

**STATEMENT OF WORK**  
**CONTAINER SEEDLING PRODUCTION**  
**12048923Q0002**

1.0 **GENERAL** - The Contractor shall produce one-year-old (1+0) greenhouse- grown containerized seedlings as listed in Section B (Schedule of Items) in compliance with the terms, specifications, conditions, and clauses contained herein.

2.0 **DEFINITIONS**

Additional Seedlings - Seedlings produced in excess of quantities requested in Tree Seedling Schedule.

Breeding Zone - A basic physiographic unit within which environmental factors (elevation, climate, soils, topography, and vegetation) are considered uniform to the extent that seed movement for a given species can occur with little risk of mal-adaptation.

DF - Douglas-fir

GF – Grand fir

IC – Incense cedar

Minor Species – Species such as cedars, spruce, Hemlock, true firs, sugar pine, and white pine.

NF – Noble fir

Overruns – Seedlings produced by the Contractor which are in excess of the amounts requested by the Government on the Tree Seedling Schedule at time of contract award.

PP - Ponderosa pine

SP – Sugar pine

Surplus Seedlings - Seedlings in excess of quantities ordered for delivery, up to the number requested in the Purchase Order.

T. – Tested Material.

Tree Seedling Schedule – Form used to request the number of seedlings to be grown and provide seed test information.

WH – Western Hemlock

WRC – Western Red Cedar

WWP – Western white pine

### 3.0 **CONTRACTOR-FURNISHED PROPERTY AND SERVICES**

3.1 The Contractor shall provide all necessary records, tools, equipment, labor, materials, laboratory tests, and perform accepted horticultural practices currently in use in the seedling nursery industry necessary to produce high-quality seedlings, including watering, protective fencing, weeding and fertilizing the seedlings, and the application of herbicides, fungicides, and insecticides, to control and prevent weeds, pathogens, rodents and insects as meet standards of Oregon Department of Agriculture.

#### 3.2 Seedling Conditioning (Container Items) -

Final shipping dates requested will be determined within the Purchase Order. To meet specific delivery dates, and desired caliper size and stem lignification for seedlings requested for fall planting, seedlings shall be induced to set bud early for seedlings scheduled for fall plant. This may be achieved thru industry standard practices such as the use of “black-out” cloth to shorten photoperiod, or the use of moderate moisture stress, fertilizer changes and/or exposure ambient air temperatures.

3.3 Fertilizer Incorporation (Container Items) – If slow-release fertilizer incorporation is utilized, rooting medium shall be constantly monitored for salinity. Immediate corrective action to prevent root damage must be taken if salinity thresholds are exceeded

3.4 Delivery - The anticipated delivery date (fall planting), and delivery point to which seedlings must be delivered will be specified in each order placed. Costs per loaded mile listed on the Contractor’s cost proposal will be applied to each load or partial load requested for shipping by the Vendor. All seedlings shall be delivered via enclosed, refrigerated trailers capable of maintaining temperatures of 40 degrees Fahrenheit (F) for fall planted seedlings, and 33 - 35 degrees F for seedlings ordered for winter delivery and spring planting.

### 4.0 **SUPPLY OF SEED**

4.1 Government Furnished Seed - The Government will provide seed for MOST Items included in a Purchase Order at no cost to the Contractor except as indicated in Section B and Attachment A. Upon award of each Purchase Order, the Government will issue seed to the Contractor in quantities adequate to meet the requirements of the Purchase Order.

4.1.1 Non-Stratified Seed for orders - On most Purchase Orders, the Government will provide non-stratified seed to the Contractor. Each order placed will list the seed lot characteristics (germination %, purity value, and seeds per pound) for seed available from the Government. Contractor will determine the amount of seed needed based on the information provided. The Government’s maximum amount of seed to be furnished is determined by the process listed in 13.2.

4.2 Contractor Furnished Seed – As indicated in Section B and Attachment B, Contractor will provide seed at the quantity needed for seedlings requested using the formula in 14.3. Contractor will purchase seed as the agent for the Government. Any excess seed purchased will be turned over to the Government within 10 calendar days of stratification. Seed must be approved by COR prior to purchase. Seed must meet specifications in Attachment B.

## 5.0 **SEEDLING LOT IDENTIFICATION AND RECORDATION**

5.1 Seed Lot Identification - Seed lot identity must be maintained through the stratification treatment, sowing, all stages of seedling growth, lifting and shipping stages. The standard Forest Service (FS) seed lot codes and district name shown on the individual Purchase Order shall be included in the identification.

5.2 Inventories and Records - Provide the Government with inventories of stock on hand in accordance with the following specifications and schedule:

5.2.1 The inventory sample size shall be large enough to provide for a  $\pm 10$  percent standard error with a 95% confidence level.

5.2.2 Inventories shall include the following information:

- a) Contract number and order number
- b) FS seed lot identification
- c) Nursery seed lot identification
- d) Number ordered (M seedlings) by lot
- e) Number of containers sown by lot
- f) Gross and net seedlings per lot
- g) Mean height (inches) \*
- h) Mean caliper (MM) \*

\* Items to be included with the final inventory due on October 15.

5.2.3 1+0 Containerized Seedling Inventory Schedule:

- a) Current inventory by June 15 of the calendar year in which sowing occurs, of live healthy seedlings (gross inventory) and those projected to meet contract specifications (projected net inventory).
- b) Current and complete inventory by September 15 of the calendar year in which sowing occurs, of projected shippable seedlings meeting contract specifications.

5.3 Records - The Contractor shall maintain and provide to the Government, upon request, a current record by dates, listing cultural work undertaken for this contract. Such records shall include date of seed stratification, sowing amounts, and dates of fertilization, fungicide treatments, herbicide treatments, root culturing, watering schedule, moisture stress measurements, electrical conductivity (EC) tests, and lifting dates.

5.4 Sowing Table/Bed Identification - Contractor shall identify each table/bed or portion of a table/bed of seedlings with a bed marker using the correct FS seed source code from labels on seed lots delivered by the Government, or a nursery identification number referenced to the FS seed lot code.

## 6.0 **SEEDLING SPECIFICATIONS**

### 6.1 **Container Seedling Specifications**

6.1.1 Roots - The roots should form a cohesive plug when extracted. The root mass and soil media shall remain intact when pulled out of the cavity and remain intact during normal handling associated with sorting and packaging operations. The seedling must be capable of being withdrawn from the container without being damaged.

6.1.2 Stem and Lateral Branches - Seedlings shall be of good quality as evidenced by dark green color, firm- dark brown buds, absences of root, stem or top deformity, mechanical damage, disease, mold, insect or animal damage, and absences of chlorotic or short abnormal “bottlebrush” needles. All gradable (seedlings meeting specifications) and shippable seedlings shall have the top capable of maximum photosynthesis. All defects lessening the vigor and predictability of a tree to survive and grow shall be classed as a cull.

6.1.3 Seedling Specifications – Special Containerized Seedling Specifications

Species	Container Type	Top Height (inches)	Minimum Caliper (mm)
Douglas-fir	Styro 7.9 - 91/130 or 415c*	4 to 10	3
Incense or Western red cedar	Styro 7.9 - 91/130 or 415c*	3 to 10	3

\*Seedling does not have to be grown in styro blocks—paper wrapped and/or plastic is acceptable, but sizing should be comparable.

6.2 **Seedling Measurement Standards**

6.2.1 Height will be measured from the cotyledon scar to the tip of the terminal bud to the nearest inch.

6.2.2 Stem caliper will be measured at a point 2.0 mm below the cotyledon scar. Stem will be measured where the stem is round. No measurement will be taken at an interval swelling.

7.0 **LIFTING, PACKAGING AND MARKING**

7.1 **Container Seedlings**

7.1.1 Seedlings shall not be packed until conditioned for storage based on accumulation of chilling hours and hardness testing.

7.1.2 Seedlings shall be fully watered and treated with a fungicide to prevent storage molding. This should occur a maximum of five days before packaging.

7.1.3 Seedlings shall be pulled from containers for packaging and wrapped with plastic in bundles of 4 to 10 seedlings each.

7.1.4 No more than 500 seedlings shall be packed in any one box. COR may require less seedlings to be packed per box depending on box size and final average seedling size.

7.1.5 All seedlings shall be packaged in boxes meeting the specifications shown below:

Specifications - Fiberboard Boxes

Style: Full overlap top and bottom, without hand holes. If hand holes are present, boxes must be

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lined with plastic bags or other suitable material to prevent moisture loss or drying while in cold or freezer storage.

Joint: Stitched, glued, or stapled joints are acceptable.

Size: Maximum of 16" in height so that boxes are storable on existing Forest Service racks.

7.1.6 All containers shall be labeled on one or more sides or ends. The label shall contain the number of seedlings per container, seed lot number, species, elevation band, date packed, and nursery name. The species and elevation band shall be large font and at the top of the label. Containers shall be closed in a secure manner by banding, taping or stapling. Self-locking and/or folding tops are permissible.

### 7.3 **Storage of Container Seedlings**

7.3.1 Packed seedlings must be placed promptly into cold storage facilities and inside box /bag temperature maintained at 33-35 degrees F. Trees shall be kept at a temperature of 33-35 degrees F and 80 percent or higher relative humidity throughout the storage period.

7.3.2 Boxes shall be arranged in such a manner as to prevent crushing, smothering, heating, or other physical damage.

7.3.3 Provide cold/freezer storage for a maximum of seven days after packaging containerized trees.

7.3.4 Extended cold storage at the nursery beyond the maximum timeframe listed in 7.3.3 may be charged according to the price listed in Section B Item 3.

7.3.5 The Government will notify the Contractor at least seven days prior to the planned date of pickup or delivery. This order may be made by telephone or in writing. The seven-day delivery date requirement will begin at the time of the order. The order will specify, by lot, seedling quantities, and the date seedlings are to be delivered or picked up.

7.3.6

## 8.0 **ACCEPTANCE**

8.1 Acceptance by the Contracting Officer's Representative (COR) of workmanship and individual seedlings shall be final.

8.2 Acceptance of work will be determined by the Contractor's compliance with terms, specifications, and workmanship required by this contract as observed by COR and determined by an inspection or test made at the nursery site, except as herein provided below.

8.3 Upon receipt of written notice from the COR that seedlings delivered do not meet contract standards and specifications, the Contractor shall within five days regrade any seedling lots found to be defective. The Contractor shall pay all costs involved, including labor and shipping.

8.4 If the Contractor fails or refuses to correct defective seedlings within five days or a longer period as the COR may designate the Government will reject the seedlings or accept them in accordance with FAR clause 52.212-4(a) at an equitably reduced price.

## 9.0 MEASUREMENT AND PAYMENT

9.1 Measurement for payment will be made on the number of thousand acceptable seedlings in accordance with Clause 6.0. Payments will be made for the actual quantity requested or delivered up to the quantities shown in the Purchase Order. If the number of live seedlings meeting acceptable specifications is less than identified in Section B, the Contractor shall reimburse the Government for the overpayment. See paragraph 10.0 for payment of additional seedlings.

### 9.2 Payment

9.2.1 After seed is stratified, sown, and germination is complete and the majority of seedlings have reached one inch in height, the Contractor may submit an inventory and invoice for partial payment in the amount of 25% of the unit price. If purchased, contractor may include seed costs in this invoice.

9.2.2 Upon receipt and acceptance of the inventory of live healthy seedlings and the invoice, the COR will initiate a partial payment in the amount of 25% of the unit price times the actual number of live healthy seedlings in the inventory, not to exceed the quantities stated in the Purchase Order.

9.2.3 Upon receipt and acceptance of the June 3<sup>rd</sup> annual inventory (after thinning, if necessary) the COR will initiate a second partial payment in the amount of 50% of the unit price times the actual number of live healthy seedlings in the inventory, up to the quantity listed in the Purchase Order, less payment 1.

9.2.4 Upon receipt and acceptance of the October 1 annual inventory of shippable seedlings meeting contract specifications, the COR will initiate a third partial payment in the amount of 75% of the unit price times the actual number of live, healthy seedlings in the inventory, up to the quantity listed in the Purchase Order, less the amount of payments 1 and 2.

9.2.5 When all seedlings have been picked up by the Government and/or delivered by the Contractor, final payment will be made for actual number of seedlings accepted up to the quantity listed in the Purchase Order, less payments 1, 2, and 3. Contractor shall include shipping and cold storage costs in this invoice.

9.2.6 If the final payment for total acceptable live seedlings is less than the combined total of partial payments 1, 2, and 3, the Contractor will reimburse the Government for any overpayment.

## 10.0 SURPLUS SEEDLINGS

10.1 If the contractor produces seedlings in excess of the quantities specified, then the contractor will offer the excess seedlings to the Government. The Government will have the first opportunity to purchase all additional seedlings at the contract price. The Government will request the additional seedlings by October 1.

10.2 If not requested by this date, the Contractor may retain or sell additional seedlings, without compensation to the Government.

10.3 Seedlings produced in excess of the quantities requested by the Government in the Purchase Order, (i.e., overruns in requested production) which are not sold will be disposed of at the Contractor's expense or may be sold by the Contractor without further compensation to the Government.

## 11.0 DELIVERY

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- 11.1 All seedlings may be required for delivery to destination F.O.B by the Contractor to destination point as shown on the appropriate Purchase Order. If the Government requests Contractor delivery, the Government will reimburse the Contractor on loaded mile basis according to the pricing furnished by the Contractor under Item 0012, Shipping Costs, Schedule of Items, Section A. Deliveries shall be made between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday, excluding official federal holidays and shall be scheduled with the COR a minimum of two business days prior to delivery.
- 11.2 The Government may elect to pick up seedlings at the Contractor's storage facility. If the Government elects to pick up seedlings at the Contractor's storage facility, the Contractor will furnish a forklift and personnel to load the Government trailer.
- 11.3 Contractor deliveries shall be made by refrigerated truck or trailer. Temperatures within the seedling boxes inside the shipping container shall be maintained between 33° and 35° F.
- 11.4 Boxes shall be arranged in such a manner as to prevent crushing, smothering, heating or other physical damage.
- 11.5 Contractor shall prepare and provide to the driver of the Government truck, or FS receiving clerks, a nursery shipping ticket when seedlings are loaded or delivered. The shipping ticket shall contain the contract number, seed lot number(s), number of boxes, number of seedlings per box, and total number of seedlings per seed lot.
- 11.6 The Contractor shall be responsible for all seedlings produced for the Government, until the seedlings are delivered to or picked up by the Government.

## 12.0 **PERFORMANCE TIME**

### 12.1 **Container One Year Old Seedlings**

The period of the contract will be from issuance of a Purchase Order to completion of delivery, not to exceed 450 days for all items

The following dates are deadlines set out in the other parts of this contract:

- a. June 3 of each year - Provide COR with Seedling Inventories, 5.2.3 (a)
- b. October 1 of each year - Provide COR with Seedling Inventories, 5.2.3 (b)

13.0 **GOVERNMENT-FURNISHED TREE SEED**

13.1 The Government will provide the following information (as available) on all seed lots included in each Purchase Order: germination percent, number of seeds per pound, purity percent, species, seed zone and elevation, year of collection and year tested.

13.2 The Contractor shall determine the quantity of seed needed to produce the required number of seedlings in each Item awarded, based on information to be provided in each order. The maximum pounds of seed to be provided by the Government for individual seed lots can be estimated as follows:

***Containerized Seedlings***

Standard Sowing - Items shown for standard sowing in Attachment A, Tree Seedling Sowing Schedule.

Seedling Data Sheet will be computed as follows:

$$\text{Seed Required in lbs.} = \frac{T \times O \times W \times G}{S \times P}$$

T = total order (number of seedlings)	<u>Germ. Rate</u>	<u>Seed/Cell</u>
O = oversow for falldown 1.15 (15%)	55 - 64%	4.0-3.6
W = seed waste factor 1.1 (10%) 65 - 74%	3.5-3.1	
S = seeds per pound	75 - 84%	3.0-2.6
G - seed per cell (depending on germ. rate)	85 - 94%	2.5-2.1
P = purity factor (1.0)	95 -100%	2.0-1.6

The quantity of seed determined to be needed by the Contractor shall be subject to approval by the COR for both Standard and Improved Seed Sowing. Deadline for this information being given to the COR is ten days after Contractor receipt of the order with Tree Seedling Schedule with seed attributes filled in.

13.3 The Government will provide and deliver seed identified by lot number to the Contractor's nursery site not later than two weeks following the determination of seed quantity notification.