*suber*	Native to parts of NWE; not in four core genera	3
Quercus	*ilex*	Native to parts of NWE; not in four core genera	3
Alnus	*cordata*	Unlikely to migrate to NWE under CC; not in four core genera	3

CC: climate change