

Forest Vegetation Management: Update on Herbicides

**Bruce Alber, CF
Wilsonville, OR
Wilbur-Ellis Company**





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Topics to discuss

- **Why do we control competing vegetation?**
- **In God we trust: all others bring data!**
- **Typical vegetation control scenarios**

Site Preparation

Herbaceous Release

Spot Brush Treatments

- **New products, new application techniques**

Filbert Roth: First Book of Forestry (1902)

*"In a garden we should hardly tolerate these bushes, but would rather grub them out as weeds;
and yet they are hardly more useful herein the woods, for surely they will never grow into trees, and in all cases may hinder young trees from starting or choke off the seedlings of our useful trees."*

Why Control Vegetation in Forestry?

- **Small seedlings need light, water, and nutrients to survive and grow**
- **Established brush, grasses and weeds take away light, water, and nutrients from trees**
- **Proper vegetation control allows seedlings to capture the site and grow quickly**
- **Vegetation control allows seedlings to express their full genetic potential**

When to control brush and weeds?

Site Preparation:

Control vegetation before planting

Start seedlings out with little competition

- No seedlings to damage, use higher herbicide rates

• **Release: Control vegetation after planting**

- Trees already growing slower
- Must be careful not to damage trees

OUST Site Prep 11 yr. Results

SW Washington plots

- Harvested Summer '94
Tractor Scarified Summer '94
- 3 oz OUST/acre site prep for herbaceous weeds Sept. '94
- Planted w/1+1 D. Fir January '95

First year growth in Oust site prep side



With®

Grow bigger roots, bigger stems!

2 year old seedlings: with and w/out Oust Site Prep



**One
spray**



**No
spray**

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Oust site prep side: Year 4



Year 6 OUST treated plots



Year 6 Old no spray side



Oust site prep side: Year 8



No Spray side: Year 8



Year 11 Oust site prepped



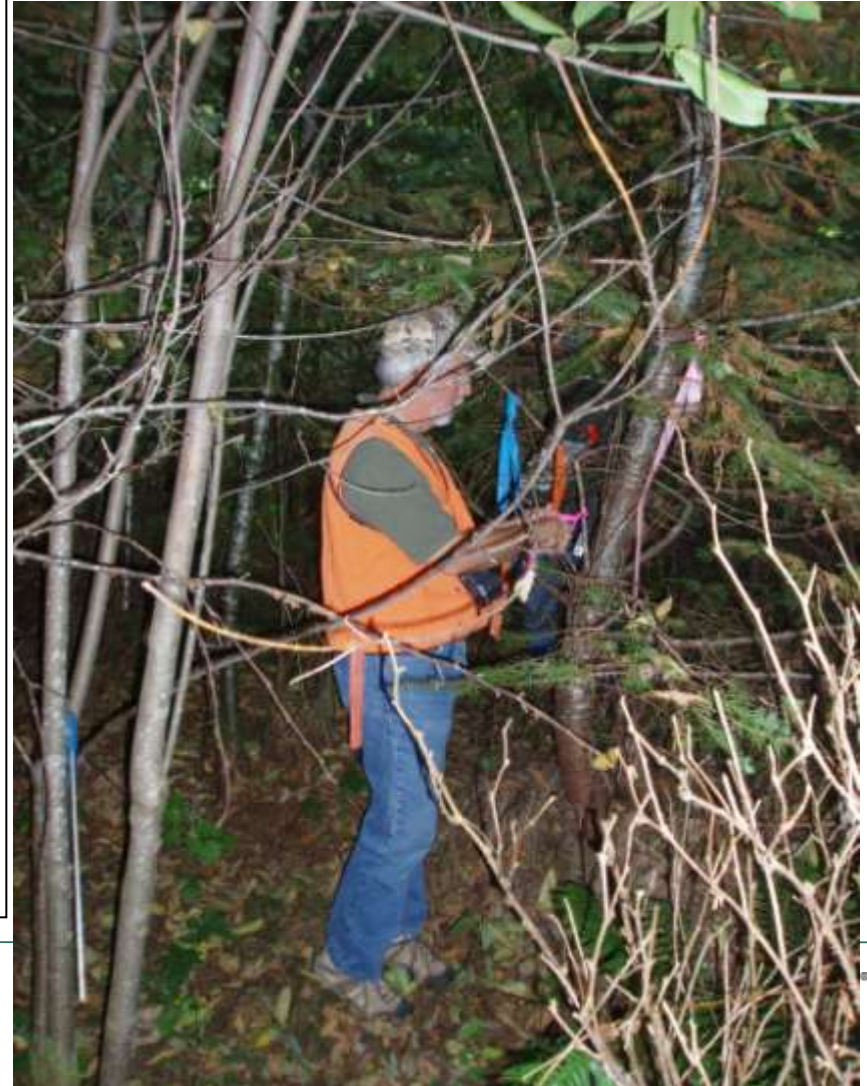
Grow With®

Year 12 Oust side

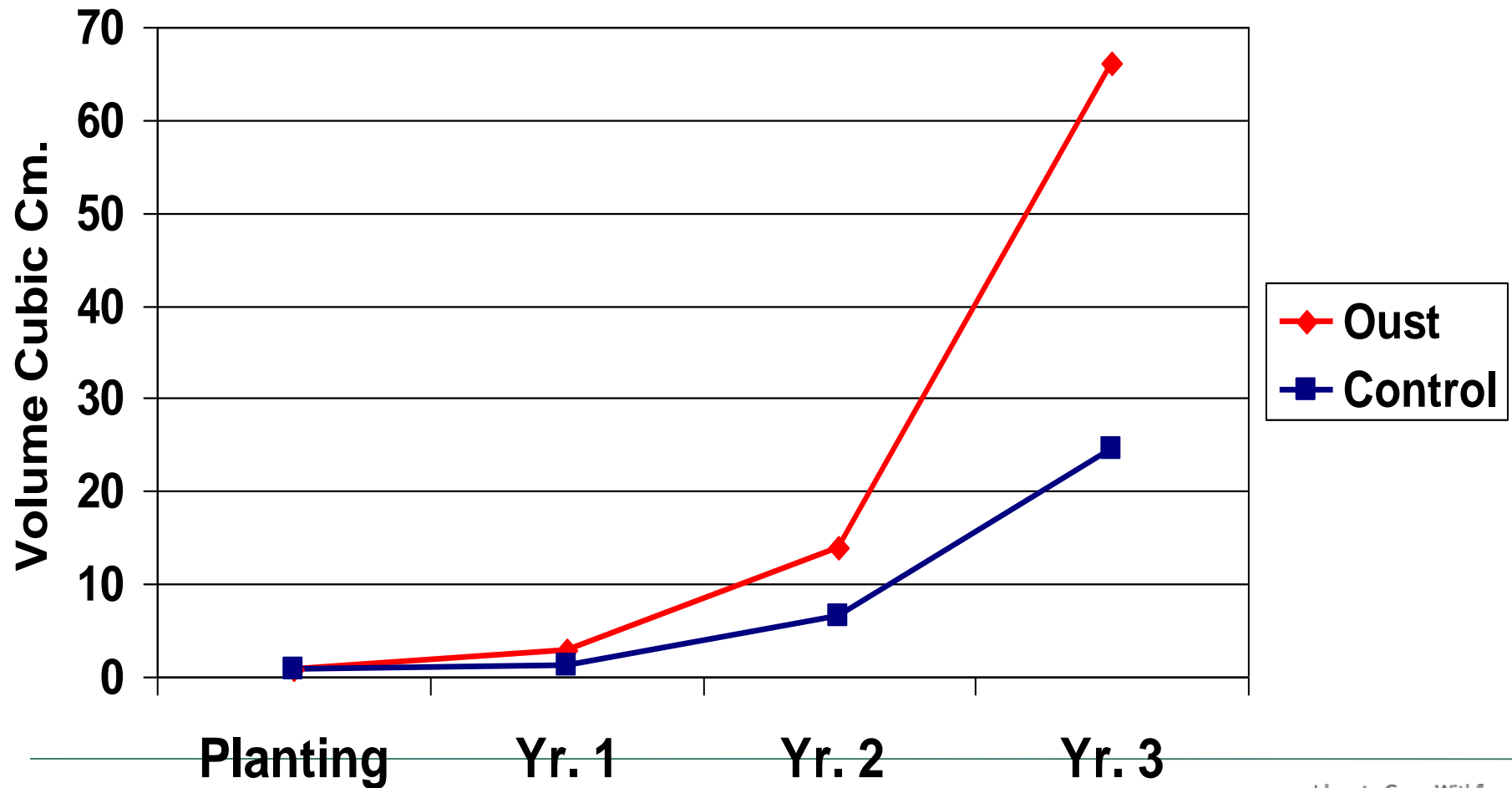


Year 12 no spray side

- **Many smaller trees**
- **Some with poor form**
- **Smaller live crowns**
- **10% mortality**
- **Some alder volume, some cherry, vine maple**



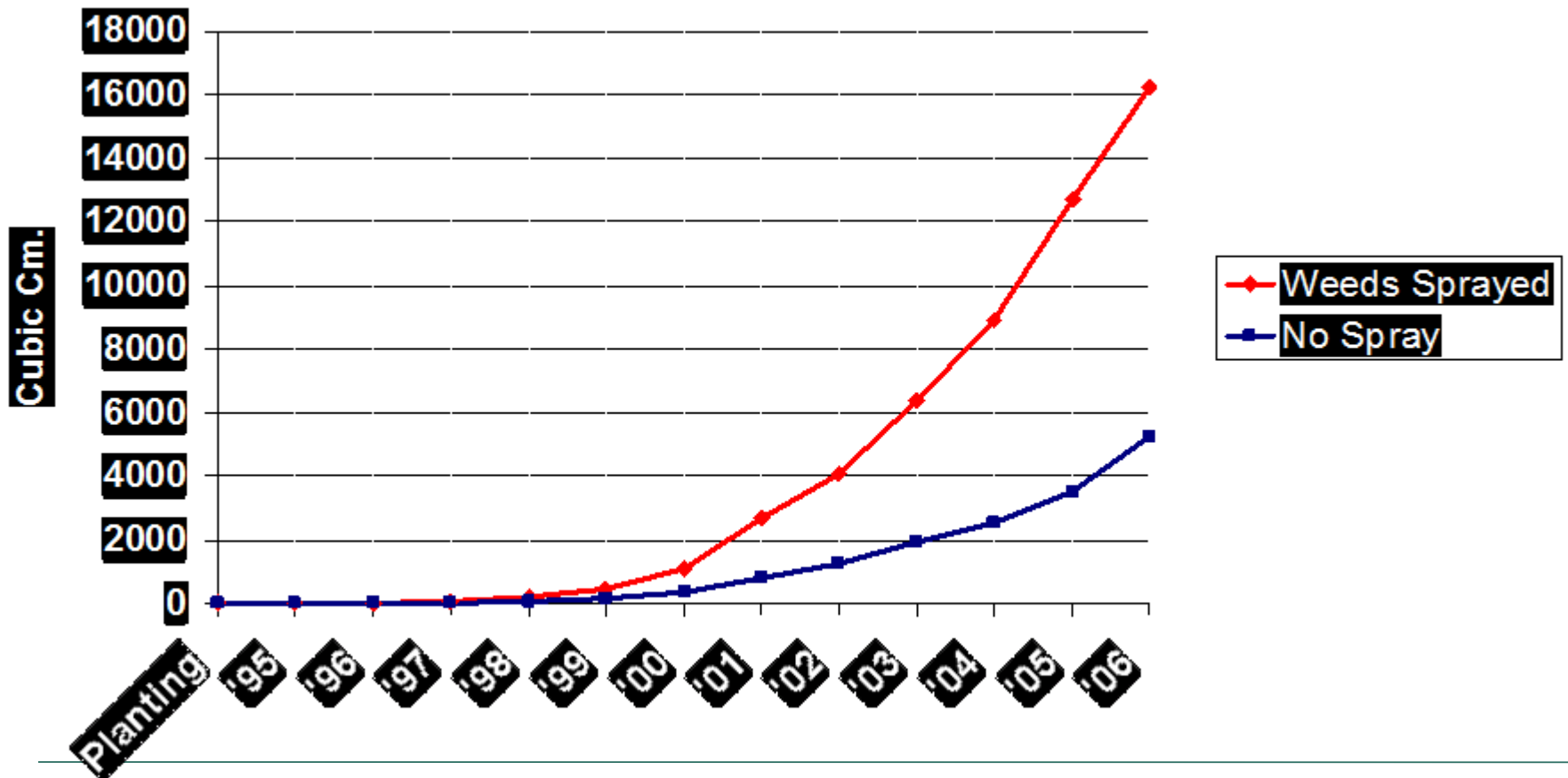
Average Volume in Cu. Cm. Years 0 -3



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Wallace & Alber Oust Plots

Avg. Volume in Cubic Cm. 0-12yrs.



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Wallace and Alber plots

Year 12 summary

- Oust Treated: 10% Taller 54% Greater DBH
- Volume is 209% greater (3.09x bigger) **Live tree avg**
 - Avg. including dead trees: Oust treated volume: 424% greater
- Oust site prep trees: 36.6 feet tall, 9.3 in. DBH
no mortality
- No Spray surviving trees: 33.2 feet tall, 6.0 in. DBH,
10% mortality

Methods to control competing vegetation

- **Manual: Saws, tractors, lopping, hoe, ground cover, mulch**
- **Herbicide:**
 - **Spray by ground- Foliage or basal spray**
 - **Spray by air – foliage and soil active**
 - **Cut and treat stump**
 - **Hack and Squirt**

Site Preparation planning

- **When was it logged?**
- **How much disturbance?**
- **What species were there before?**
- **What does the vegetation around the unit look like?**
- **Will it be planted or held over one more year?**

Site Preparation considerations

- Beat up brush is harder to control than pristine brush
- Bare soil is an ideal germinating surface
- What was the original stem diameter of the resprouting tree?
- Are there Scotchbroom seeds in the ground?

Building blocks of a site preparation a spray program

Adjuvants

**Escort XP
Oust Extra
Oust XP**

**Chopper
or Polaris SP**

Accord XRT II

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Product choices

- **Glyphosate:** Accord Concentrate, Accord XRT II
- **Imazapyr:** Arsenal AC or Polaris AC
Chopper Gen2 or Polaris SP
- **Sulfometuron Methyl:** Oust XP
- **Sulfometuron Methyl+ Metsulfuron:** Oust Extra
- **Metsulfuron Methyl:** Escort XP
- **2,4-D ester:** Weedone LV6 EC
- **Aminopyralid + triclopyr:** Milestone VM Plus

How big are the maple stumps?



Bigleaf Maple Control



Salal control

Chopper+ Accord XRT II + Oust Extra + Hasten



Accord XRT II + Chopper + Hasten on Vine maple



Site Preparation review

- **Site preparation is key to seedlings starting off with little competition**
- **Herbicide modes of action & how to better tank mix chemicals**
- **More herbicide choices without seedlings in place**
- **Release spraying can be hard on trees, and sometimes too little herbicide on brush for good control**

Conifer Release concepts

- Evergreen brush: Ceanothus, Scotchbroom
 - Treat in the spring before seedlings awake
- Deciduous brush and herbaceous control:
 - Late summer, early fall
- Conifers must be mostly dormant, have set resting buds
- Know your conifer dormancy!

Scotchbroom control

- Spring is best
- Forestry Garlon XRT
- Transline
- Hasten



- Fly on at 15-20 gpa Conifers must be dormant

Elderberry control

- **Spray late July through August**
- **12-16 oz Transline + 0.5 oz Sylgard**
- **Clopyralid (Transline) is very safe over growing conifers!**

Pre-Harvest hack & squirt

- Bigleaf maple, madrone, etc. 1-6 months before harvest
- Use 50:50 Polaris AC + water
- 1 hack per inch of DBH (3" centers)
- Hack below any maple burls for best control

Pre-Harvest Hack 'n Squirt



Roadside spray discussion

- **Objectives: control brush and conifer crowding on forest roads**
- **Brush control:**
- **Easy species: Red Alder,
2,4-D LV6
Triclopyr
+ surfactant**

Roadside spray Rx

New chemistries

- Milestone VM Plus:
 - Aminopyralid + Garlon 3A
- Opensight: 3.3 ounces per acre
 - Aminopyralid + Metsulfuron Methyl

Site prep uses too!

Milestone mixes 5 years later



Opensight + FGXRT broom control: 5 years later



Milestone 5 yrs later

Scotchbroom germination delay



Aerial application: the bad old days









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New herbicide testing





New Molecule

- Aminocyclopyrachlor by DuPont
 - Growth regulator herbicide
 - We have been testing for forestry uses

Generic product impacts

- Most forest herbicides are now off patent
- Lots of new suppliers of generics: some have already failed in the marketplace
- We have seen some poor product performance
- This competition with the major suppliers has driven down prices 40 – 75%
- Know your supplier: will they stand behind the product?

Bruce Alber, CF

503-799-1428

balber@wilburellis.com

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