

Seed orchards in *Quercus petraea* and *Q robur*

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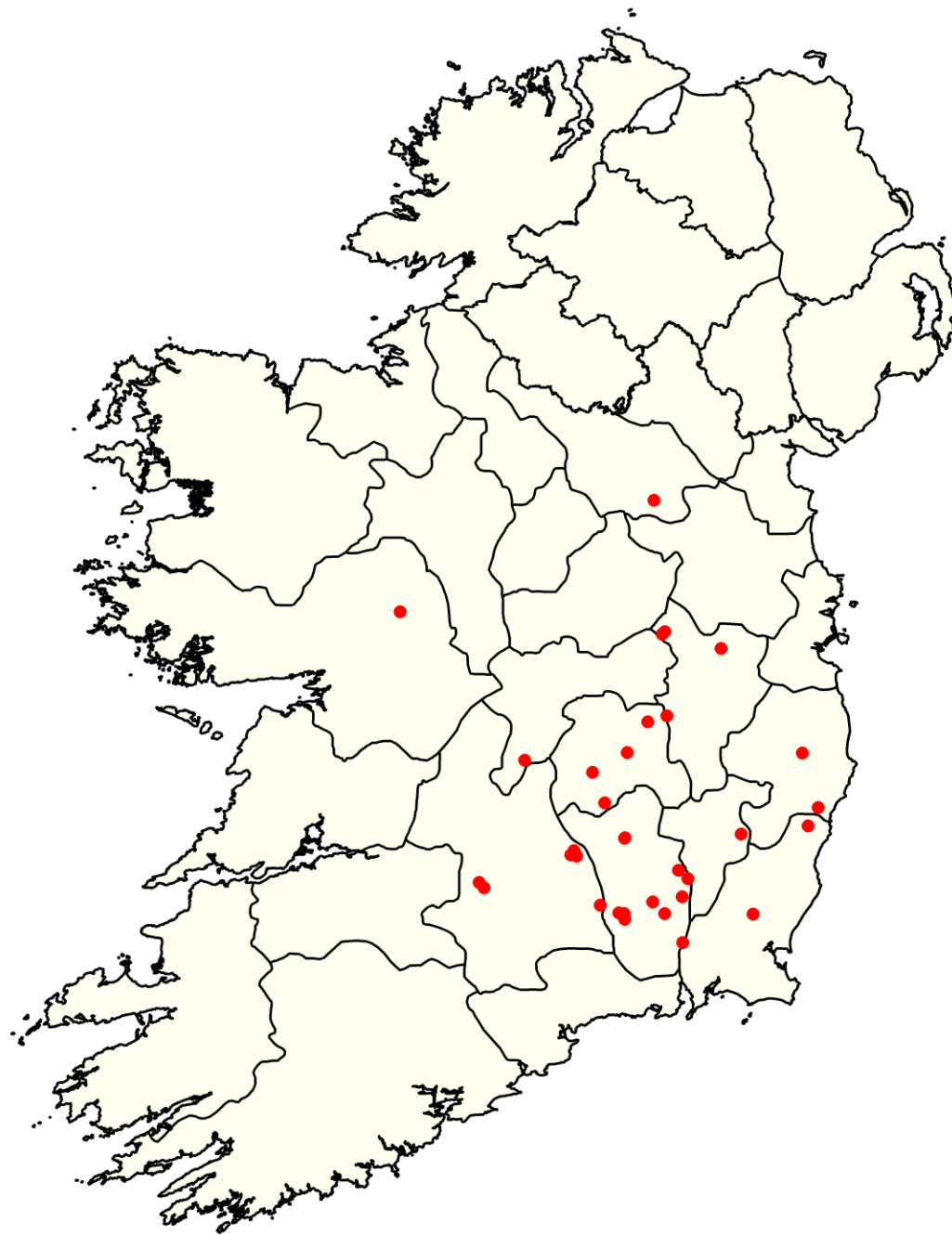
5 December 2023



Background/why oak seed orchards?

- Desirability to secure supplies of superior oak material on the island of Ireland for commercial broadleaf planting according to FGRT objectives and good forestry practice and aligns with RoI Forest Strategy 2023-2030
- Erratic annual acorn supply from registered seed stands and other sources – mast year dependent – insufficient collection in seed stands¹
- Source material - Forest Service/Coillte 100+ oak plus trees selected and propagated 1990-1994 at Coillte Newtown and Kilmacurragh, FGRT oak clone bank at JFK with GB material, material from GB, small amounts from NL and FR - supplemented by climbing in 2022

¹ FGRT preparing a separate project to address constraints in acorn collection from seed stands

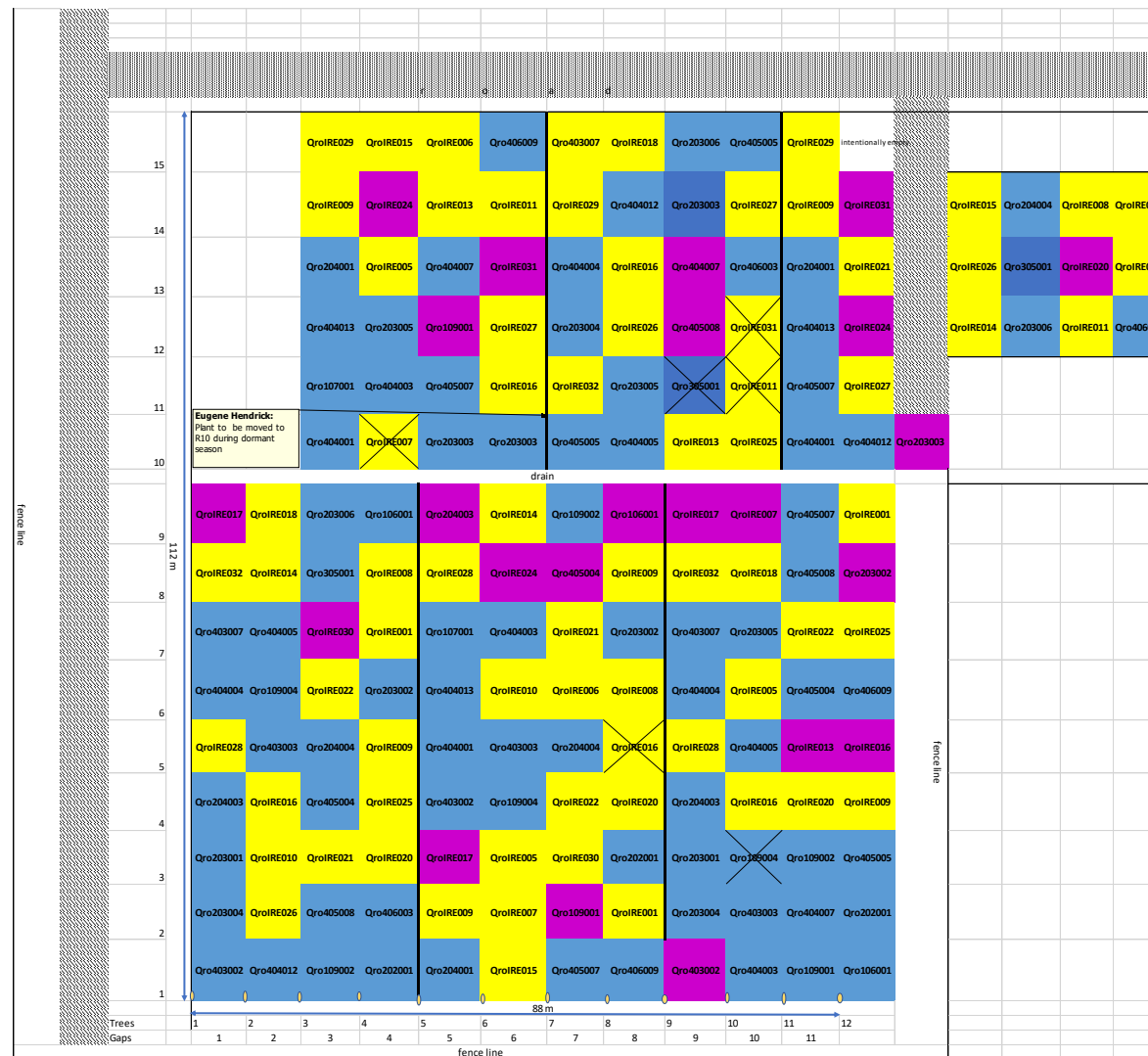




FGRT's oak seed orchard plans

- Overall, FGRT is aiming to facilitate the establishment 12 oak seed orchards (six in each species), based on each carrying 50-60 genotypes, using clonal material, by end of decade.
- Once orchards are at the production stage, combined production has the potential to reach about 5 tonnes of acorns per year.
- We plan to extend the collection of plus trees on the island adding ca 24 new trees over 2024-25, especially in underrepresented areas

Free to grow 2026-2027, first acorns 2030-2034,
depending on growth and climate



Progress ctd.

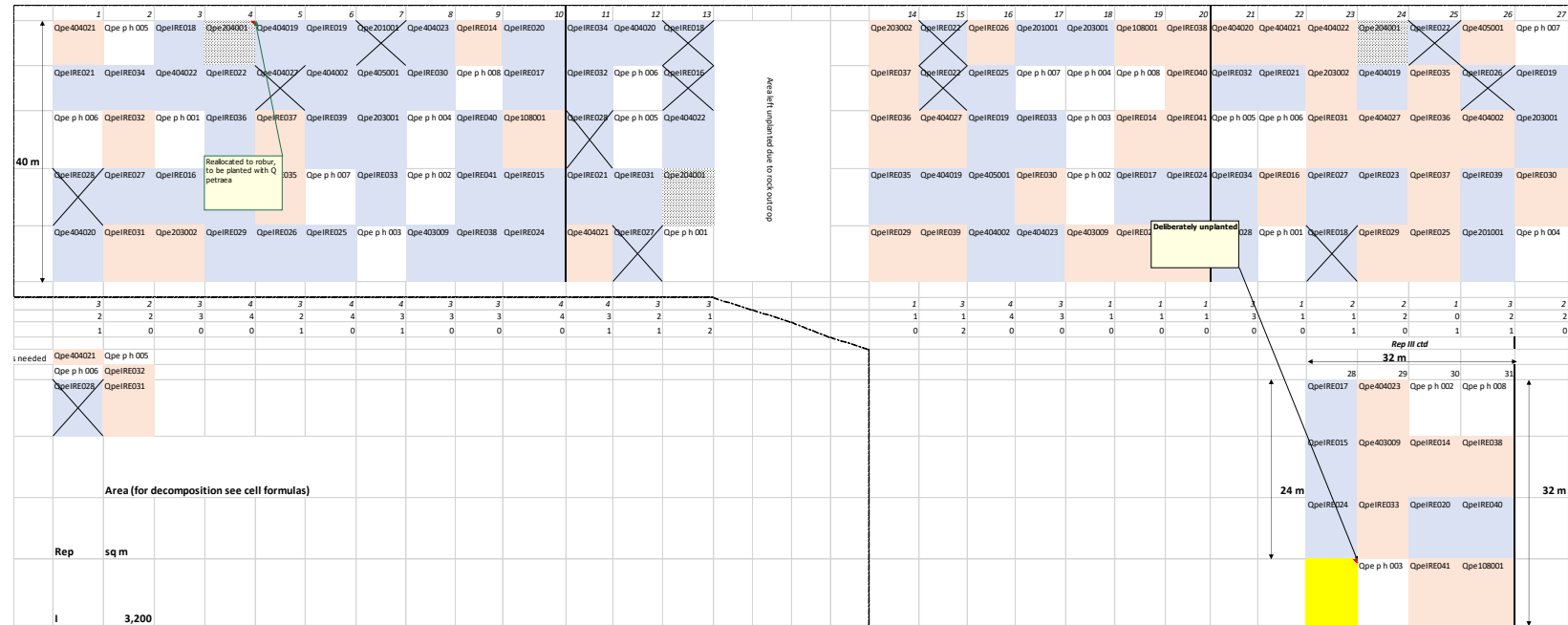
Q petraea orchard, Coillte Rossenarra, Co Kilkenny

50 genotypes x 3 reps = 150 plants

84% survival end 2023

86 plants to be added 2024-2025

Free to grow 2026-2027



Aim to emulate - oak seed orchard at production stage – Croatia



Cooperage is a growing business in Ireland – mostly reworked sherry casks but scope to expand to Irish material

Heyday of wood cask use, Guinness, Dublin casks stacked at cooperage 1948 – carbon footprint of aluminium v wood? IDL uses ca 200,000 casks per year, mostly ex bourbon – different market but again scope to use some Irish material.



Acorn production rates and likely onset of commercial production

Acorn production rates are likely to be in the range of ca 300-700 kg/ha

Based on information from FTT UK seed production in commercially collectable quantities would be expected after 6-8 growing seasons