

MEETING REFORESTATION AND RESTORATION CHALLENGES :

GROWING THE TARGET SEEDLING

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INTRODUCTION

- More than 100 years of reforestation in the US
- Federal, State, Tribes, Forest Industries, Private
- Unidirectional flow of plant materials
- Leads to many challenges
 - “Traditional”
 - “Novel”

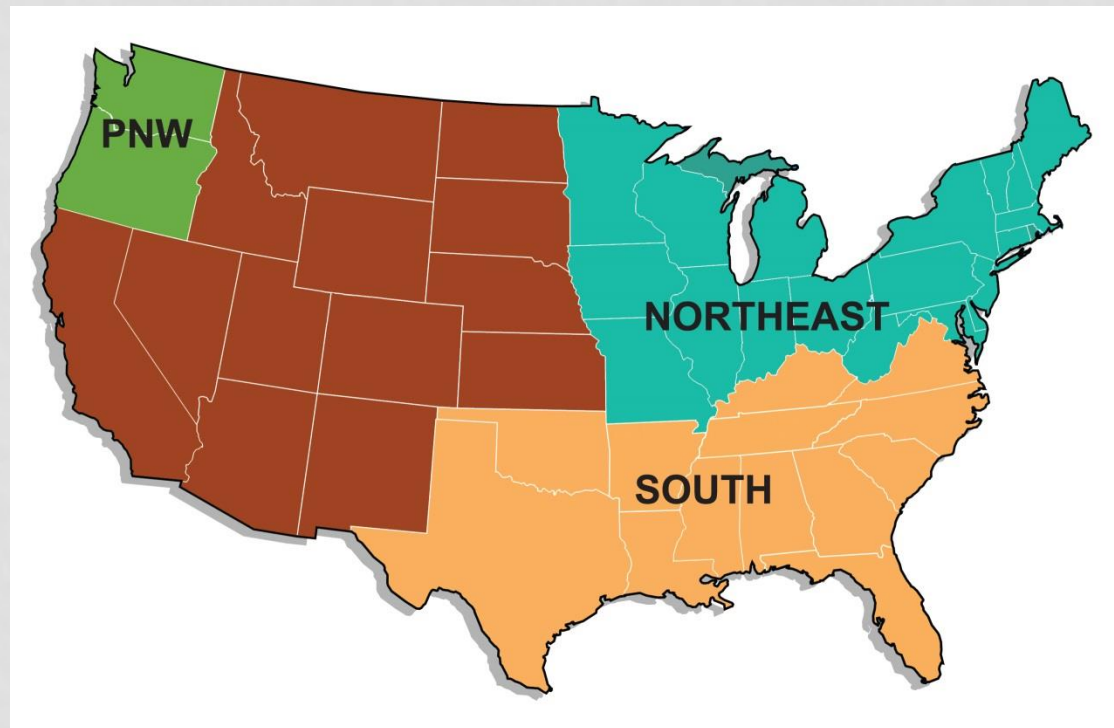


US TOTALS

- 1,180,000,000 (1.18 billion) seedlings
 - 908,000,000 (908 million) bareroot
 - 274,000,000 (274 million) container
- Federal, state, tribal, forest industry, private
 - ~15 nurseries = 750 million seedlings

US TOTALS

- South, Northeast, and Pacific Northwest
 - ~98% of all seedlings
- ~77% bareroot
- ~92% conifer

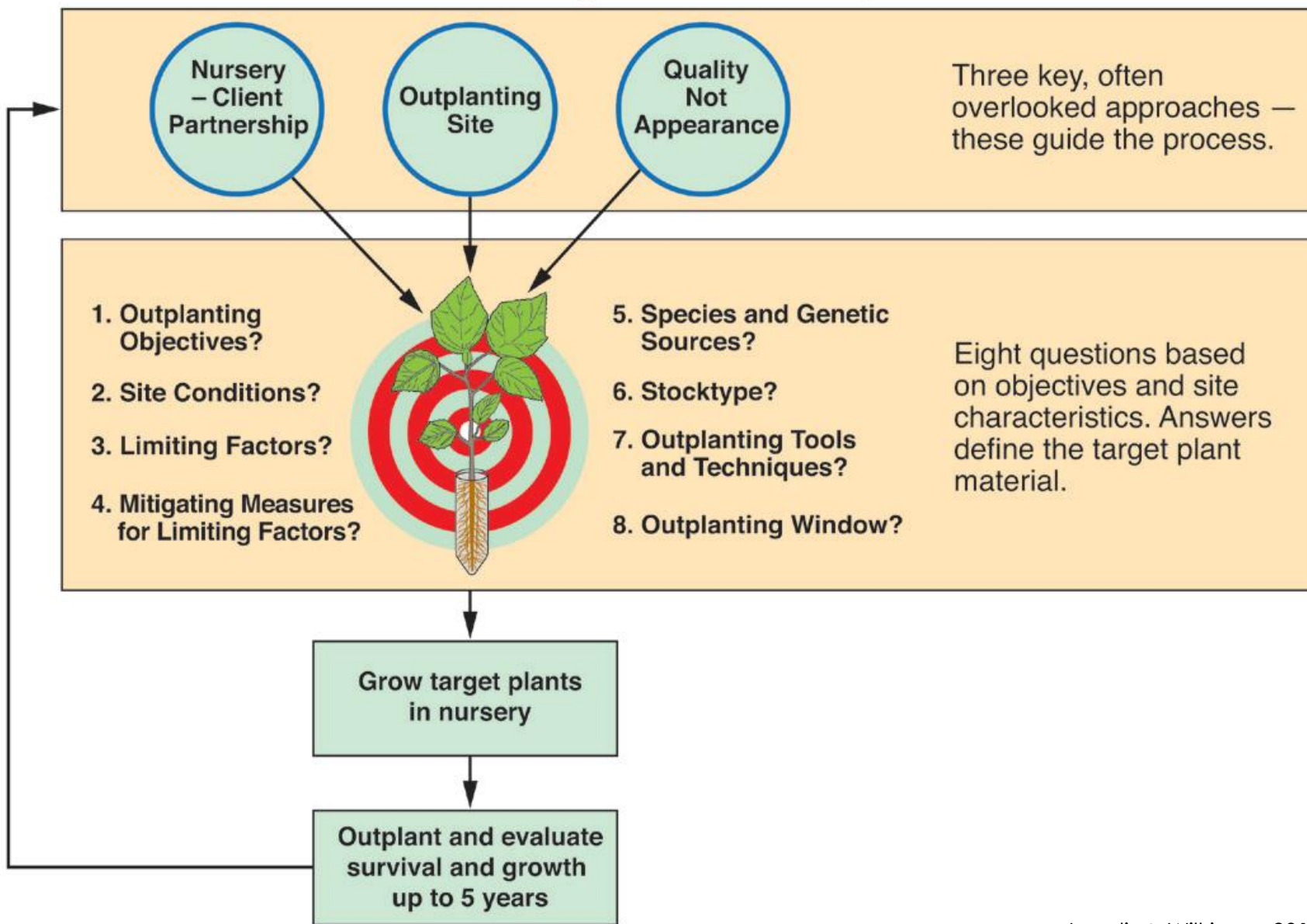


TARGET PLANT CONCEPT

TARGET PLANT CONCEPT

- Not a new idea...
 - 25 years – Target Seedling Symposium
- Novel – not a linear relationship
 - Feedback loop is critical
- Quality more important than appearance

The Target Plant Concept



1. WHAT ARE THE OBJECTIVES?

- Reforestation
- Biodiversity enhancement / endangered species
- Climate change mitigation
- Biofuel production
- Recreation
- Watershed
- Plantation vs. natural



2. SITE CONDITIONS?

- Site history
- Soils
- Current climate / microclimate
- Vegetation
- Accessibility

3. LIMITING FACTORS?

- Vegetation competition
- Soil physical and chemical properties
 - pH, organic matter, contaminants
 - Moisture content
- Climate
 - Frost pocket, wind, aspect
- Site prep (or lack of)
- Browse
- Accessibility
- Cost
- Organization capacity



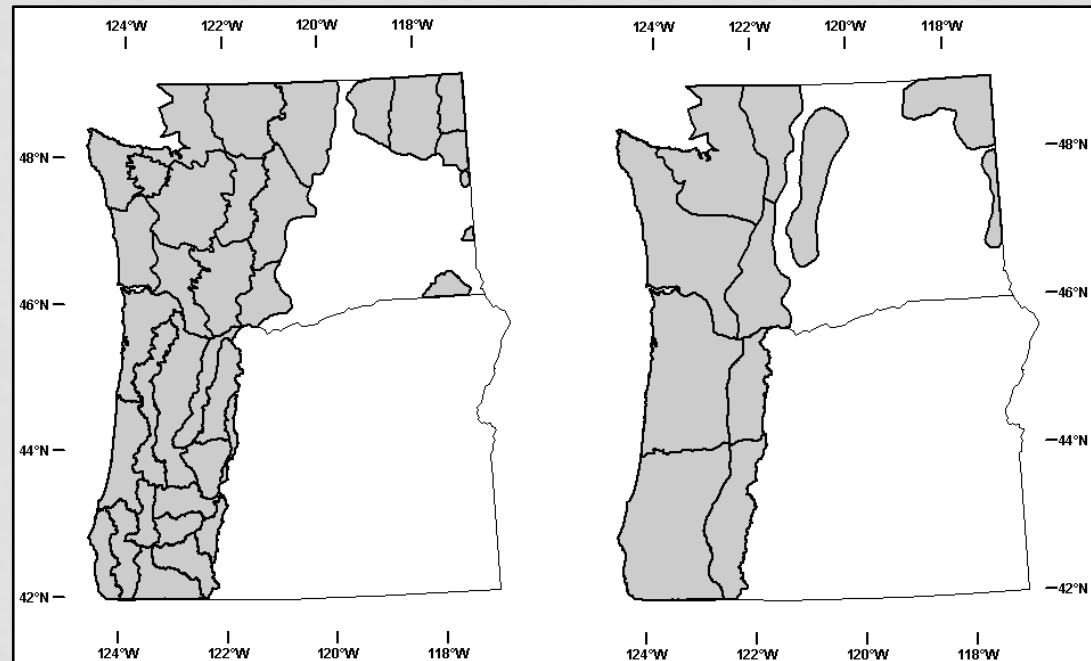
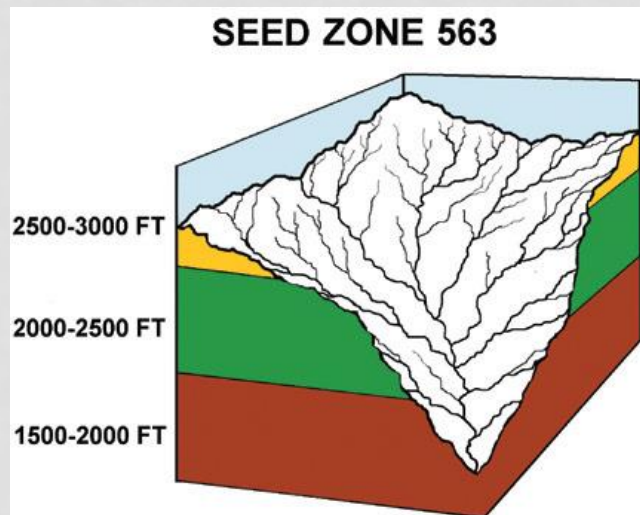
4. MITIGATING LIMITING FACTORS?

- Site preparation
 - Herbicide treatments
 - Scalping / mounding
 - Fertilization
 - Prescribed fire
 - Maceration
- Fencing



5. SPECIES AND GENETICS?

- Native or introduced
- Seed transfer guidelines
 - Lat, Long, Elevation
- Orchard or wild
- Dioecious
 - Especially cuttings



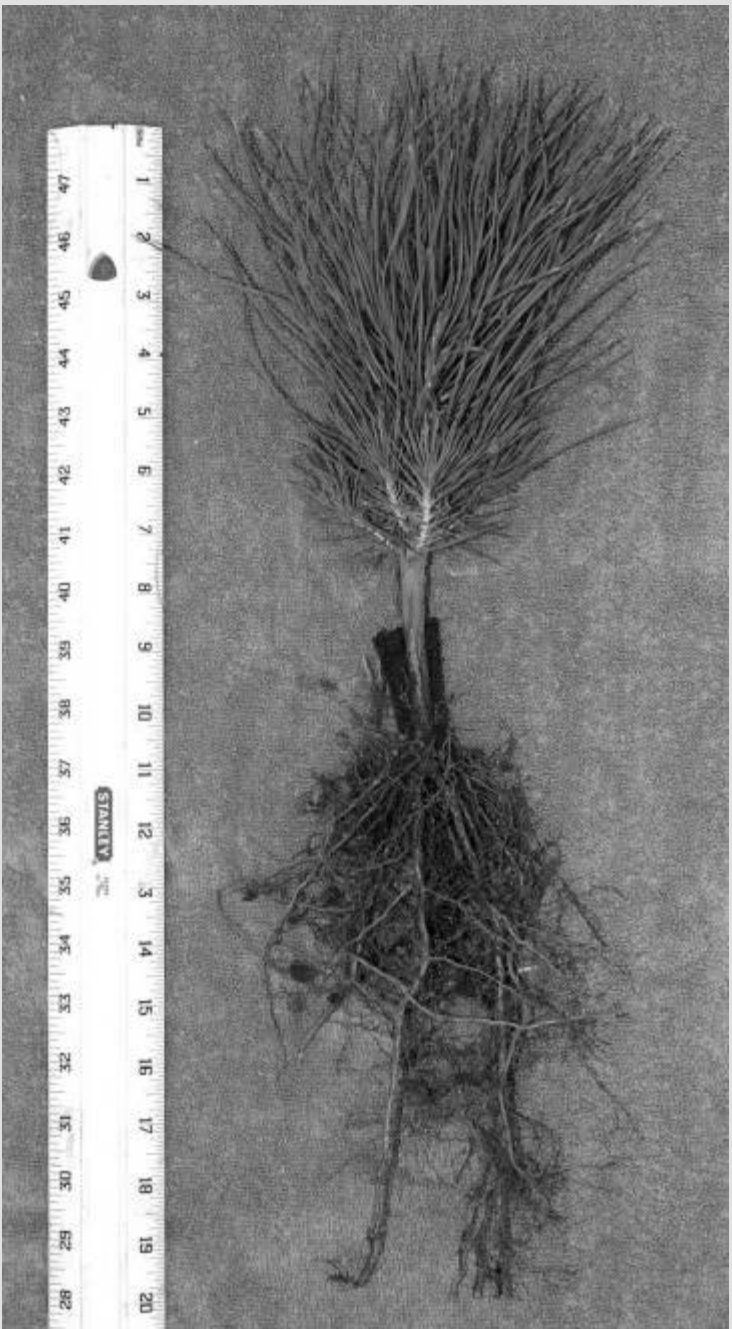
6. STOCKTYPES?

- Seeds
- Bareroot
- Container
- Bareroot—container “hybrids”
- Root stock
- Non-rooting cuttings



CONTAINER





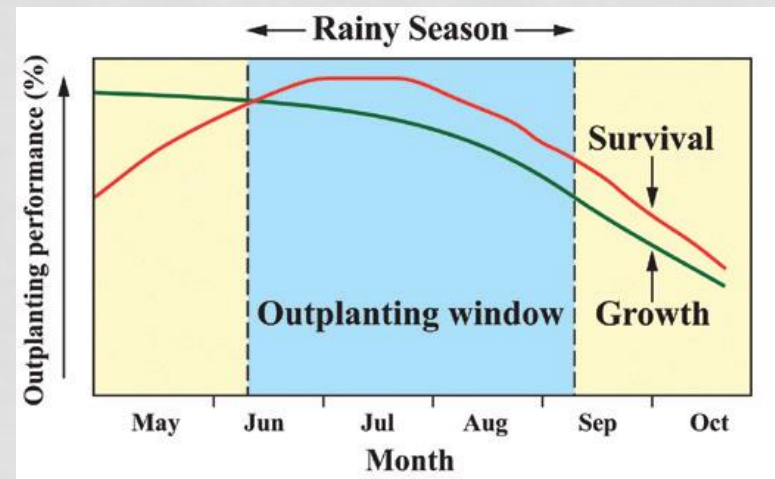
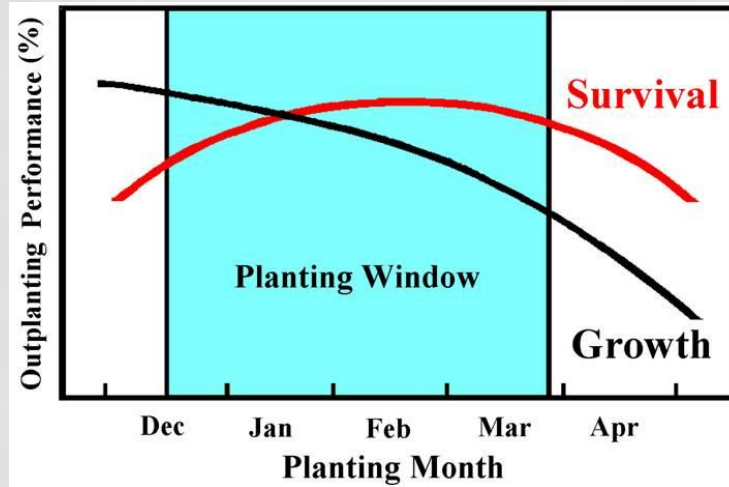
7. TOOLS AND TECHNIQUES

- Hand
- Machine



8. WINDOW?

- Fall
- Spring
- Summer
- Winter



ECOSYSTEM RESTORATION

(TREES AND MORE!)









THANK YOU



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