

# Coastal Seed Orchard Production

Annette van Niejenhuis, RPF  
Tree Improvement Forester

1. The context
2. The orchard production strategy and challenges
3. Coastal programs status



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➤ WFP seedling needs

➤ FGC business plans

➤ Breeding program status

➤ Banked seed supply



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- Orchard development
    - Selecting parent trees
    - Grafting
    - Layout and planting
    - Developing “scaffolding”



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- Orchard development
    - Water management
    - Insects
    - Mammals



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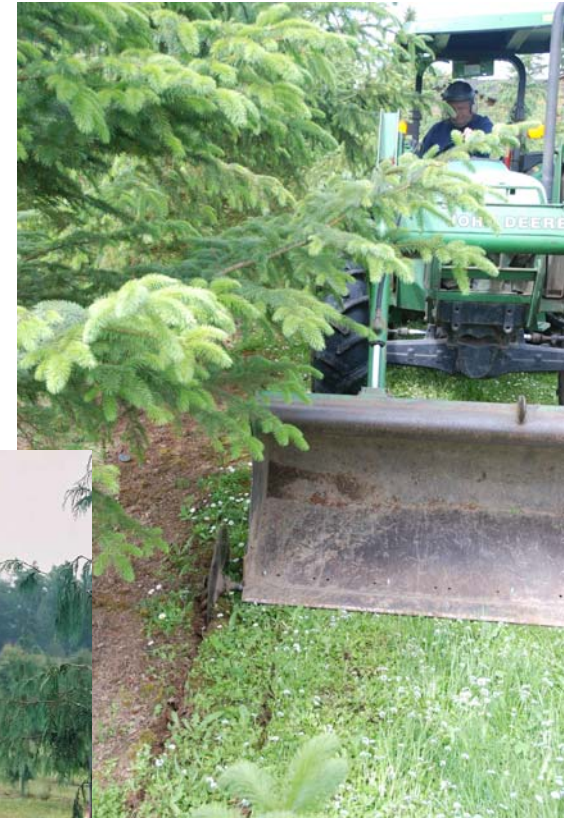
3. Coastal programs status

➤ Flower production

○ Watering regimes

○ Hormone treatments

○ Stress treatments



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- Flower Production
  - Water management
  - Frost
  - Induction techniques



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➤ Seed set

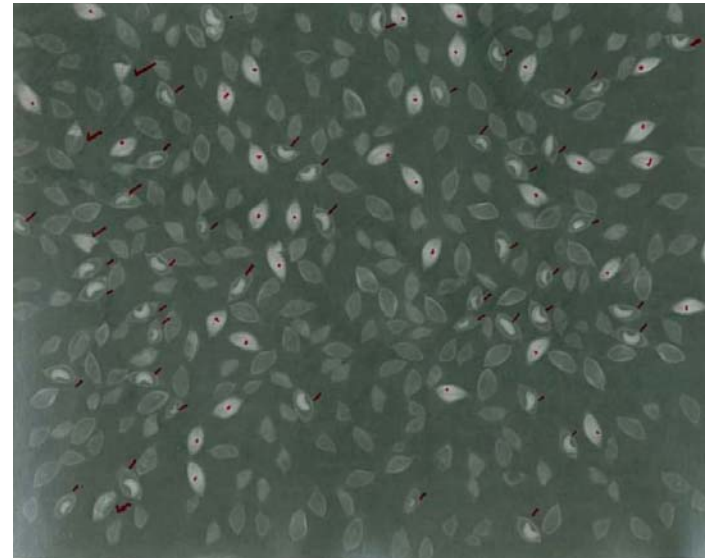
○ Pollen management

○ Frost Protection

○ Seed and cone insects



1. The context
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  - Seed Set
    - Pollen season weather
    - Cone and seed insects
3. Coastal programs status





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- Harvest
  - Timing
  - Handling cones
  - Curing
  - Extraction



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- Harvest
    - Timing
    - Cone handling



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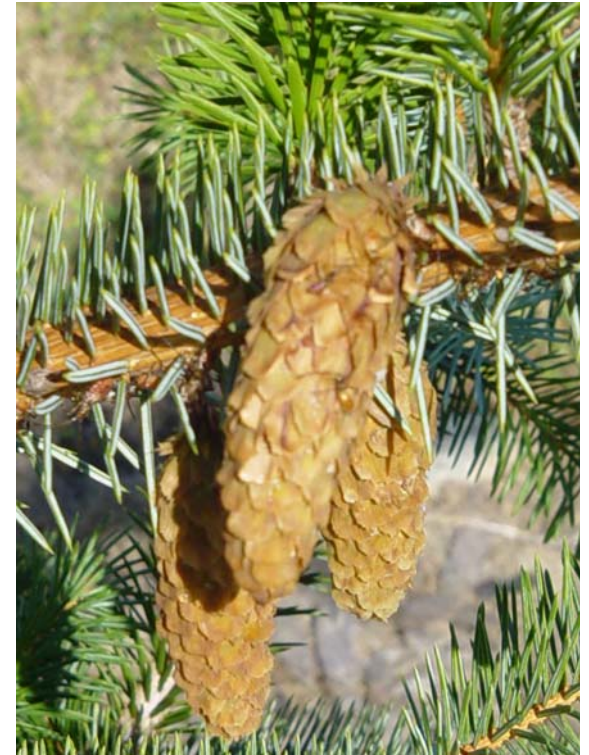
- Western redcedar
- Douglas-fir
- Western Hemlock
- Yellow Cypress
- Sitka Spruce
- White Pine
- Amabilis Fir
- Shore Pine
- Mountain Hemlock
- Grand Fir



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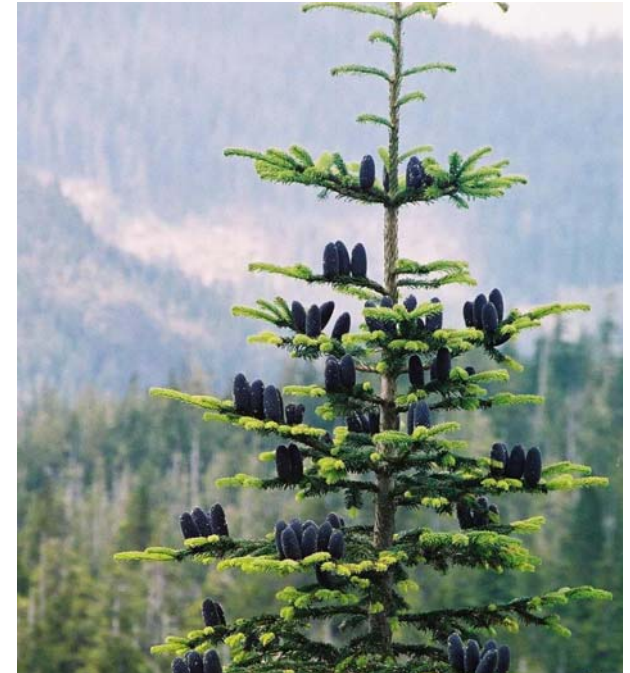


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Order 100 k plantables - species average germination									
Species (Ave Germ)	Cw (82%)			Pw (88%)			Fdc (90%)		
Sowing Rate	Single Sow	MFR GL Sow		Single Sow	MFR GL Sow		Single Sow	MFR GL Sow	
viable seeds for 100 k germinants	121,951			113,636			111,111		
add 25% OS	152,439	368,000		142,045	305,000		138,889	278,000	
Seeds (kg)	0.365	0.880	@\$6500/kg	3.088	6.630	@\$2500/kg	1.694	3.390	@\$3850/kg
Seed Cost	\$2,370.46	\$5,722.49	\$3,352.02	\$7,719.84	\$16,576.09	\$8,856.25	\$6,521.00	\$13,052.44	\$6,531.44
Comments	no thinning	100% Thinning		no thinning	100% Thinning		no thinning	100% Thinning	
Empties	18.00%	1.39%		12.00%	1.30%		10.00%	1.10%	
Seeds /cavity	1.10	2.7		1.13	2.20		1.11	2.00	
Seeds /seedling	1.52	3.68		1.42	3.05		1.39	2.78	
Blocks (~112 cavities /block)	1116	1116		1116	1116		1116	1116	
<b>Cull (%) (max cull to make request)</b>	<b>2.00%</b>	<b>5.00%</b>		<b>9.00%</b>	<b>5.00%</b>		<b>11.00%</b>	<b>5.00%</b>	
Recoveries (# Seedlings)	100,444	117,092		100,094	117,199		100,119	117,436	
Approx. Nursery Price (\$/seedling wo seed)	\$0.300	\$0.300		\$0.250	\$0.250		\$0.320	\$0.320	
Nursery Revenue @100% order	\$30,000.00	\$30,000.00		\$25,000.00	\$25,000.00		\$32,000.00	\$32,000.00	
Nursery Revenue with OS	\$30,133.07	\$35,127.56		\$25,023.40	\$29,299.69		\$32,037.95	\$37,579.59	
Client Cost @100% order	\$32,370.46	\$35,722.49		\$32,719.84	\$41,576.09		\$38,521.00	\$45,052.44	
Client Cost with OS (Essentially no OS)	\$32,503.53	\$40,850.05		\$32,743.24	\$45,875.77		\$38,558.95	\$50,632.03	
Client per seedling price @100% order	\$0.324	\$0.357		\$0.327	\$0.416		\$0.385	\$0.451	
Client per seedling price with OS (Essentially no OS)	\$0.324	\$0.349		\$0.327	\$0.391		\$0.385	\$0.431	
Max Nursery Price (\$/seedling wo seed)	\$0.333			\$0.338			\$0.385		
Nursery Revenue @100% order	\$33,300.00	\$3,300.00		\$33,800.00	\$8,800.00		\$38,500.00	\$6,500.00	
Client Cost at 100% order	\$35,670.46	-\$52.02		\$41,519.84	-\$56.25		\$45,021.00	-\$31.44	



How can we make high value seed in short supply go further?

Decrease seed \$, increase nursery \$, client wins?

Thank-you

