


Ash dieback – silvicultural options? Ian Short - Teagasc


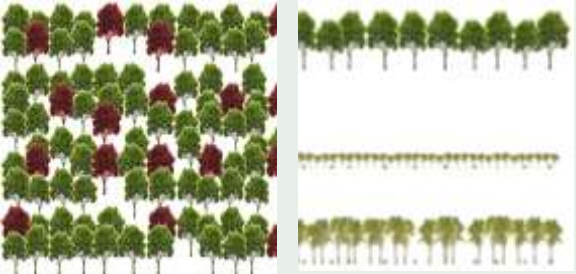

Grant options

Criteria	Scheme	
<7m	Reconstitution	
≥7m AND: <15m OR <18cm OR <25 y.o.	Woodland Improvement AND/OR Reconstitution	
≥15m OR ≥ 18cm OR ≥ 25 y.o.	Woodland Improvement	

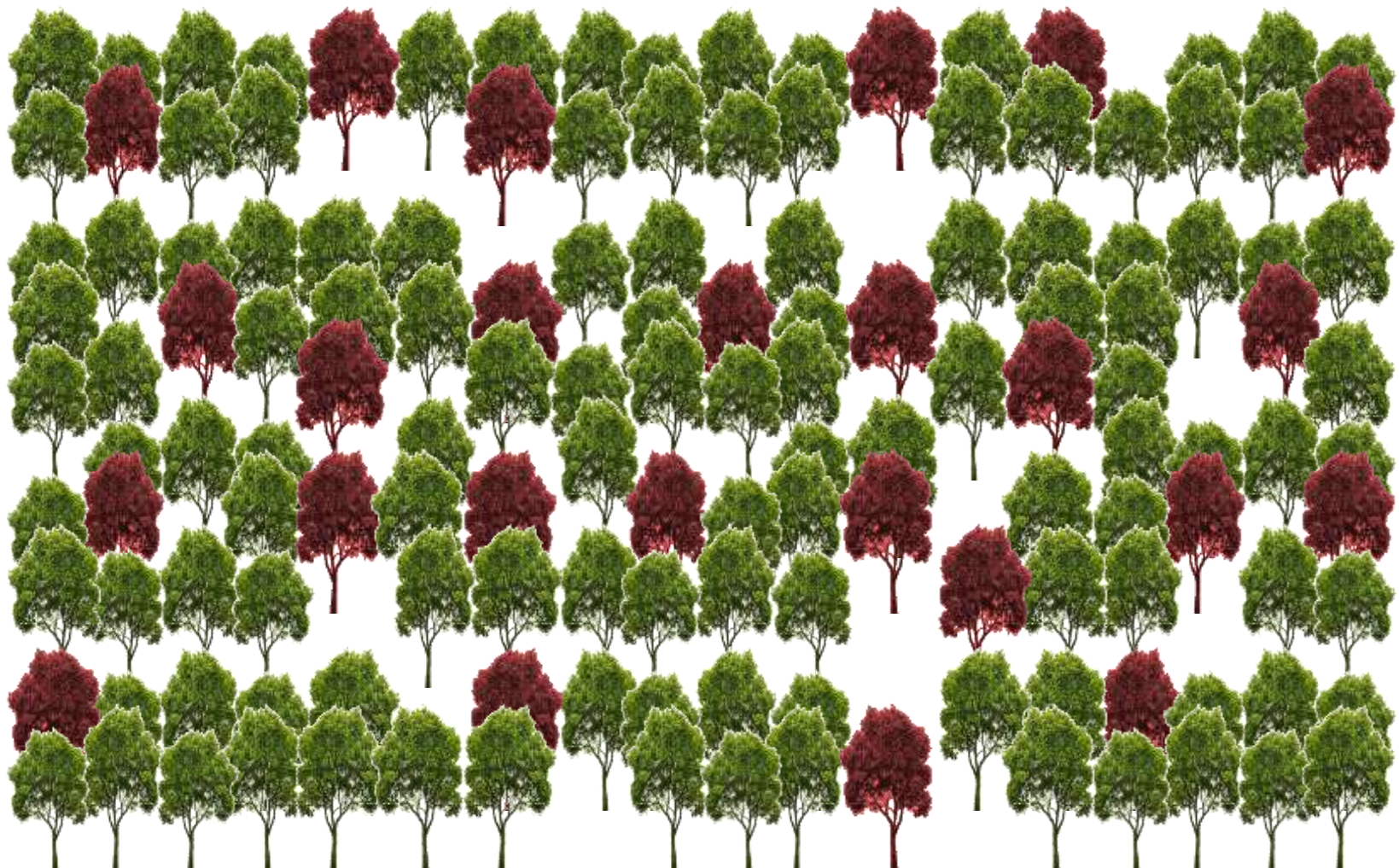
Eradication



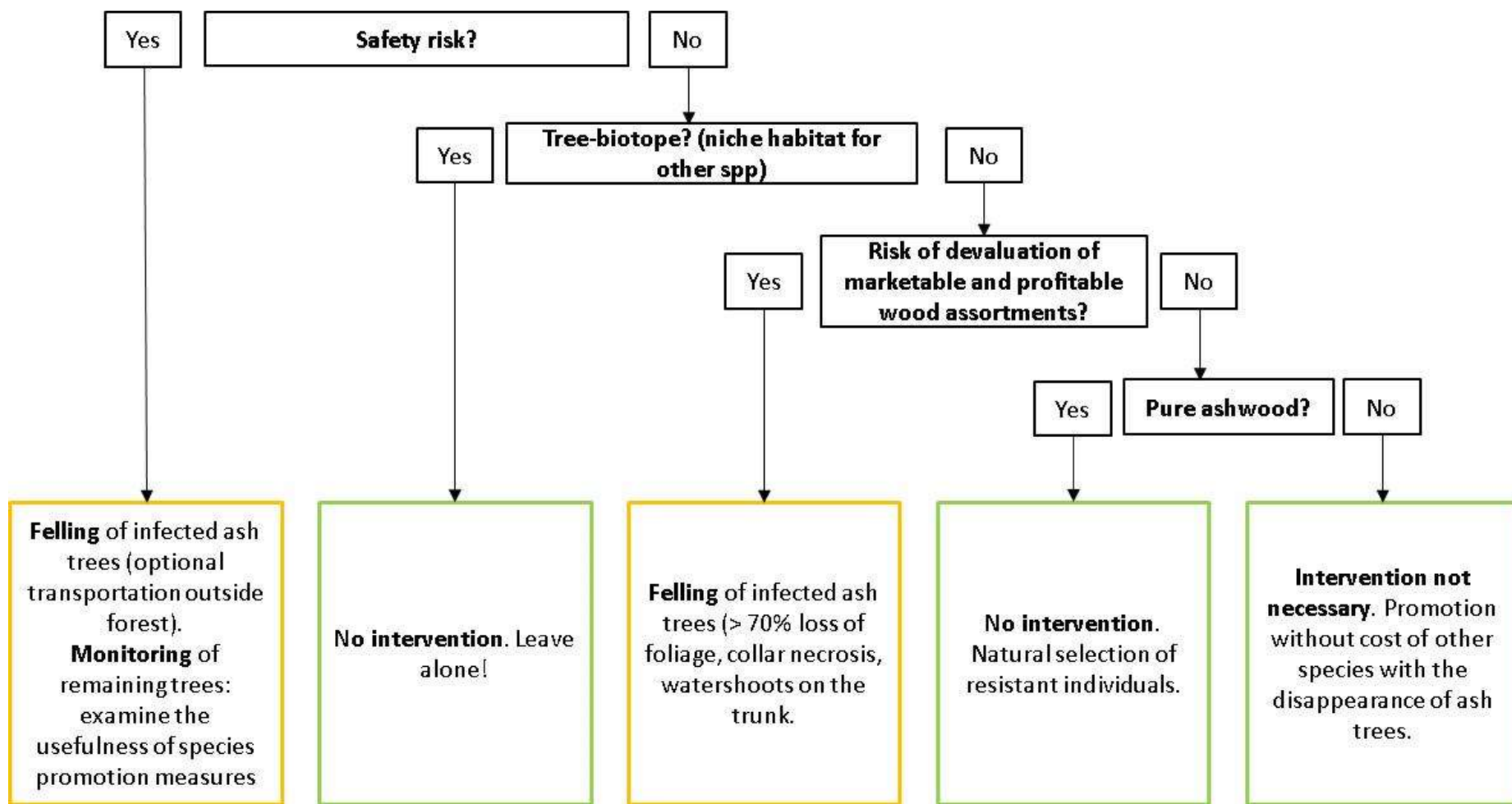
Grant options

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Rack and selection thinning



Switzerland



Germany

- Preferentially remove affected ash
- Healthy/weakly diseased vigorous ash in mixed stands are encouraged. Stand development to favour mixed spp.
- Severely damaged (70-80% crown death) harvested and marketed
- Selection during growing season (by mid-August) and permanently marked

UK – Woodland SSSIs

<30% ash	30-70% ash	70-90% ash	>90% ash
<p>Leave the ash: survival important.</p> <p>Promote regen.</p> <p>Thin if needed to promote crown development and space for regen</p>	<p>Diversify age structure.</p> <p>Open up stands: 1) around minor species to promote their regeneration; 2) to promote regeneration of 'prime' and tolerant ash</p>	<p>Avoid drastic changes in forest conditions.</p> <p>Diversify age structure.</p> <p>Promote minor component tree spp.</p> <p>Encourage natural regen / underplanting of appropriate alternative spp.</p>	<p>Avoid drastic changes in forest conditions.</p> <p>Promote crown development of 'prime' ash.</p> <p>Encourage space for regeneration.</p> <p>Underplant with appropriate spp. as ash canopy thins.</p>

UK – Ecological mitigation

- Mixtures support greater no. & variety of ash-associated species than single species alternative
 - 74% with oak and beech mixture
 - 84% with 11 tree spp.
- Oak supported all ash-associated birds
- Field maple and hazel mixture support 98% bryophytes
- Birch, beech and oak mix support 54% invertebrates

UK – Infected stands

- Avoid heavy thinning or clear-felling
- Where tolerant trees revealed, ensure free from additional stress (thin)
- Ensure adequate no. seed-bearing females retained for nat regen potential
- Where tolerant seed trees present, manipulate stand for optimal seed germination, survival and establishment
- Promote tolerant individuals of ash regen

FRAXBACK

- Tending – Thinning period probably most critical stage when considering silviculture prescriptions of ADB stands
- Conserve resistant / tolerant trees
- Crown dieback and collar rot correlate with soil moisture
- In pure ash stands, admix alternative spp
 - Healthy remaining trees can maintain overhead shelter
- In young stands, restock in clumps or clusters
- Crop tree management e.g. free-growth

- Ideally inspect at least once per year
(Skovsgaard 2009; Thomsen and Skovsgaard 2012)
- *“Adapting woodlands to become more resilient will require anticipatory action – changes need to be made before the impact of biotic and abiotic threats is observable.”* (Bladon et al. 2016)

References

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Alternative options?

- Systematic thin and underplant
 - Free-growth / Halo
 - Small coupe
 - Agroforestry
-
- Research & Demos required

Systematic thin and underplant





2:2 systematic thin with alder underplanting

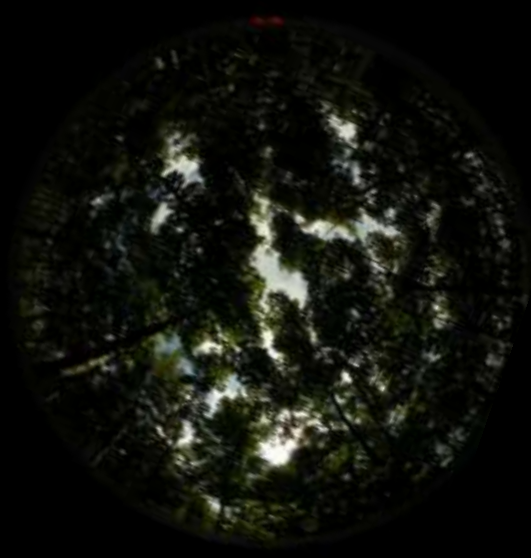
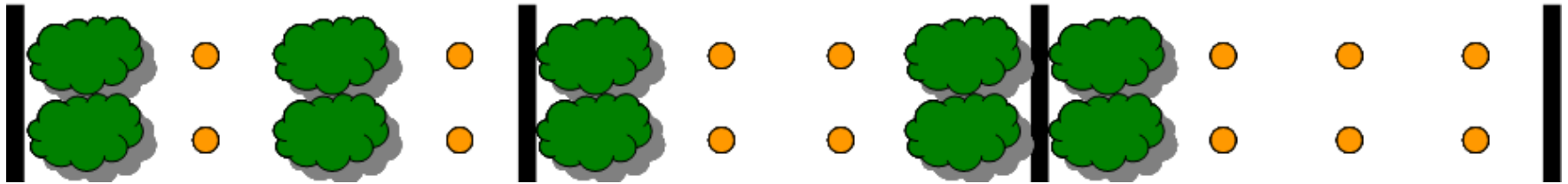
May 2011



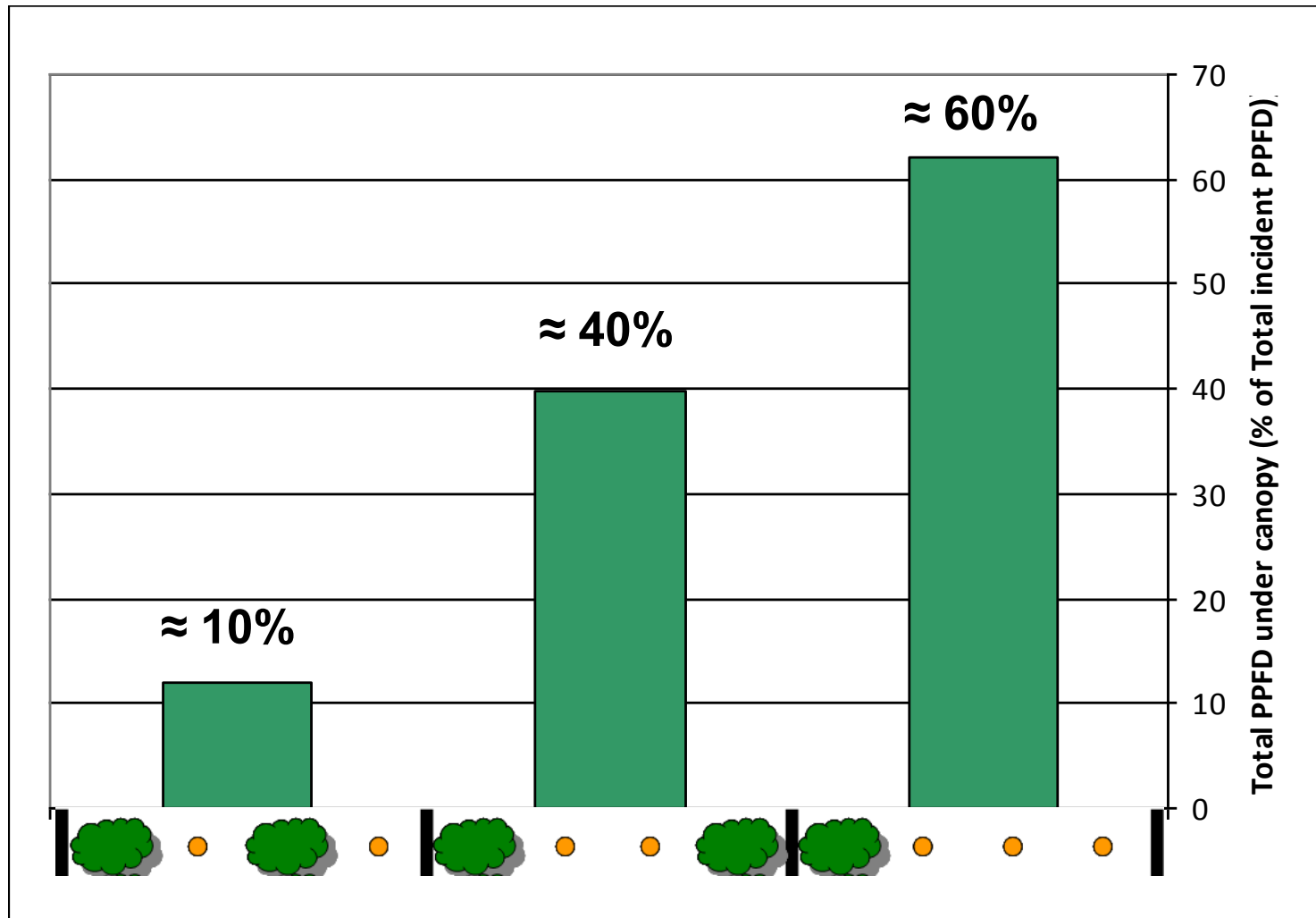
2:2 systematic thin with alder underplanting

Feb 2016 – Underplanting approx. 6m tall.

Light (sycamore overstory; 17yo; after 3 growing seasons)



Light (sycamore overstory; 17yo; after 3 growing seasons)



Free-growth / Halo







Underplant?

Small coupes – underplant / nat.regen



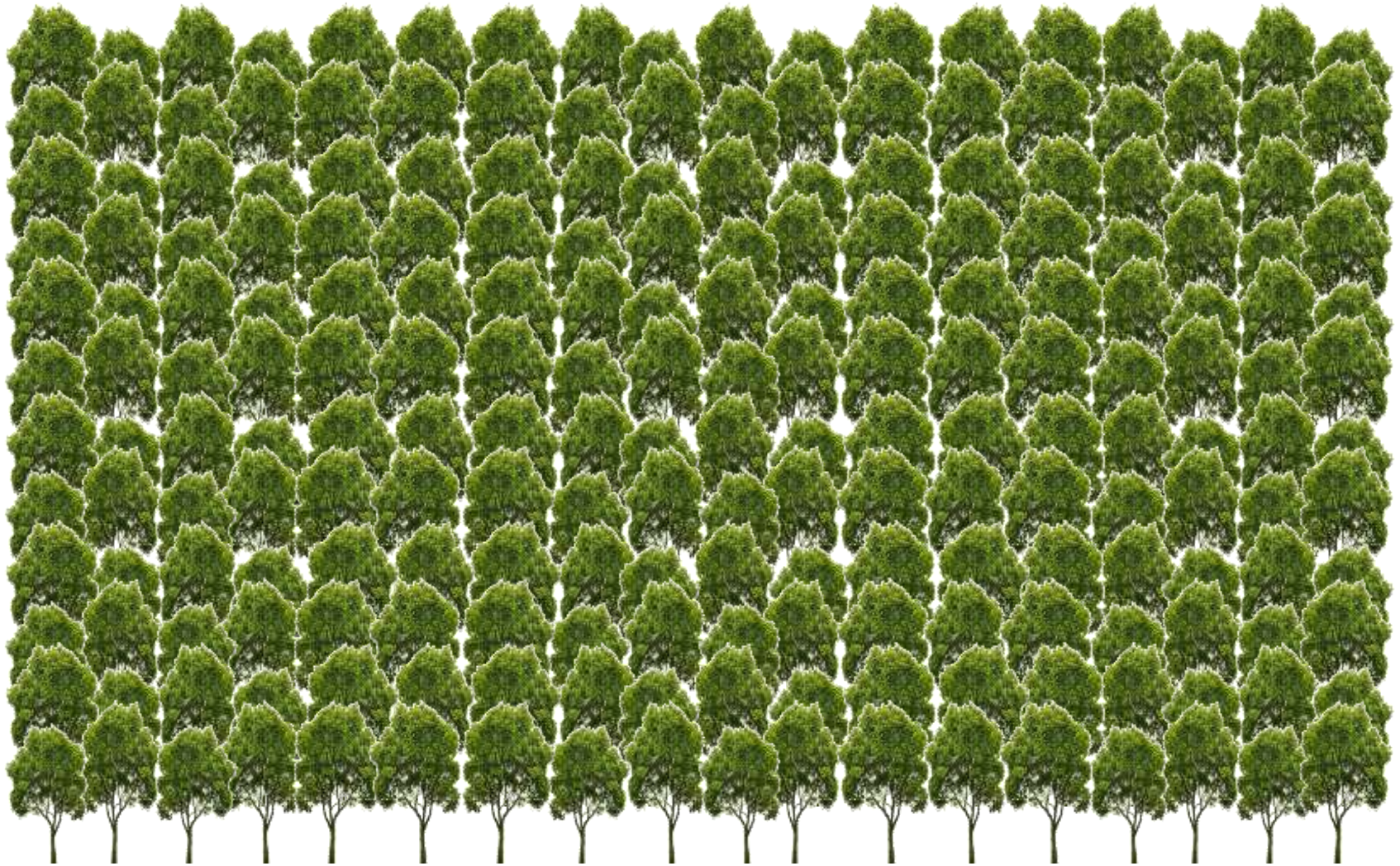


Teagasc / Woodland Trust project

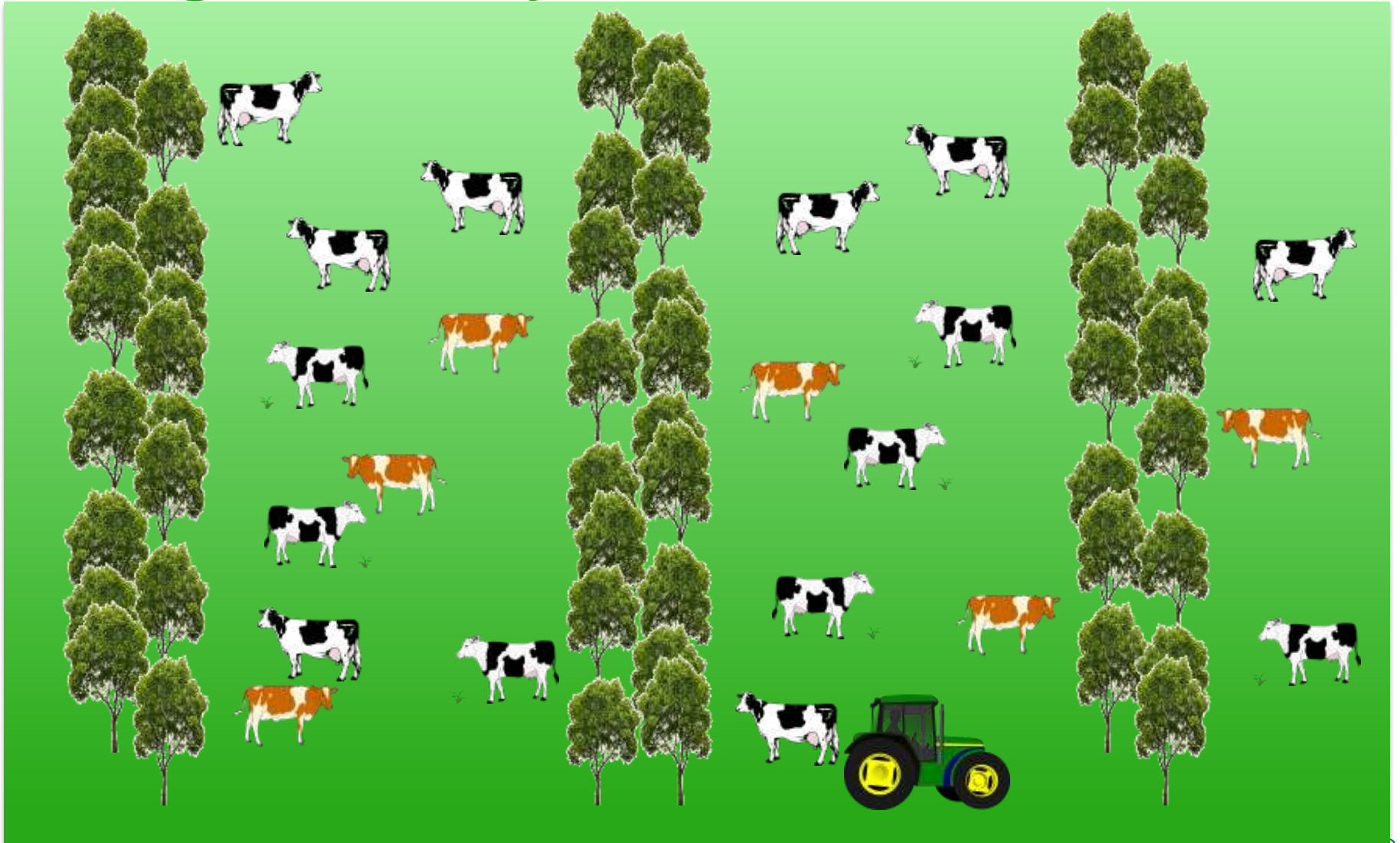
Drumnaph Woods, Co. Derry.

Oak, birch, hazel. Coupes 0.025 – 0.045 ha

Agroforestry



Agroforestry



Ash dieback positives??!

- Improved silviculture?
 - Amelioration of poor-performing stands
 - Better soils for tree establishment
 - Shelter present?
 - Greater emphasis on thinning
 - Greater owner (and public) interest
 - Less prescriptive silviculture, more site specific silviculture
 - Greater emphasis on establishing mixtures?
 - » Increased resilience
- Improved planting stock made available?

Thank you

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