

# MINI-PLUG TRANSPLANTS

Fernando Rey  
PRT- PELTON  
Seed Use Efficiency  
Langley, July 31 2008

# Mini-Plug Transplants

- Background information
- Mini-plug transplanting process
- Results and Experiences
- Advantages and Disadvantages
- Increasing efficiencies

# Mini-plug Transplants

## ■ Background

### – Seed Upgrading

- Improve cavity fill
- Reduce SPC - Reduce thinning costs
- Reduce manual transplanting (dibbling)
- Single sowing – precision seeding equipment

# Single sow drum



# Mini-plug Transplants

## ■ Background

### – Mini-plug transplants

#### ■ Adapt existing technology to conifers

– Compatible with Styroblock System

– Overcome Mini-plug cohesiveness

■ Conifer seedling root system

■ Fibreneth® - on site block-filling system

# Fibreneth®

Fibreneth + Coir Mix



# A Mini-plug is born!



## ■ Seeding



## ■ Germination





# Single-sown mini plugs



# Gapping

Scanning for blowout



Blowout empties



Scanning for gapping



Gapping



# Mini plug - transplanting



# Mini plug - backfilling



# Mini-plug Transplants

## ■ Results and Experiences

- Medium density – radicle penetration
- Growth rate – height control
  - Light intensity – temperature regime
  - Algae/liverwort control – scanning interference
  - Production phases – time sensitive
- Customers acceptance
- Successful results
  - Spruces, Douglas-Fir, Larch, Hemlock, Red Cedar

# Mini-plug Transplants

## ■ Advantages

- Efficient use of seed – single sowing
- 100 % cavity fill
- Lower thinning costs
- Reduces/eliminates manual transplanting
- Optimizes seeding windows
- Reduces heating costs
  - stocktype related

# Seed Use Efficiency using Mini-plug Transplants in 2008

## ■ Spruce

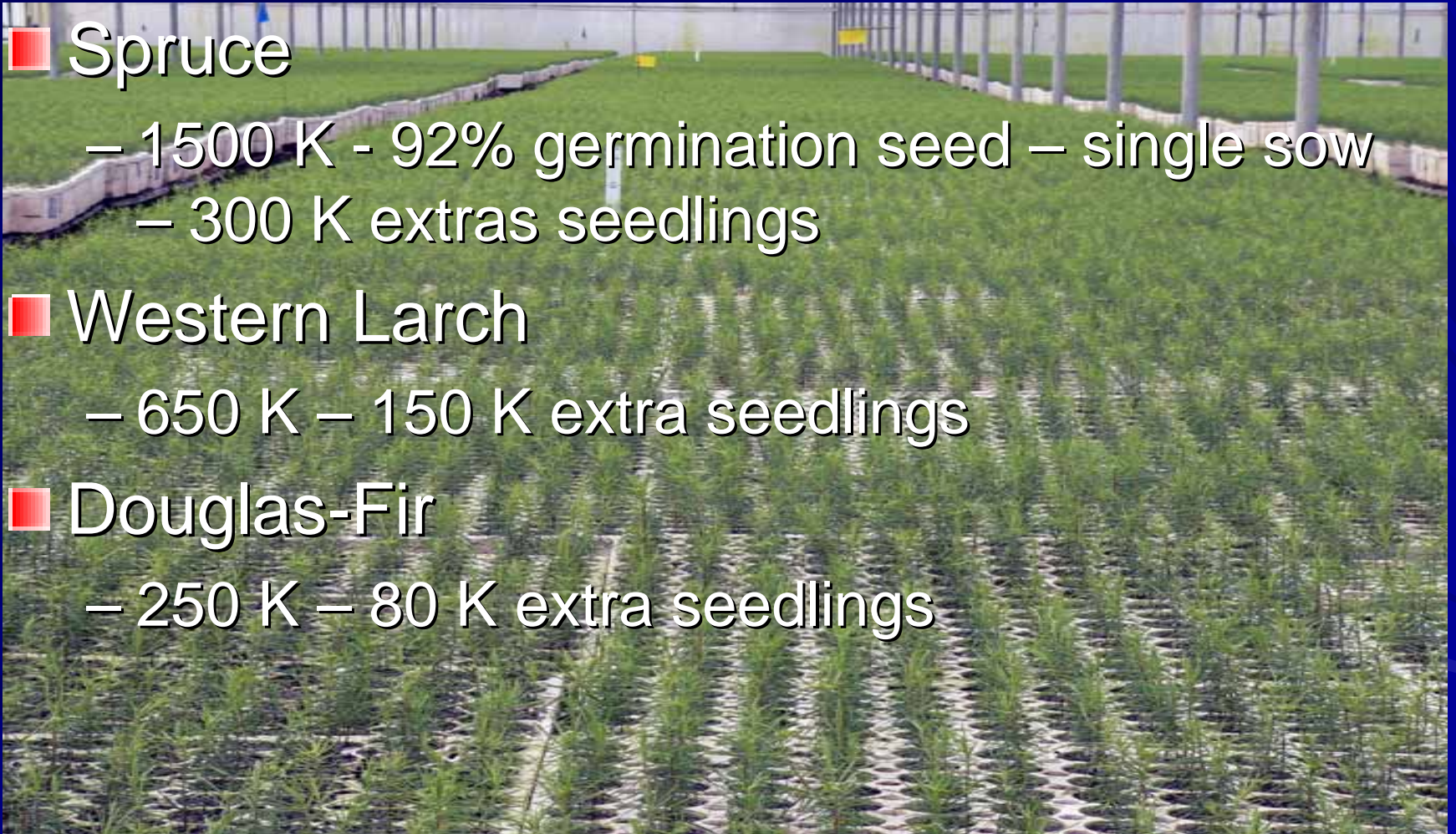
- 1500 K - 92% germination seed – single sow
- 300 K extras seedlings

## ■ Western Larch

- 650 K – 150 K extra seedlings

## ■ Douglas-Fir

- 250 K – 80 K extra seedlings



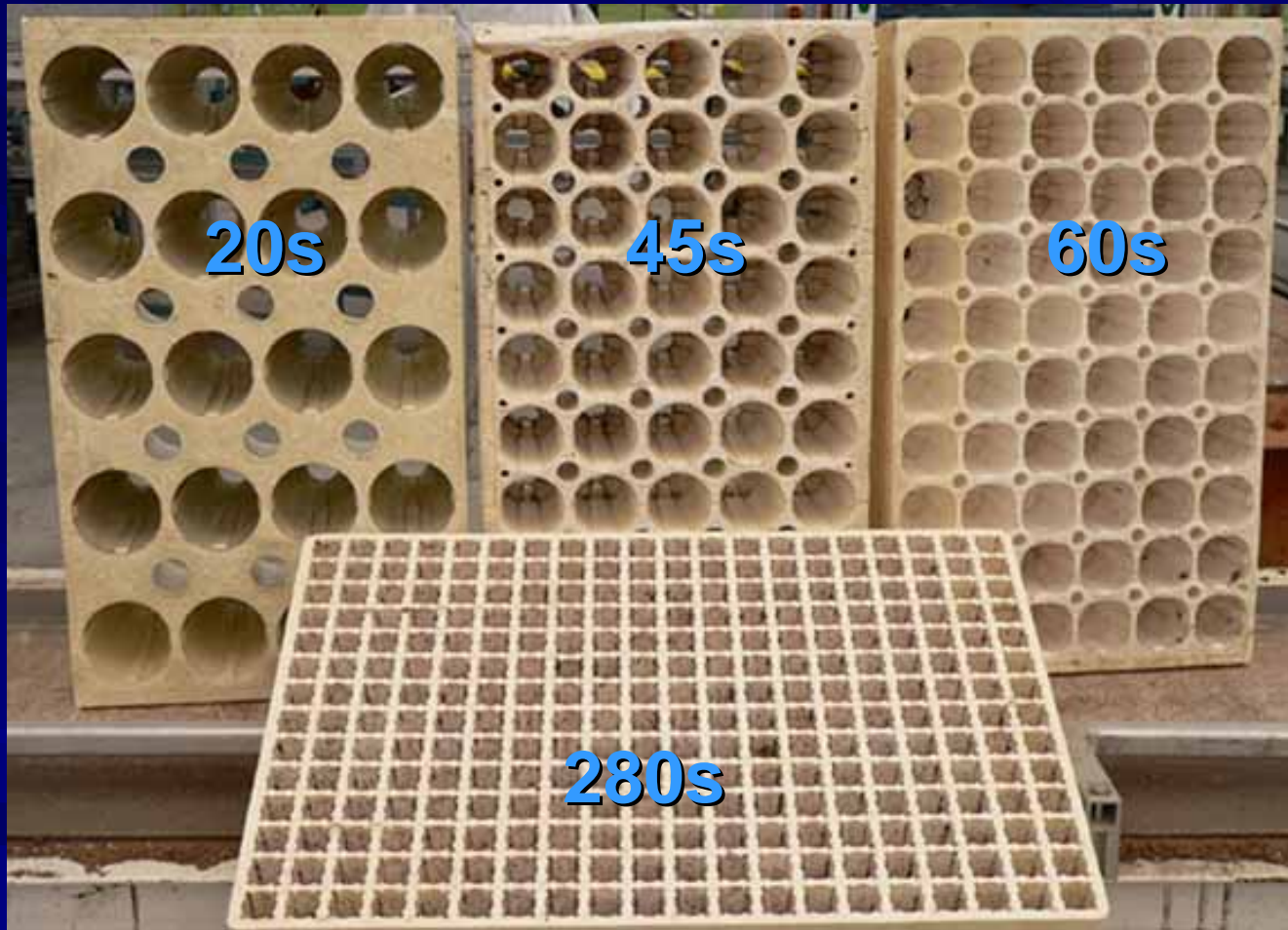
# Mini-plug Transplants

## ■ Disadvantages

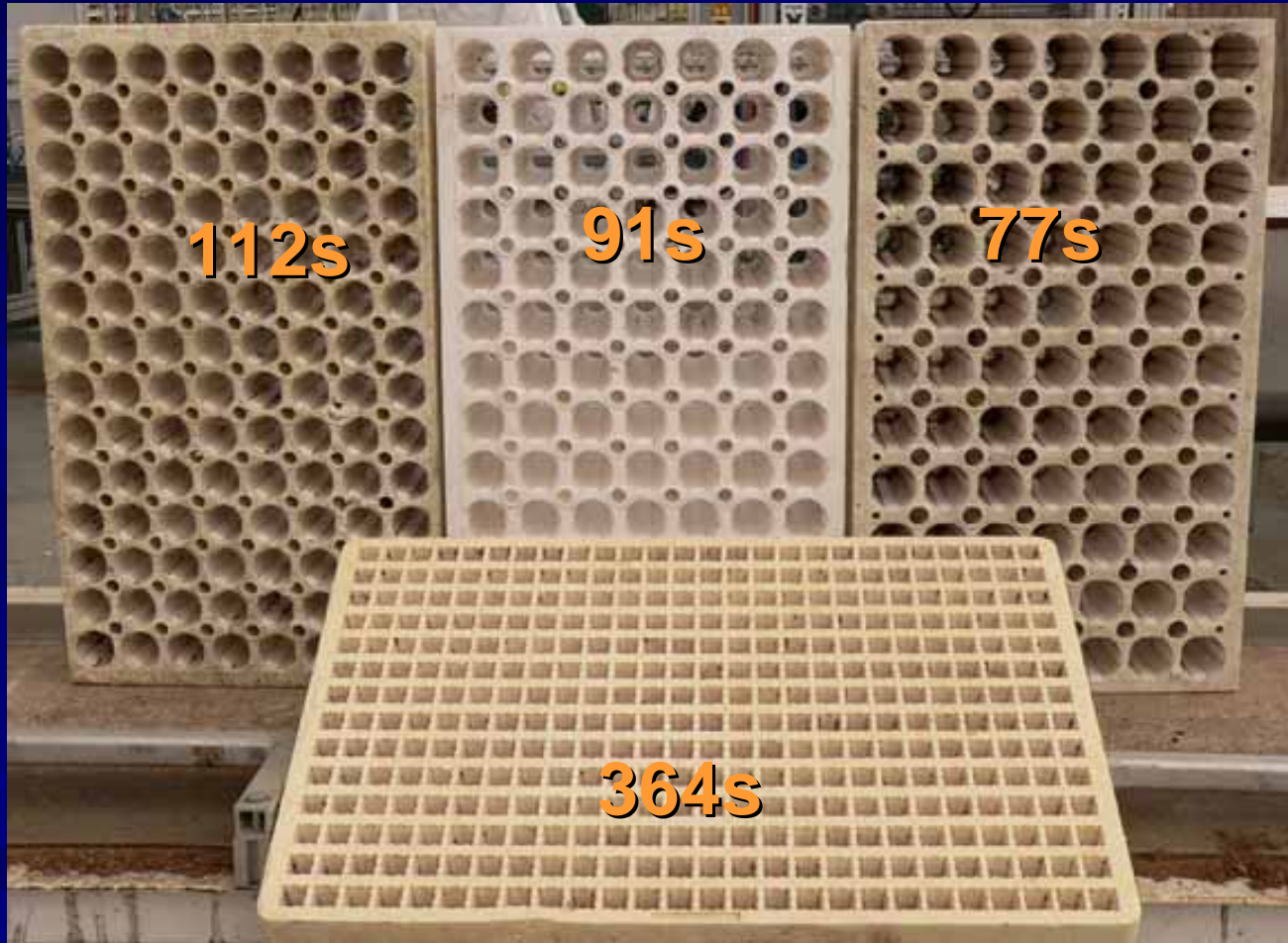
- High capital cost
- Limited capacity – slow process
- Higher production risks
- Requires precise scheduling
- Limited stocktypes



# Stocktypes for 280-Minis



# Stocktypes for 364-Minis



# Mini-plug Transplants

- Increasing efficiencies
  - Optimize seed use – extractable plugs specs.



# Mini-plug Transplants

- Increasing efficiencies
  - Extend sowing window
  - new stocktypes



Let's give every seed a chance!

