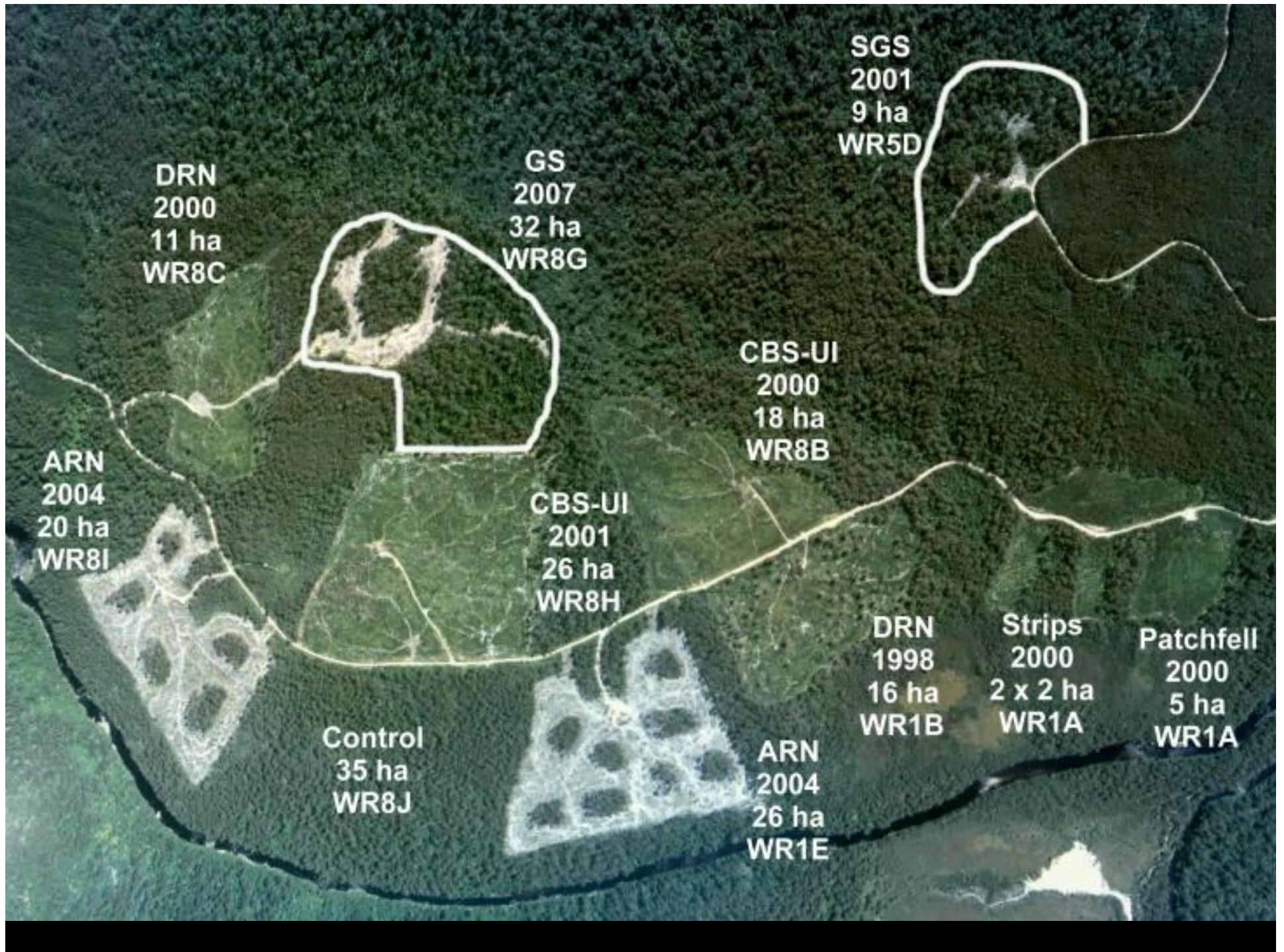


Stocking and early growth of the regeneration in the Warra Silvicultural Systems Trial

Mark Neyland, John Hickey,
Juergen Bauhus, Chris Beadle,
Neil Davidson and Leigh Edwards



Forestry Tasmania



Regeneration success - key factors

Seed

Seedbed

Browsing
management



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Regeneration success - key factors

Seed assessed by:

Sowing rates

Seed traps

Direct observation



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Regeneration success - seed traps



Regeneration success - key factors

Seed

Seedbed

Browsing
management



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Seedbed assessments - unburnt



Seedbed assessments - burnt to litter



Seedbed assessments - burnt to mineral soil



Seedbed assessments - ashbed



Seedbed assessments - undisturbed



Seedbed assessments - disturbed



Seedbed assessments - compacted



Seedbed

| | Undisturbed | Disturbed | Compacted |
|----------------------|-------------|-----------|-----------|
| Unburnt | 1 | 2 | 3 |
| Burnt (litter) | 4 | 5 | n/a |
| Burnt (mineral soil) | | 6 | |
| Ashbed | | 7 | |



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Regeneration success - results - Seed

| <u>Coupe</u> | <u>Silv. System</u> | <u>Relative seedfall</u> |
|--------------|---------------------|--------------------------|
| WR8H | CBS c. UI | Moderate |
| WR8B | CBS c. UI | Moderate |
| WR1A N | Strips | Moderate |
| WR1A L | Strips | Moderate |
| WR1B | DRN | Very heavy |
| WR8C | DRN | Light |
| WR1E | ARN | Moderate |
| WR8I | ARN | Heavy |
| WR5D | SGS | Heavy |
| WR8G | GS | ongoing |



Regeneration success - results - Seedbed

| <u>Coupe</u> | <u>Silv. System</u> | <u>% well burnt seedbed</u> |
|--------------|---------------------|-----------------------------|
| WR8H | CBS c. UI | 41 |
| WR8B | CBS c. UI | 58 |
| WR1A N | Strips | 10 |
| WR1A L | Strips | 26 |
| WR1B | DRN | 14 |
| WR8C | DRN | 45 |
| WR1E | ARN | 22 |
| WR8I | ARN | 23 |
| WR5D | SGS | 0 |
| WR8G | GS | 24 |



Regeneration success - results - Seedbed

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|--------------|---------------------|-----------------------------|
| WR8H | CBS c. UI | 41 |
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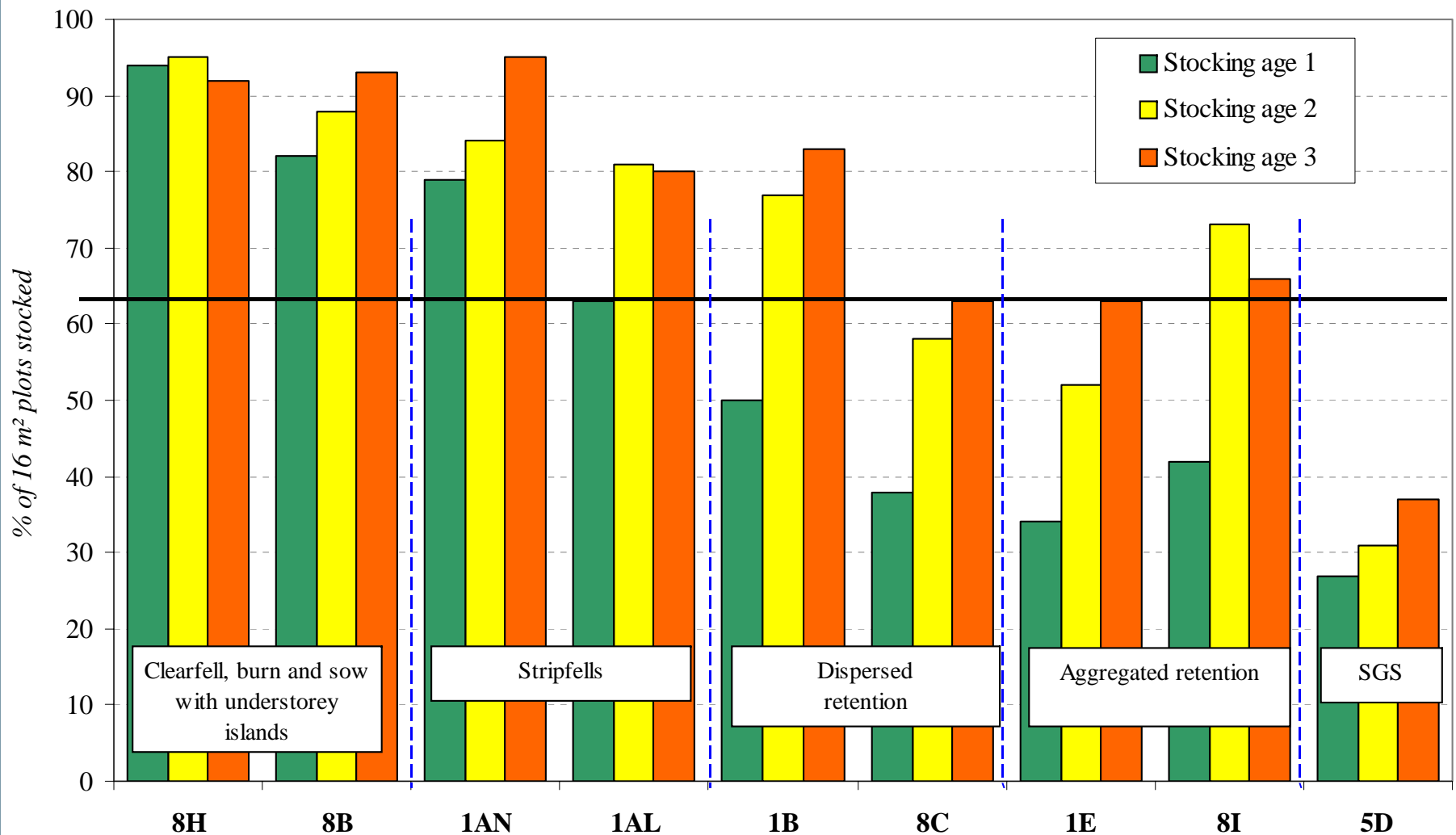


Regeneration success - results - Seedbed

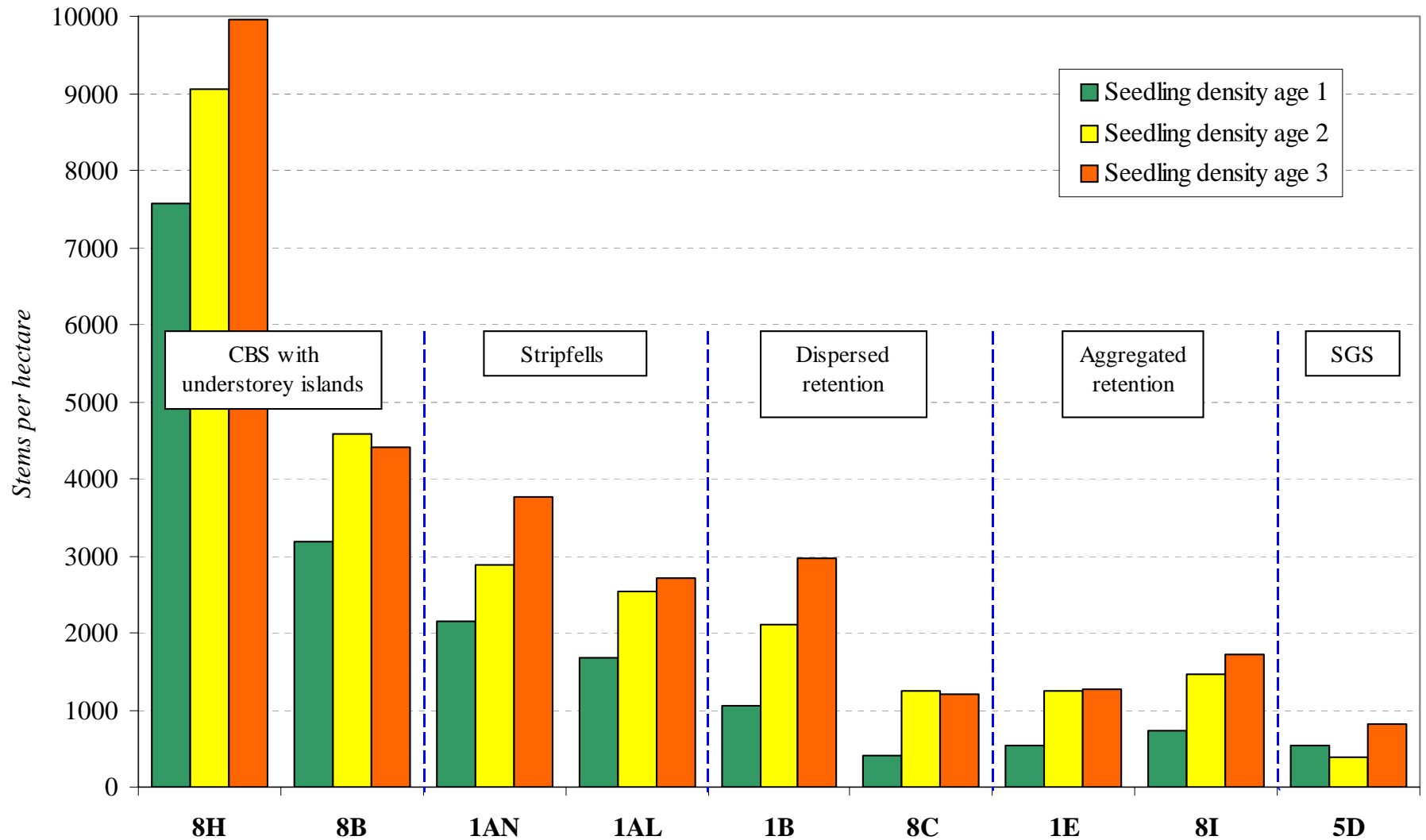
| <u>Coupe</u> | <u>Silv. System</u> | <u>% well burnt seedbed</u> |
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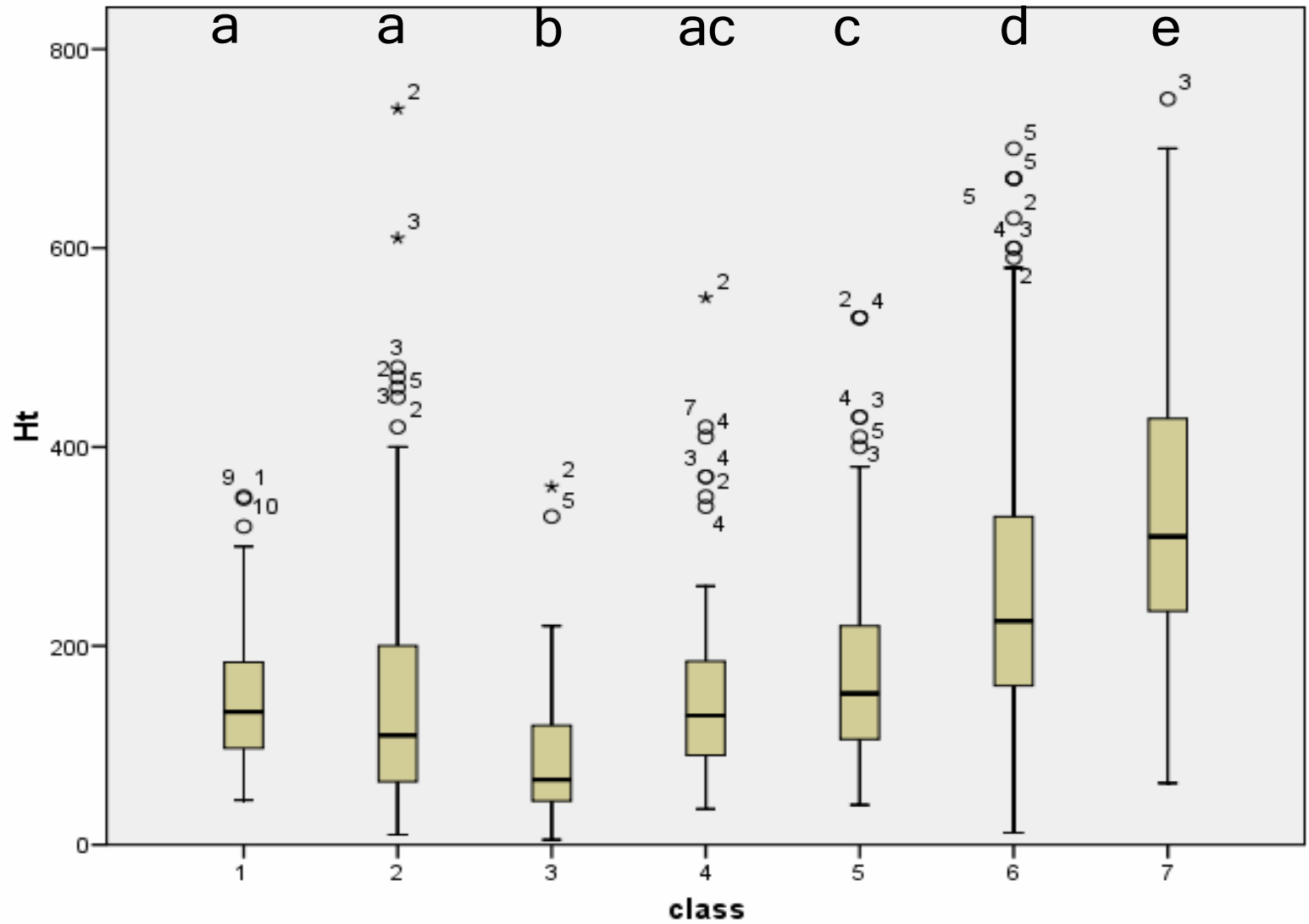
Regeneration success; stocking (% of 16 m² plots stocked) at ages 1, 2 and 3 years



Regeneration success; seedling density (stems per hectare) at ages 1, 2 and 3 years



Results - seedling growth



Implications

Key influence on seedling growth is seedbed,
not silvicultural system

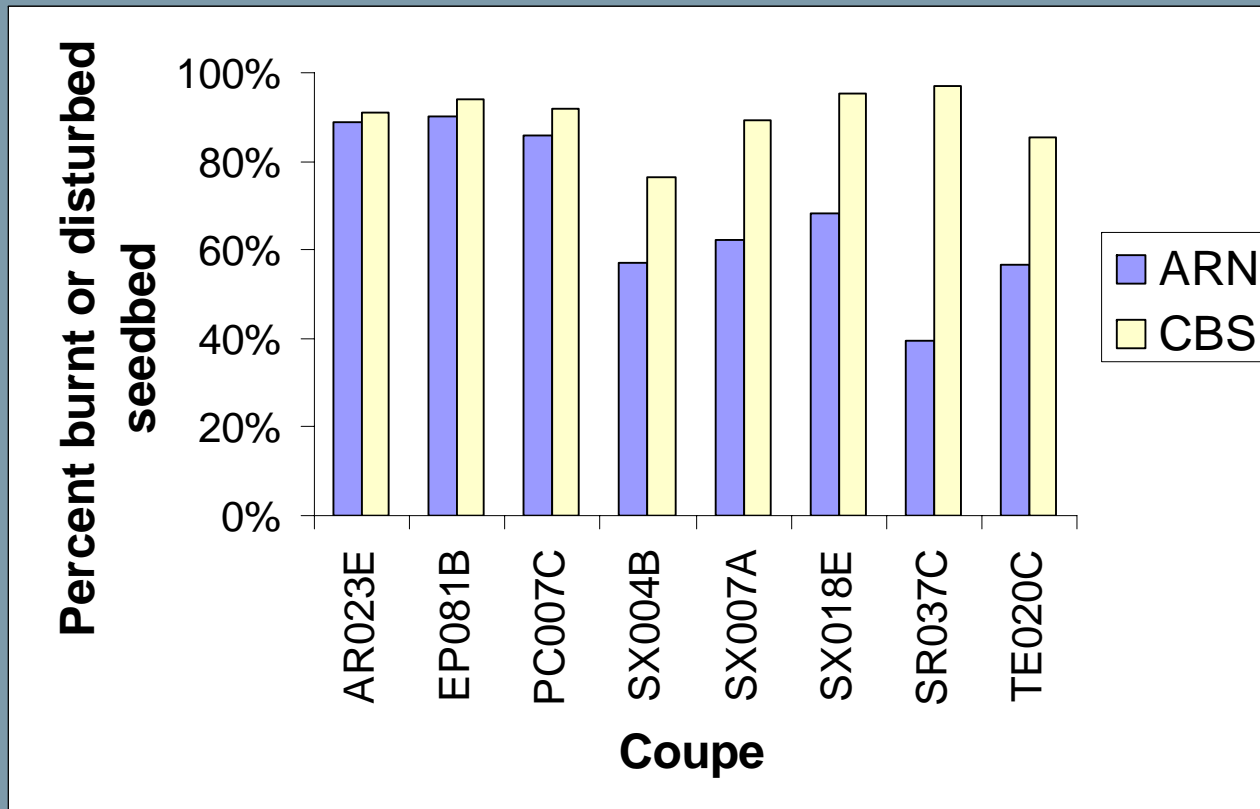
But...

Silvicultural system influences amount of
burnt seedbed



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Seedbed



(Thanks Robyn)



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Key challenges

Consistently successful burning

Browsing management



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Thanks

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