Reforestation Basics

• How to Order Seedlings
• Planting Techniques

Mark A. Egbert
CPESC# 6350
El Dorado County RCD
Georgetown Divide RCD
Placerville Field Office
530-295-5630
Mark.Egbert@ca.usda.gov
Reforestation treatment needs have historically been closely associated with regeneration activities.

- Utilize funds collected from timber sales
- Reforestation could be planned and coordinated with:

  harvest activities  
site preparation  
seed acquisition  
sowing and growing to specification  
planting at the appropriate time
Much of this predictability is lost when the principal causal agent creating reforestation needs is a natural disturbance event, particularly those on a catastrophic scale.

Since the location and magnitude of these events cannot be predicted from one year to the next, this dynamic makes the job of planning orderly programs of work to complete reforestation treatments more difficult.
Reforestation work is time-sensitive.

Without timely reforestation efforts, undesirable species can dominate, making establishment of desired tree species difficult.

Once undesirable species become established, decades may pass before sufficient numbers of appropriate tree seedlings occupy the site.
Reforestation work is time-sensitive.

Delays also increase the cost of reforestation work by necessitating expensive site preparation and may adversely affect meeting other resource objectives.
Sequence of Events

• Estimate Seedling Needs and Place Order
• Salvage Logging
• Site Preparation
• Planting
• Post-Planting Competition Control
Ordering Seedlings

www.eldoradocountyrcd.org

530-295-5630
TO PLACE AN ORDER

- Orders are accepted no later than October 1st of each year for Sugar pine, and no later than December 1st for all other species.
- Order by mail using the enclosed Order Form, Fax at 530-295-5635 or by phone at (530) 295-5630.
- 40% deposit required at time of order.
- Cancellations will be accepted up to January 1st of each year.
- Minimum order is 200 trees/species.

SHIPPING AND HANDLING

- Seedlings are available for pick-up or delivery. Prior to May 15th depending on weather conditions.
- Pick-up is available at the USDA Nursery in Placerville, CA, free-of-charge.
- Shipping charge is $30.00/box and $125/bag.
- All UPS/FedEx orders are shipped from the USDA Nursery on Mondays and Tuesdays.

The forests of the Sierra Nevada are some of the most productive tree growing areas in the world. With careful thought and planning, you should be able to grow a healthy stand of trees that achieves your goals as a landowner. Reforestation and restoration projects yield better air and water quality, enhanced wildlife habitat, greater biodiversity and ecosystem sustainability, healthier forests, reduced soil erosion, and increased timber production.

A number of private tree nurseries can supply seedlings grown from parent trees native to the same elevation and geographical zone as your property (known as seed zones). Planting seedlings from the appropriate seed zone will ensure that they will tolerate the climate and soil type where you are.

All seedlings grown at the USFS Placerville Nursery are grown to USFS Region 5 specifications and shall meet phytosanitary certification regulations pertaining to shipments of trees.

<table>
<thead>
<tr>
<th>Species</th>
<th>Top Height</th>
<th>Tolerance</th>
<th>Diameter</th>
<th>Tolerance</th>
<th>Root Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>10 cm</td>
<td>-3 cm</td>
<td>3 mm</td>
<td>-0.5 mm</td>
<td>20.5 to 26 cm max.</td>
</tr>
<tr>
<td></td>
<td>+6 cm</td>
<td>+ 4 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Enabling Legislation
Division 9 of the PRC§409 allows for the District to make improvements or conduct operations on public lands, with the cooperation of the agency administering and having jurisdiction thereof, and on private lands, with the consent of the owners thereof, in furtherance of the prevention or control of soil erosion, water conservation and distribution, agricultural enhancement, and erosion stabilization, including, but not limited to, terraces, ditches, levees, and dams or other structures and the planting of trees, shrubs, grasses, or other vegetation.

FOR QUESTIONS
OR TO ORDER SEEDLINGS, CONTACT:
Resource Conservation District
(530) 295-5630
100 Form Road, Suite A
## SEEDLING ORDER FORM

**RESOURCE CONSERVATION DISTRICT - EL DORADO COUNTY**

<table>
<thead>
<tr>
<th>Order #</th>
<th>Use</th>
<th>Cost-Share Program?</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**Seed Zone:** PLANTING SITE

**Nearest Town:**

**County:**

**Elevation:**

**Customer Name and Billing Address:**

**Shipments:**

**Customer Phone:**

**Email:**

**Payment Info:**

### Bare Root and Plug Seedling Price List - Effective 3/2017

Price per 1000 Seedlings:

- 1 year plug seedlings (1P): $444
  - Douglas fir (DF)
  - Sugar pine (SP)
  - White fir (WF)
  - Ponderosa pine (PP)
  - Jeffrey pine (JP)
  - Incense cedar (IC)
  - Sierra redwood (SR)

- 1 year bare root seedlings (1B): $375
  - Douglas fir (DF)
  - White fir (WF)
  - Ponderosa pine (PP)
  - Jeffrey pine (JP)
  - Incense cedar (IC)
  - Sierra redwood (SR)

**Special Order**

For any species, deeper plug container stock is available. Notes: Plug seedlings are grown one year in Styrofoam block. Prices do not include shipping costs. See order form.

**Technological Assistance**

Landowners may receive planning assistance for tree planting projects from the NRCS &/or RCD by contacting your local RCD office that serves your county.

<table>
<thead>
<tr>
<th>Lot#</th>
<th>Seed Source (RCD USE)</th>
<th>Stock Type</th>
<th>Quantity</th>
<th>Seeding Cost (Unit)</th>
<th>Seeding Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sales Tax Exemption? Attach documentation.

Subtotal: _____

Sales Tax: _____

Shipping Cost: _____

Total Cost: _____

40% Deposit: _____

Date Deposit Received: _____

Balance: _____

Date Balance Received: _____

Signature: [Signature]

Date: [Date]

**Species Codes:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douglas fir</td>
<td>DF</td>
</tr>
<tr>
<td>Sugar pine</td>
<td>SP</td>
</tr>
<tr>
<td>White fir</td>
<td>WF</td>
</tr>
<tr>
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<td>SR</td>
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</table>

**Stock Codes:**

<table>
<thead>
<tr>
<th>Stock Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>One year plugs</td>
<td>1P</td>
</tr>
<tr>
<td>One year bare root</td>
<td>1B</td>
</tr>
<tr>
<td>Special order</td>
<td>SO (consult with RCD)</td>
</tr>
</tbody>
</table>

El Dorado County Resource Conservation District

100 Form Road, Suite A

Placerville, CA 95667

(phone) 530-295-5633

Mark.Egbert@ca.uida.gov

El Dorado County Resource Conservation District

[Resource Conservation District Logo]
Planting Techniques
Planting Seasons

I Sierra Nevada, high elevation and east side: early April to late May as soon as snow melts.

II Sierra Nevada, low elevation: late December to mid-March.

III Interior coast: January to late March; may extend into May at higher elevations.

IV North and central coast: mid-December to mid-March.

V Southern California: early January to early March.

VI Other areas: early January to early March.

Figure 12. Best planting seasons for different areas of California.
Planting Techniques

Three main conditions determine the best planting time:

- Growth stage of the seedling
- Soil temperature
- Amount of soil moisture at depth of > 1 foot.

Other conditions:

- South & West facing slopes dry out quicker
- High elevation may be affected by late snow fall
- Dry winds and heat
Common Planting Problems

1. Too Deep
   needles buried
   hole okay
   tree position poor

2. Too Shallow
   roots exposed
   hole too shallow

3. Air Pocket
   from improper
   tamping

4. 'L' Roots
   hole shallow

5. 'J' Roots
   roots often exposed
   to air

6. Compacted Roots
   hole too narrow
   not properly
   opened

7. Not Vertical
   shallow planting
   caused by improper
   digging of hole

8. Too Loose
   improper
   tamping after
   planting

9. Poor Planting Soil
   planting in rotten wood,
   deep duff or debris,
   not damp mineral soil

10. Satisfactorily
    Planted Tree

Figure 18. Steps in tree planting, using the western planting tool.
### Table 3. Number of Trees Required for Different Spacings

<table>
<thead>
<tr>
<th>Spacing in feet</th>
<th>Number of trees/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 4</td>
<td>2,722</td>
</tr>
<tr>
<td>5 x 5</td>
<td>1,700</td>
</tr>
<tr>
<td>6 x 6</td>
<td>1,210</td>
</tr>
<tr>
<td>6 x 8</td>
<td>908</td>
</tr>
<tr>
<td>6 x 12</td>
<td>605</td>
</tr>
<tr>
<td>8 x 8</td>
<td>681</td>
</tr>
<tr>
<td>8 x 10</td>
<td>544</td>
</tr>
<tr>
<td>8 x 12</td>
<td>454</td>
</tr>
<tr>
<td>10 x 10</td>
<td>438</td>
</tr>
<tr>
<td>12 x 12</td>
<td>303</td>
</tr>
<tr>
<td>14 x 14</td>
<td>222</td>
</tr>
<tr>
<td>16 x 16</td>
<td>170</td>
</tr>
</tbody>
</table>
Figure 10. Break the uniform spacing to take advantage of shade or other good planting spots.
70 clusters per acre with 3 trees per cluster

Maximum 210 TPA

Graphic courtesy of Ryan Tompkins, Silviculturist, Plumas National Forest
Get help!

USDA – NRCS

CALFIRE

RCD

Private Registered Professional Forester
Thank You

www.eldoradorcd.org

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