

The German breeding concept on Douglas-fir - current status

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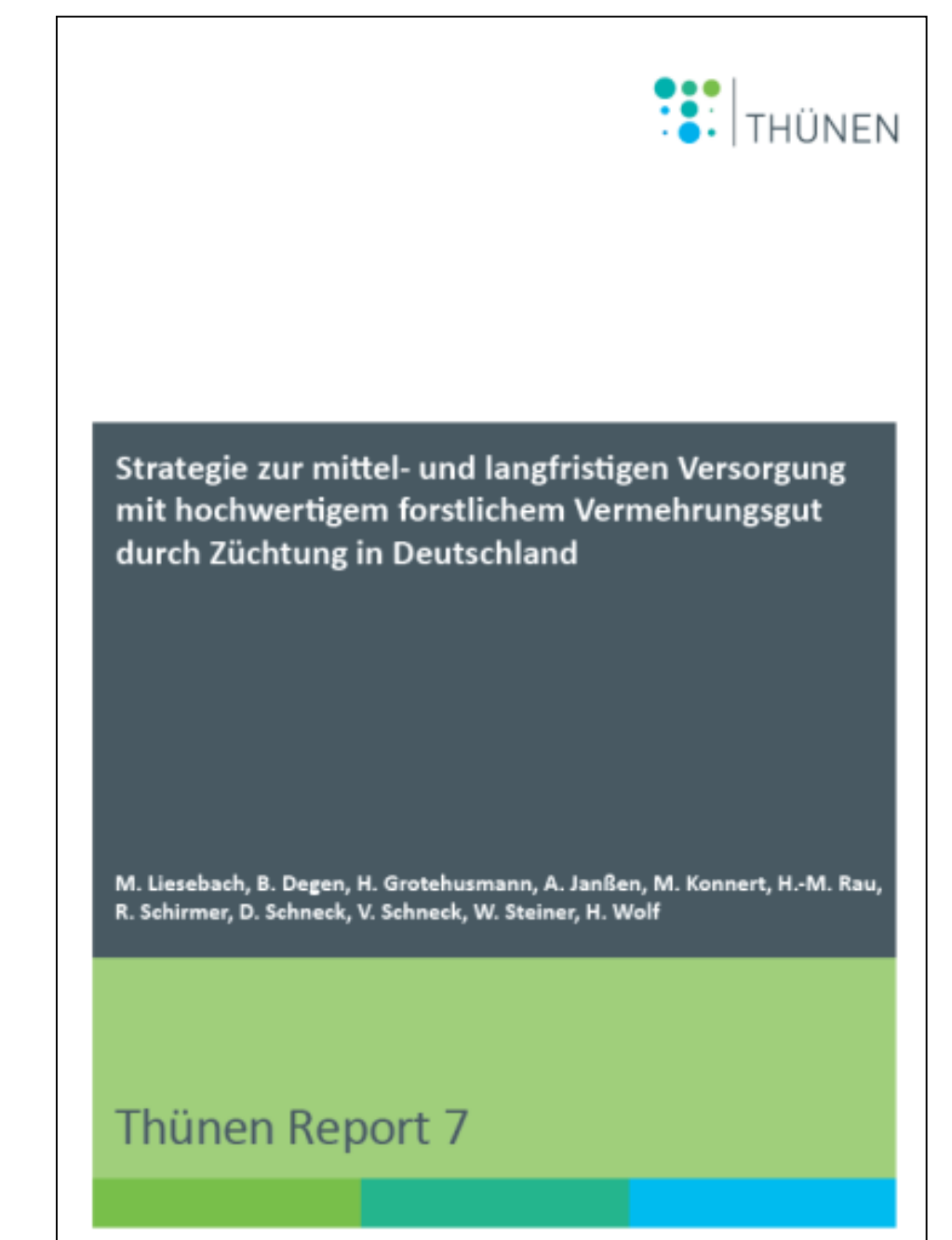
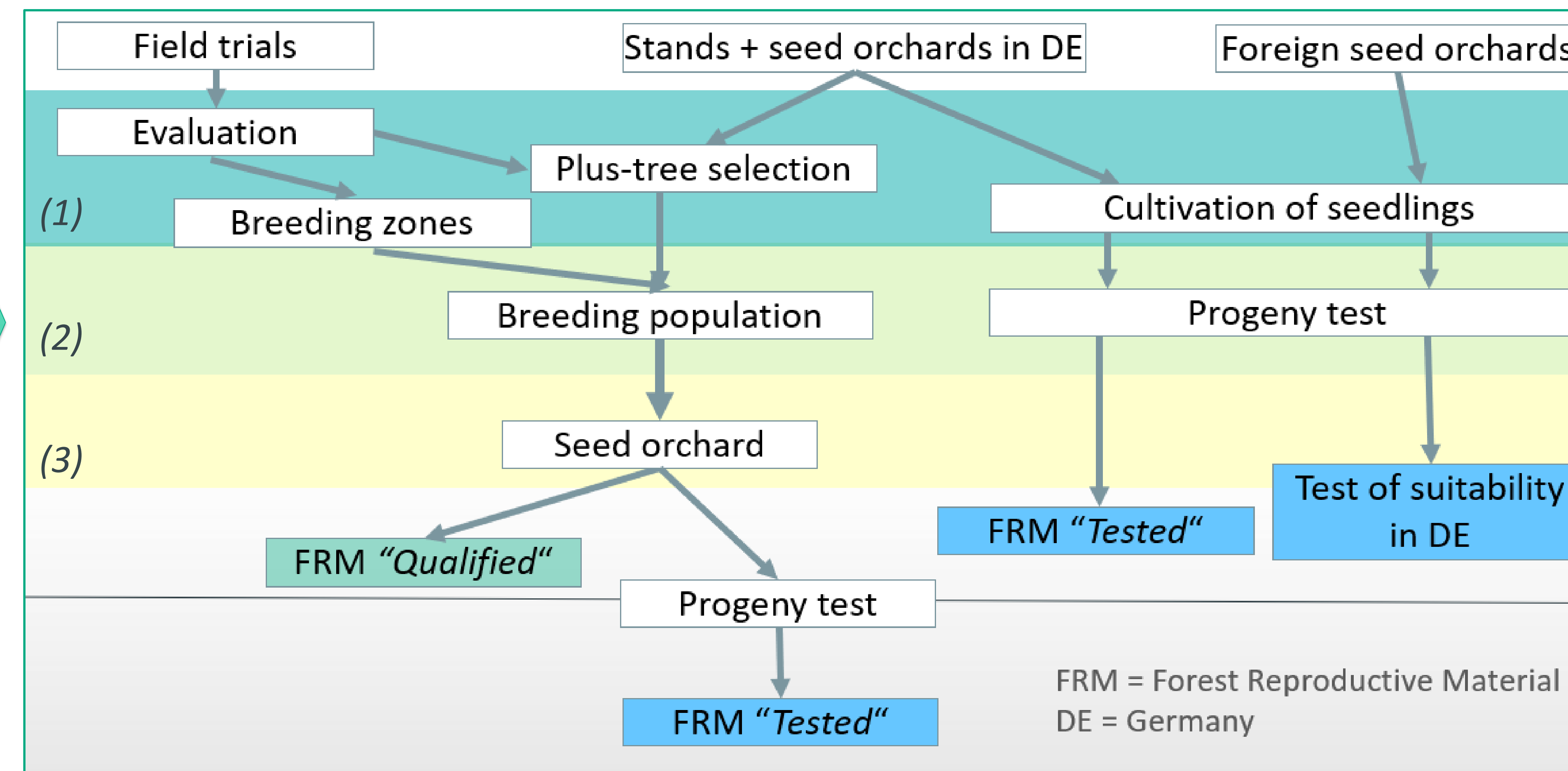
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Aim
Production of forest reproductive material with high vigour, quality and adaptive potential to future climate

Breeding concept on Douglas-fir

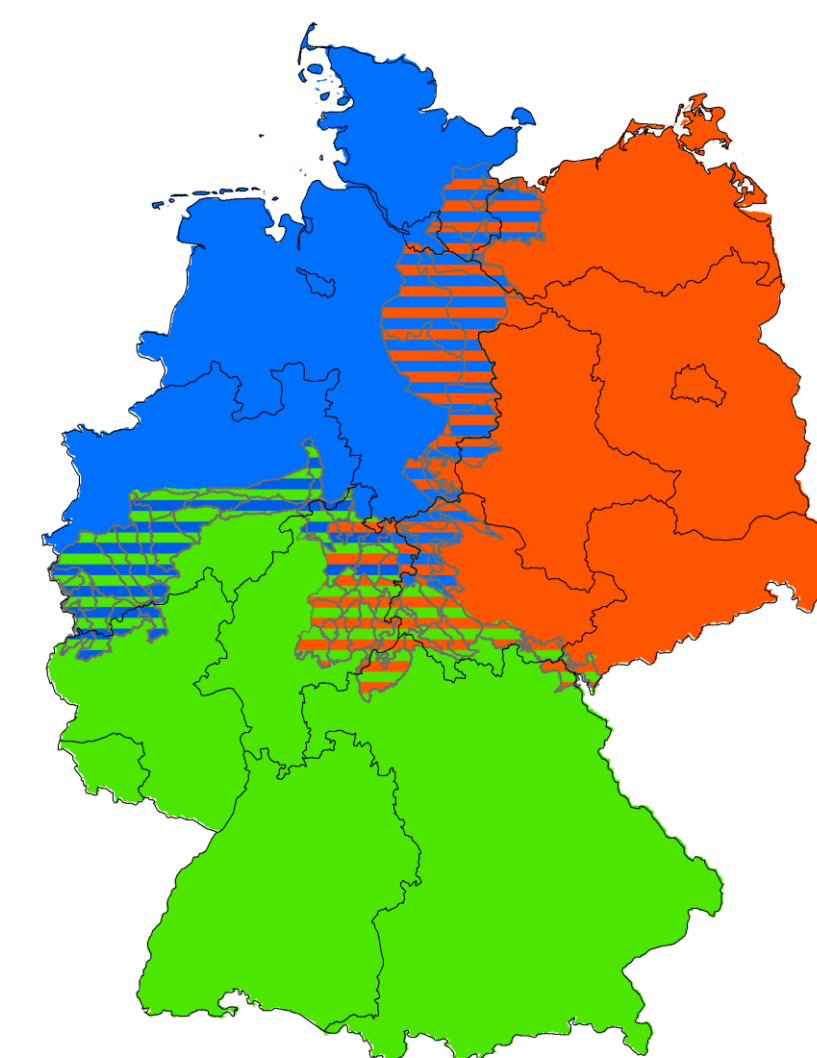


LIESEBACH et al. 2013.
Thünen Report 7, 81 pp.

(1) FitForClim 2014-2019

- Delineation of 3 **breeding zones**
LIEPE KJ, LIESEBACH M, 2017. Beiträge aus der NW-FVA 16: 39-54
- Selection of 913 **plus-trees** in provenance trials (60 %) and in stands (40 %)
- **Vegetative propagation** (grafting)
- **Genetic fingerprint**
- Minimum requirements for **seed harvesting units**

WOJACKI J et al. 2019. Forest Ecol Manag 438: 18-24
LIESEBACH H et al. 2020. Thünen Rep 76: 246-259



(2) AdaptForClim 2017-2021

- Establishment of **breeding populations** (clonal archives) with 843 plus-trees
RIECKMANN C et al. 2021. AFZ Wald 76 (11): 25-29
- **Seed orchard concept**
LIESEBACH H et al. 2021. Silvae Genetica 70 (1): 84-98
PAKULL B et al. 2021. Eur J Forest Res, 15 pp.
- **Progeny test** with off-spring from foreign seed orchards

(3) OptiSaat 2021-2025

- **2nd grafting** of subset of plus-trees
- Establishment of 2 **production populations** (seed orchards)



Outcomes

- First seed harvest expected in 10-15 years
- Recommendation of FRM from seed orchards