



The Oregon Department of Forestry's Schroeder Seed Orchard and Oregon Seed Bank Programs

November 7, 2018



Presentation Overview



The Schroeder Seed Orchard



Douglas-Fir



Western Hemlock



High Terpene Western Red Cedar



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Willamette Valley Ponderosa Pine





The Schroeder Seed Orchard: 26 Separate Orchards and 23 Members

Oregon Dept. of Forestry J.E. Schroeder Seed Orchard		Orchard Membership (Nov 2016)																									
		ORCHARDS (25 Production, 1 Breeding)																									
		Douglas-fir															W. Hemlock		W. Red Cedar		Other						
Members (Total = 23)		Burnt Woods	Coast High 2.0	Dallas High	Dallas Low	Medford	Nehalem SNC	North Oregon Cascades	Roseburg Cascades	Roseburg Elk Creek	Roseburg Low	Santiam High	Santiam Low	South Central Coast	Tahoma	Trask Coast 2.0	Trask Inland 2.0	Vernonia Add. 2.0	Vernonia Interim	Hemlock Low 1.5	Hemlock Low 2.0	Hemlock High 2.0	Western Redcedar	WRC Coastal	WRC Inland	Willamette Ponderosa	VRTIC/ N. Coast
Bureau of Land Management																				X							
Campbell Global														X					X								
FIA												X															
Fruit Growers Supply Company								X	X	X																	
Greenwood Resources															X				X	X							
Giustina Resources							X				X	X															
Hampton Affiliates			X		X		X								X	X	X		X	X	X						
Hancock Forest Management			X	X	X	X								X	X	X			X	X							
Lone Rock Timber Company								X	X	X			X														
Miami Corp.			X	X	X											X											
Muckleshoot														X													
Nestucca Forests LLC		X		X	X										X												
Oregon Dept. of Forestry [State Forests]		X	X				X	X			X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	
ORM Timber Operating Company II, LLC															X	X			X								
OSU College Forests		X																									
Rayonier													X														
Rocking C Ranch									X																		
Seneca Jones Timber Company								X	X	X																	
Sierra Pacific Industries																		X									
Silver Butte Timber Company								X	X	X																	
Starker Forests		X													X	X				X							
Stimson Lumber Co.			X	X	X										X	X	X		X	X	X						
VRTIC/ North Coast Tree Improv Coop																											
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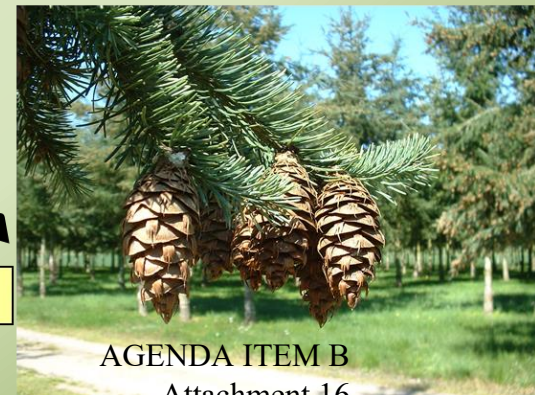
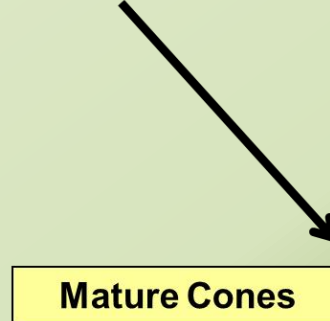
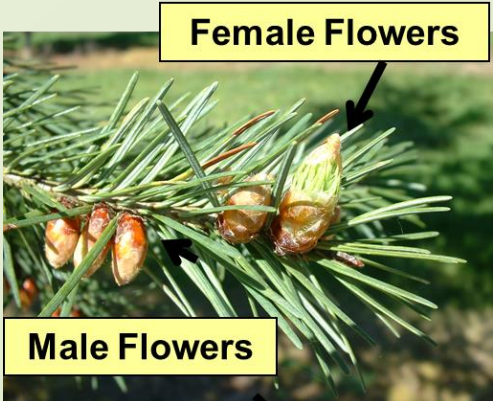
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St. Paul, OR 97137

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Douglas Fir-Flowering to Seed Production



Fertilized Cones

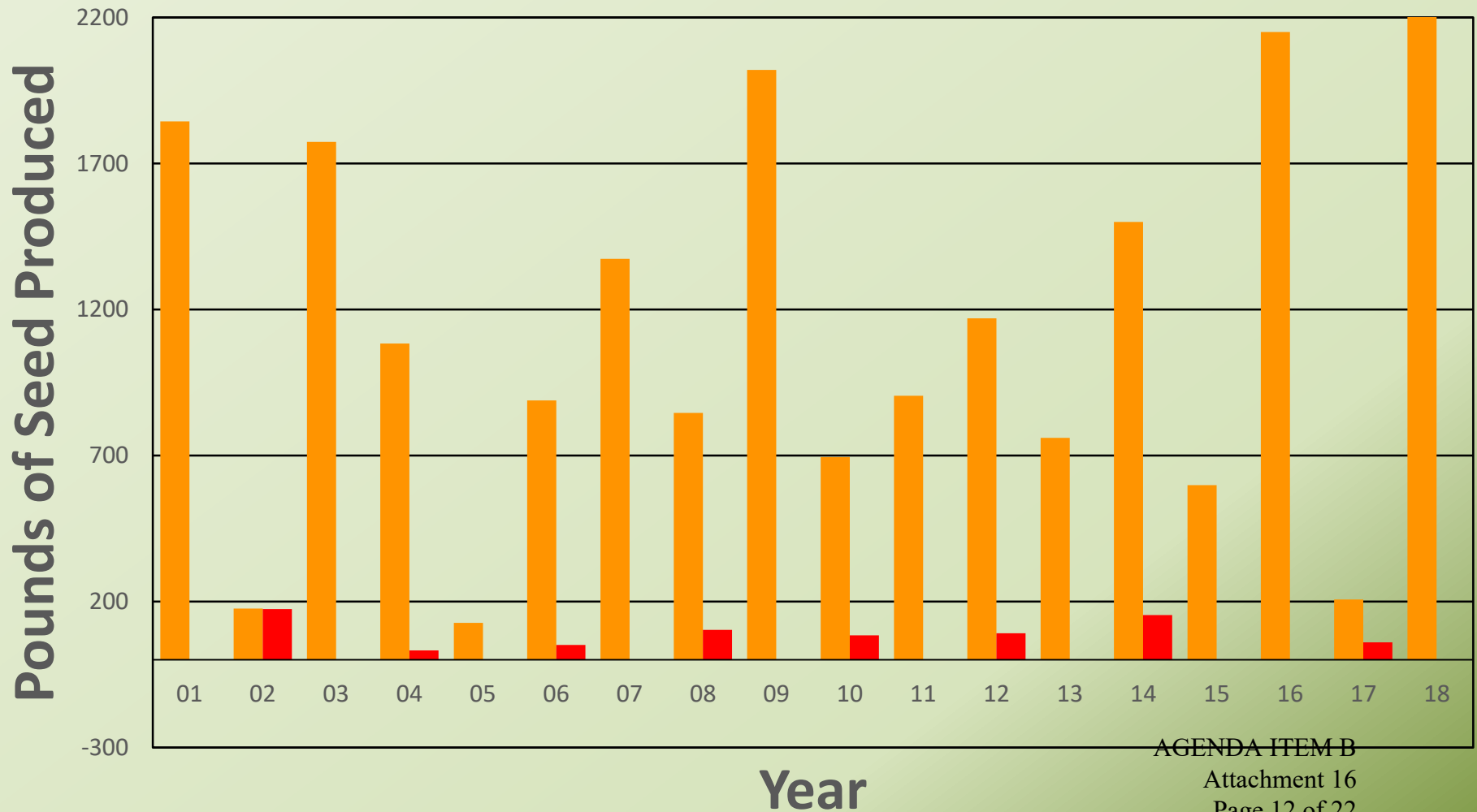
Mature Cones

What Are the Advantages of the Schroeder Seed Orchard



Branch in Sunday Creek full of cones

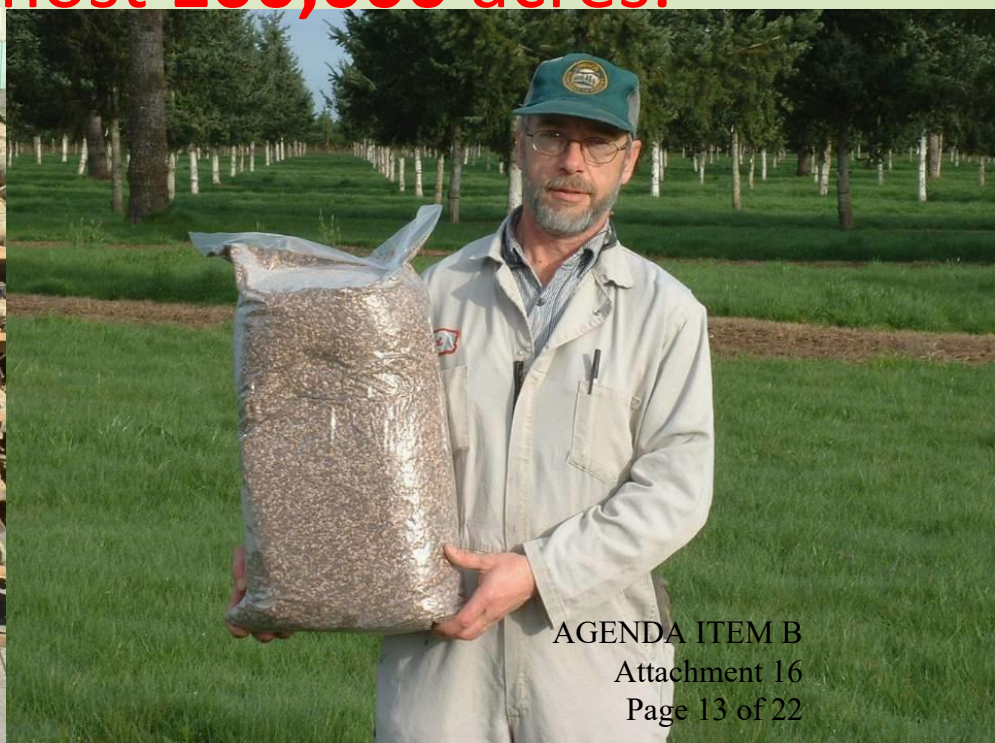
Douglas Fir and Hemlock Seed Production at Schroeder





Seed Production in Douglas Fir Seed Orchards

- **1603** total lbs of seed harvested
- This would produce **20-25** million Douglas Fir seedlings and **13-18** million Hemlock.
- This could replant almost **100,000** acres.





Total Impacts of Schroeder Seed Production



Specific Traits Being Improved Through *Traditional Breeding*



- No GMO's.
- Adaptability.
- Increased Growth.
- Increased insect and disease resistance.
- Increased wood quality.
- Increased resistance to animal browse (WRC)

What Are the Advantages of Improved Seed?

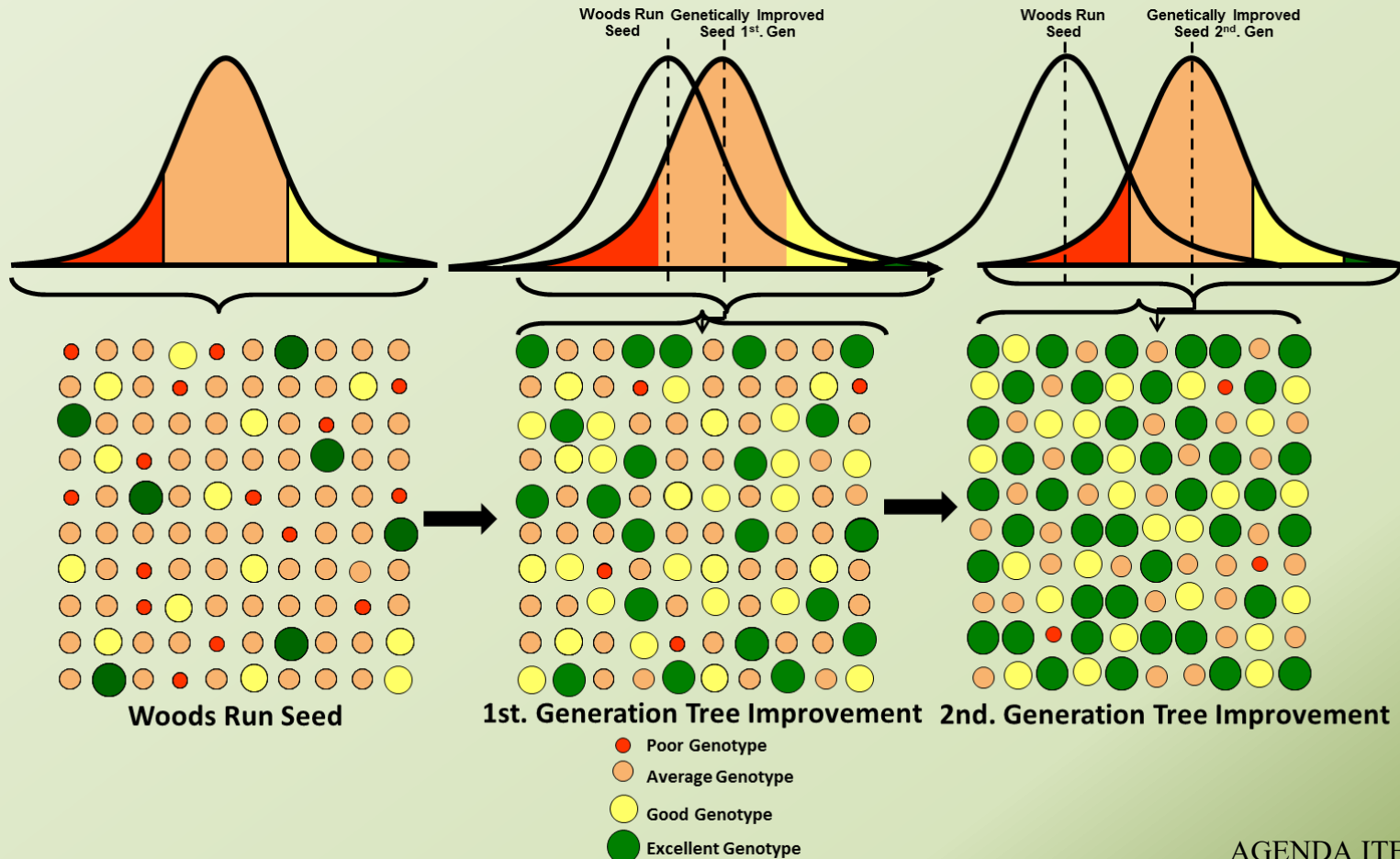


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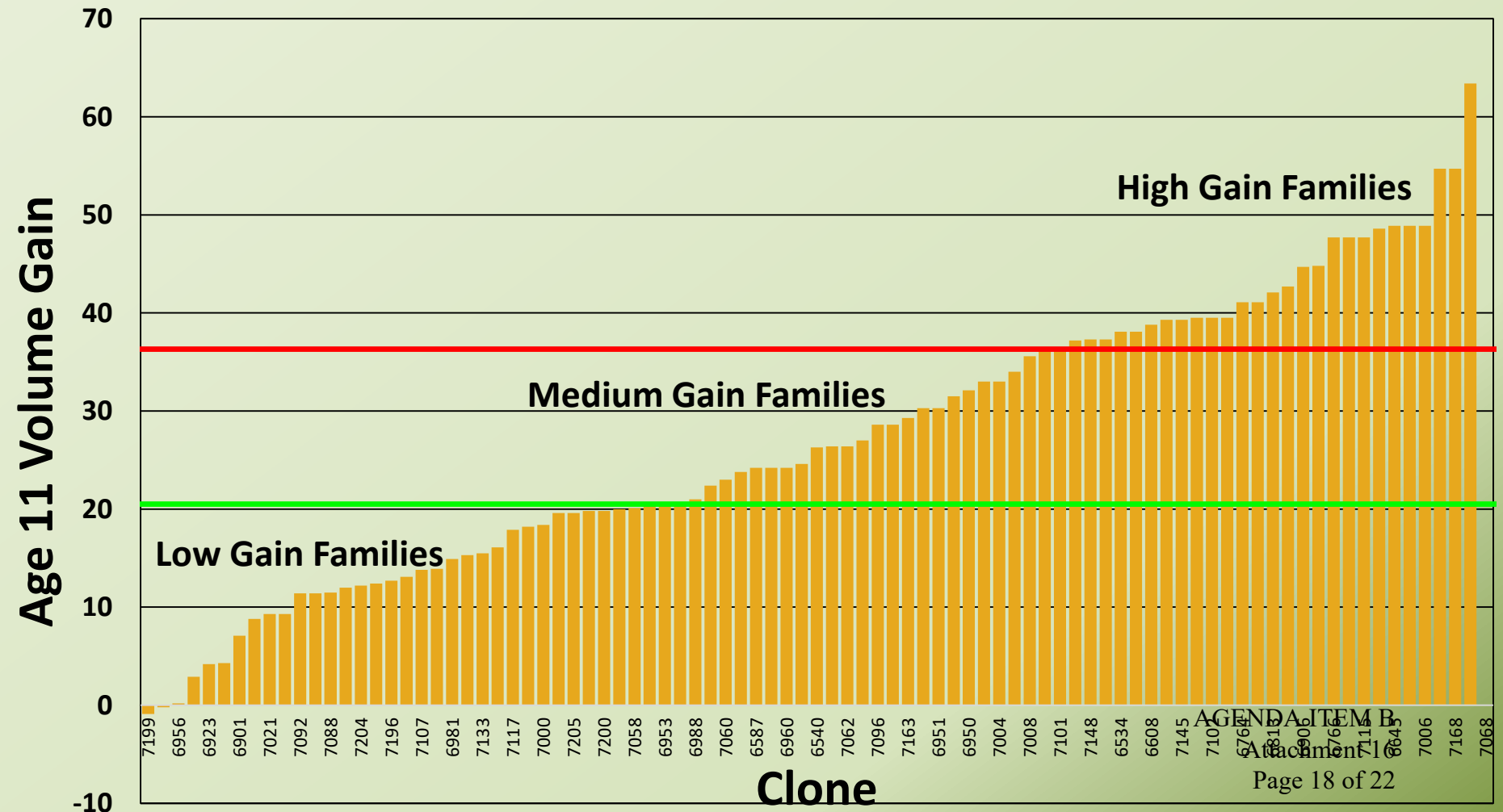
Deployment Population Improvements Over Time

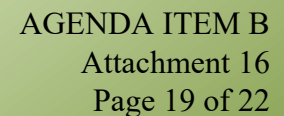




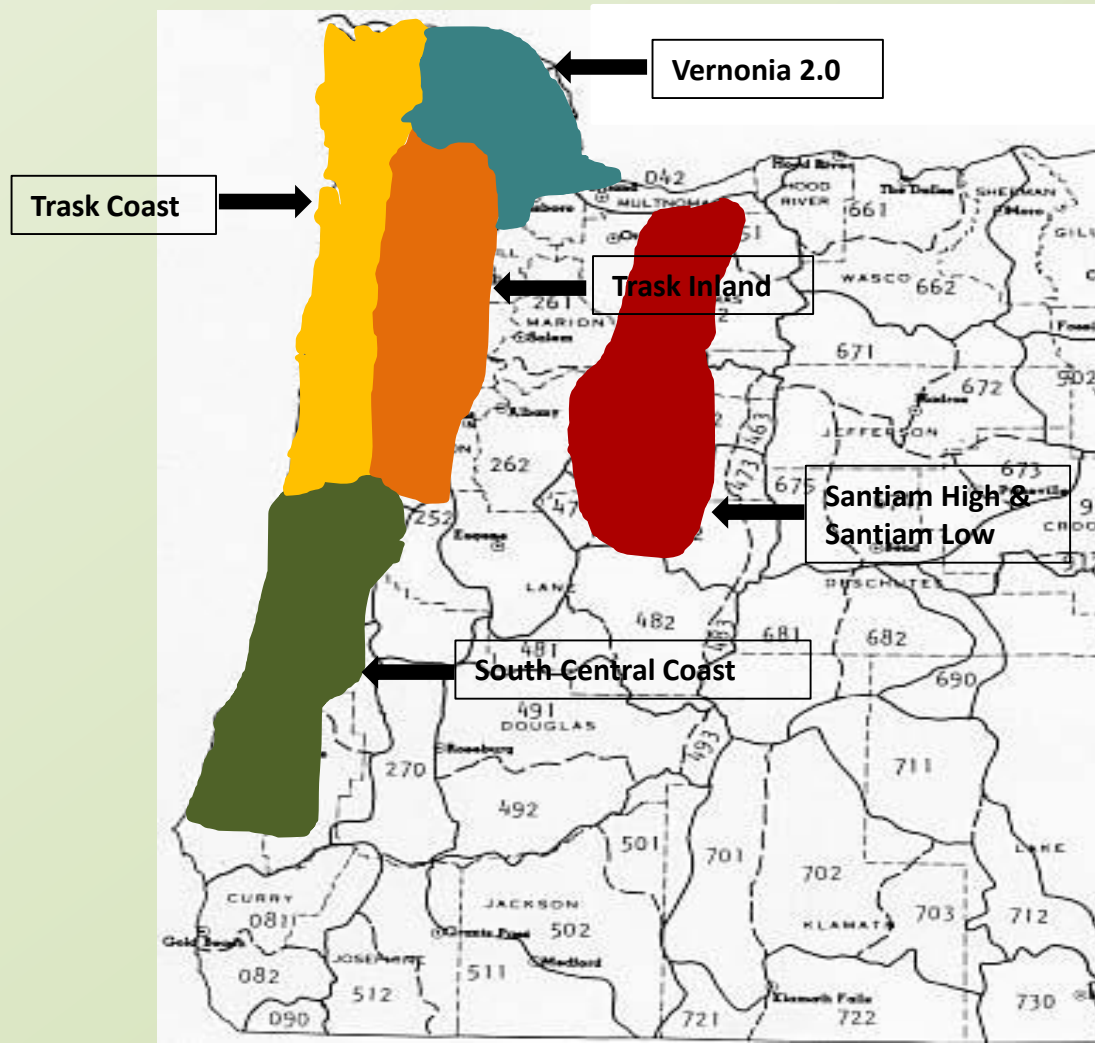
Nehalem Seed Orchard Volume

Gains by Family





Schroeder Second Generation Orchards for Douglas Fir



The Oregon Seed Bank



The Oregon Seed Bank



- www.oregon.gov/odf/privateforests/pages/seedbank.aspx