Living with ash dieback – Silviculture systems for Irish ash (Fraxinus excelsior)

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Introduction

- Importance of ash in Ireland
- Ash dieback in Ireland
- Potential mitigative silviculture
- Some considerations
- Some positives?
Importance of ash in Ireland

- Ireland forest area 770,000 ha (11 %)
  - Ash 25,000 ha

Afforestation (1922 – 2017)
Importance of ash in Ireland

- Ireland forest area 770,000 ha (11 %)
  - Ash 25,000 ha
- Most common broadleaf high forest spp.

### Area (ha)

- Private: 19,690
- Public: 5,590

### Age profile of ash (ha)

- 1-10: 4,880
- 11-20: 6,030
- 21-30: 5,500
- 31-40: 2,430
- 41-50: 2,100
- 51+: 4,340
Importance of ash in Ireland

- Ireland forest area 770,000 ha (11 %)
  - Ash 25,000 ha
- Most common broadleaf high forest spp.
- Culturally important
  - Hurling
Importance of ash in Ireland

Tony Grehan – Press 22
Ash dieback

- *Hymenoscyphus fraxineus*
  - Death of trees
  - ≈ 1-3% tolerant

- 2012
- All-Ireland eradication policy
- Wider environment
- 2018 - Change in focus
  - Living with ash dieback
  - “…to ensure that the forest owner is provided with a broader range of silvicultural and management options.”

Minister of State for Agriculture Andrew Doyle
Selection thinning

1 ha
1.5 × 2 m spacing
Racks 14 m
300 PCT ha⁻¹
Crown thinning
Free-growth

Racks 14 m
100 PCTs
Intensive crown thinning
Free-growth

Racks 14 m
100 PCTs
Intensive crown thinning
Systematic thinning 6:2

Racks 16 m
63% replanted

<table>
<thead>
<tr>
<th>Fell 6</th>
<th>Remain 2</th>
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<tbody>
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<td>Replant 5</td>
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Rack 16 m
Systematic thinning
6:2

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Rack 16 m

8th Hardwood Conference 2018, 25-26th October, Sopron, Hungary
Systematic thinning

6:2

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Rack

16 m

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Rack
Systematic thinning

6:2

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Fell 6  Remain 2

Rack 16 m  Rack 16 m  Rack 16 m
Circular coupes

Racks 14 m
150 PCTs ha⁻¹

Circular coupes 20 m dia
0.031 ha
50% area

Replant coupes

Selection thin within remaining stand
Coupe replanted with oak, birch and hazel. Inset: mulching head
Pre-emptive
Pre-emptive
Considerations

- Planting area width
  - Light requirement of spp to be planted
  - Height of adjacent trees
  - Trials required

- Coppice regrowth
  - Control required?
    - Reduce competition for replacement spp
    - Reduce spore loading??
  - Herbicide?
    - Flash-back?
      - Buffer zone?
      - Trials?
  - Manual control
    - Brush cutter?
  - Mulch stumps
Future positives from ash dieback?

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

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