oregon wine BOARD

Oregon State University
Oregon Wine Research Institute

June 24, 2025

WEBINAR: Critically Evaluating Vineyard Productivity: Considerations for 2025 and Beyond

Welcome

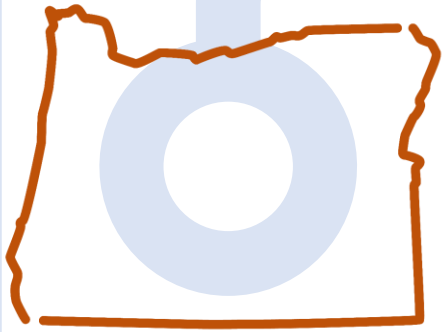
Housekeeping:

- Ask questions as they arise!
- Use Q&A to add questions
- OWB will moderate
- Last 15 mins open for Q&A
- Recording will be shared later this week
- Please complete short survey!

Oregon State University
Oregon Wine
Research Institute

or.

OSU EXTENSION SERVICE



Critically Evaluating Vineyard Productivity

Considerations for 2025 and Beyond

Oregon State University

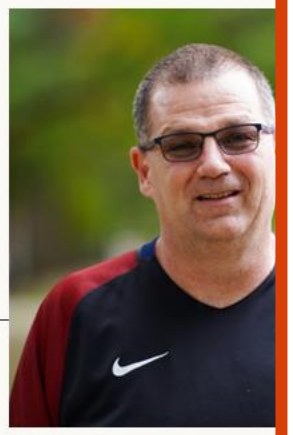
Oregon Wine Board Webinar – online, June 24, 2025

Vit NOW!

Reducing Vineyard Costs in a Difficult Market

March 17, 2025

Oregon Wine Research Institute Experts



OSU Vit Extension YouTube

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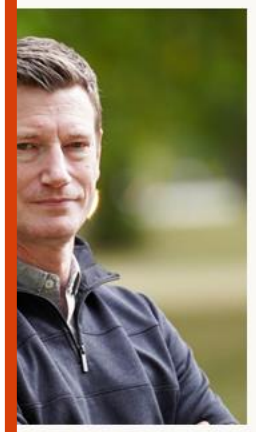
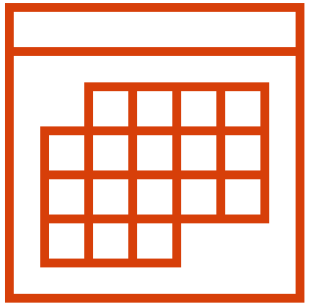


Oregon State University Extension Service

Planning ahead

This season



Next season

Long-term

2025 REDUCTION SCENARIOS

Severe Pruning

Low canopy density, low yield

Minimize manual labor

Reduce spray program

Pruned Normally

Maximize mechanical canopy management

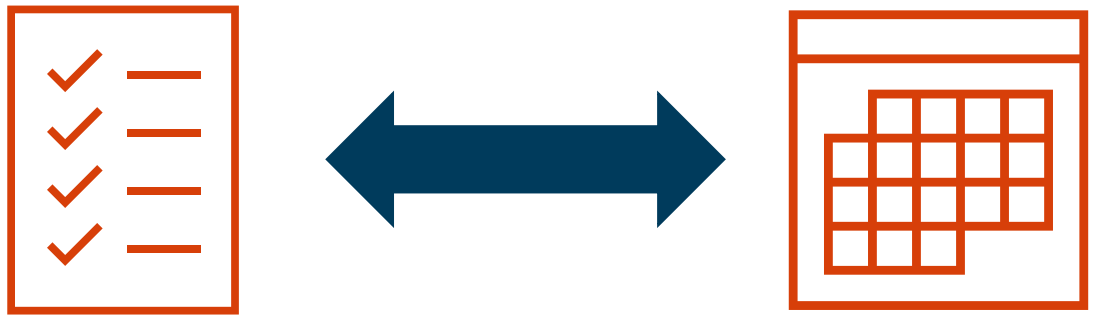
Minimize manual labor

Reduced spray program

Have you tried any of these scenarios in your vineyard(s)?

Questions for this season...

1. When should fruit be removed?
2. How should vines be managed for returning production next year?
3. When can I stop spraying?



This season

Next season

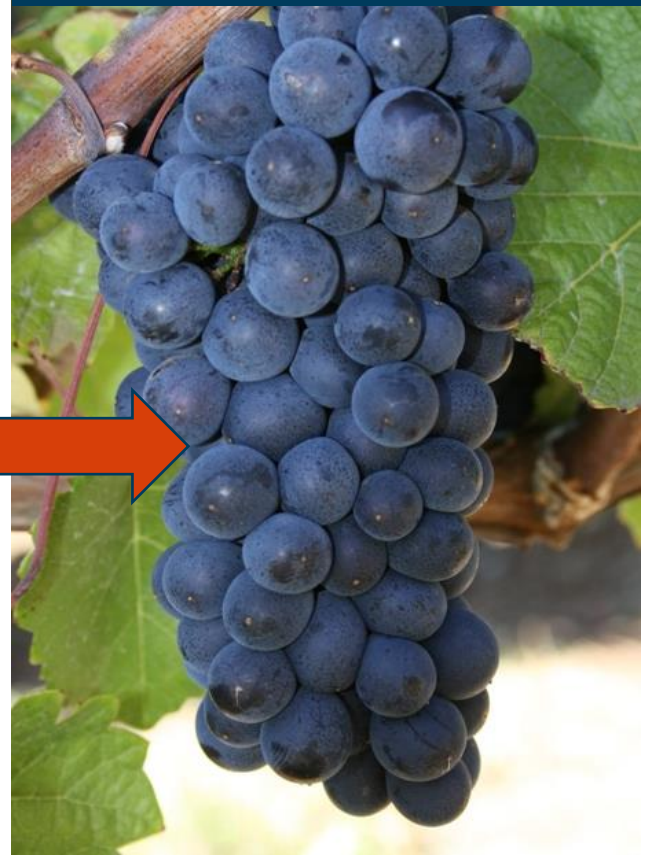
Yield Formation is a 2-Year Process

Fruitfulness (bud)

Developing now for 2026

Fruit set (in-season)

Yield (harvest)



Factors of Bud Fruitfulness

- Environment
- Vine physiology
- Disease

How is fruitfulness formed?

- Flower development begins in spring of prior crop year
- Resources needed by the vine
  - Nitrogen reserves or uptake
  - Carbohydrate – reserves or photoassimilation
- Pinot noir uses N and carbohydrate reserves until just before bloom, shifts to photoassimilation

When to remove fruit?

Weak or young vines

- Earlier the better
- Post fruit set
- Allows resource allocation to
  - Shoot and root growth
  - Floral bud development
  - Replenish reserves

Weak vines: pruning weights >0.2 lb/ft, canopy doesn't fills trellis

When to remove fruit?

High vigor vines

- Later is better
- May not be required*
- Allows vine to balance growth between source and sinks
- Avoids overly vigorous growth
  - Laterals and second crop form if done early

High vigor vines: pruning weights >0.4 lb/ft, canopy requires >2 hedging passes per season, significant lateral growth

Control canopy shading for fruitful buds

- Leaf exposure to sunlight necessary for carbohydrate production
- Directly influences bud floral initiation.
- Lack of fruitfulness can be attributed to high canopy density and shading.

Spray program should be maintained

- Significant leaf infections may exist post-veraison
- Canopy photosynthesis reduced with powdery mildew infection

Question for the Future

How can vineyard production costs be reduced?

Future Considerations

- Know your management costs
- Evaluate vineyard block removals
- Prioritize poor quality/production sites
- Remove and fallow land for 3+ years
- Redesign for **economic** and **environmental sustainability**

Oregon Pinot noir production costs

Manual labor
126 hrs/acre

Olen & Skinkis 2018

In-Season Canopy Management

- Shoot thinning (disbudding)
- Shoot positioning
- Sucker removal
- Hedging
- Leaf removal
- Cluster thinning

Reduce management costs with vineyard design

- Match vineyard design to….
  - Climate
  - Site productivity potential
  - Yield targets (> 1 lb/ft)
  - Farming certifications
  - Mechanization

- Vine density (# plants/acre)
- Rootstock (manage growth)
- Training system
- Cultivar (improved varieties)

Training Systems:
Is VSP limiting vineyard economic viability?

Do you think VSP is limiting vineyard economic viability?

Guyot/VSP

- Shoots confined to small space
- Must manage canopy density
  - bud and/or shoot numbers
- Low solar radiation interception at solar noon in N-S orientation

Matching Training System to Site

	Vineyard Productivity or Vigor Potential		
Training System	**Low**	**Medium**	**High**
Bush	X	X	
Guyot/VSP	X	X	
Hanging High Wire	X	X	
Quadrilateral			X
Scott Henry		X	X
TK2T		X	
Lyre		X	
Geneva Double Curtain (GDC)		X	X
RT2T			X
Sylvoz		X	X

Single canopies

Divided canopies

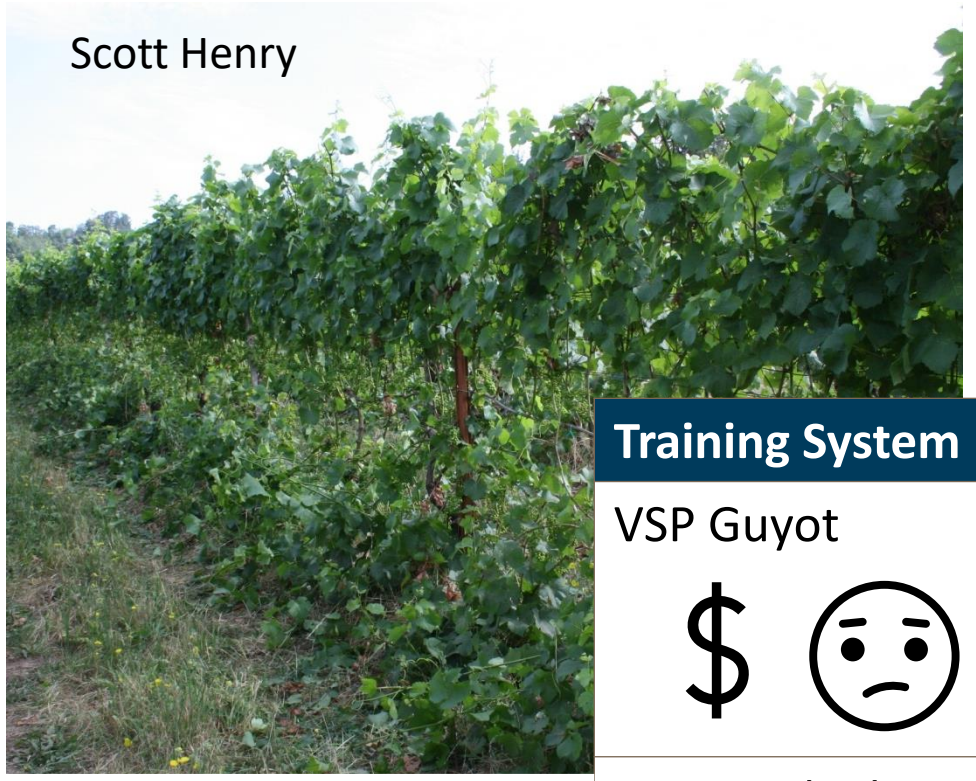
Is VSP Limiting Economic Sustainability?

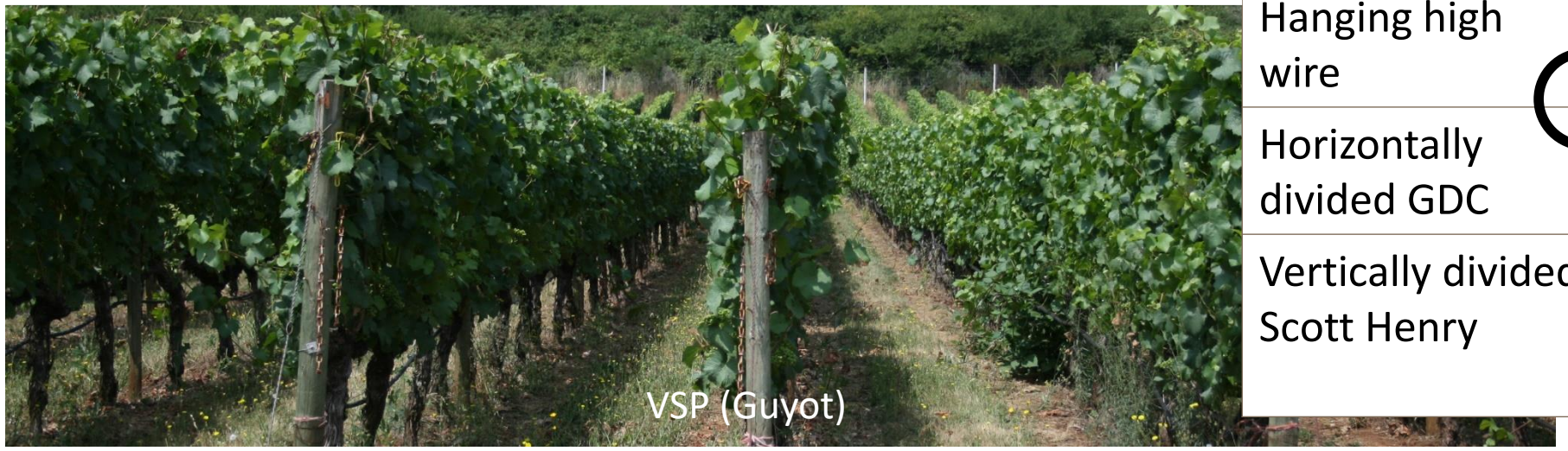
High density + vigor sites

- low canopy sunlight exposure
- disease concerns
- high canopy management costs

Moderate/low density + vigor sites

- Most suited to these conditions
- Still more labor than other systems





Training System	REQUIRED
VSP Guyot	• Shoot thinning • Shoot positioning • Hedging • Leaf removal
Hanging high wire 	• Shoot thinning • Shoot positioning*
Horizontally divided GDC	• Shoot thinning • Shoot positioning*
Vertically divided Scott Henry	• Shoot thinning • Shoot positioning, • Hedging (if needed)

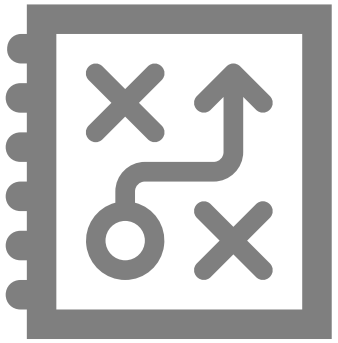
Reminder:
Purpose of Training Systems

- Maintains vine growth for commercial production
  - Labor and production efficiency
- Optimize canopy density and fruiting zone
  - Bud/shoots/cluster distribution
  - sunlight exposure (canopy and fruit)
  - air flow

Purpose of Training Systems

- Influences vine growth and physiology
  - Photosynthesis and water use
  - Bud development
  - Fruit growth and ripening
  - Carbohydrate reserves
  - Cold hardiness

Matching training system to vine capacity



Vineyard Design Decisions

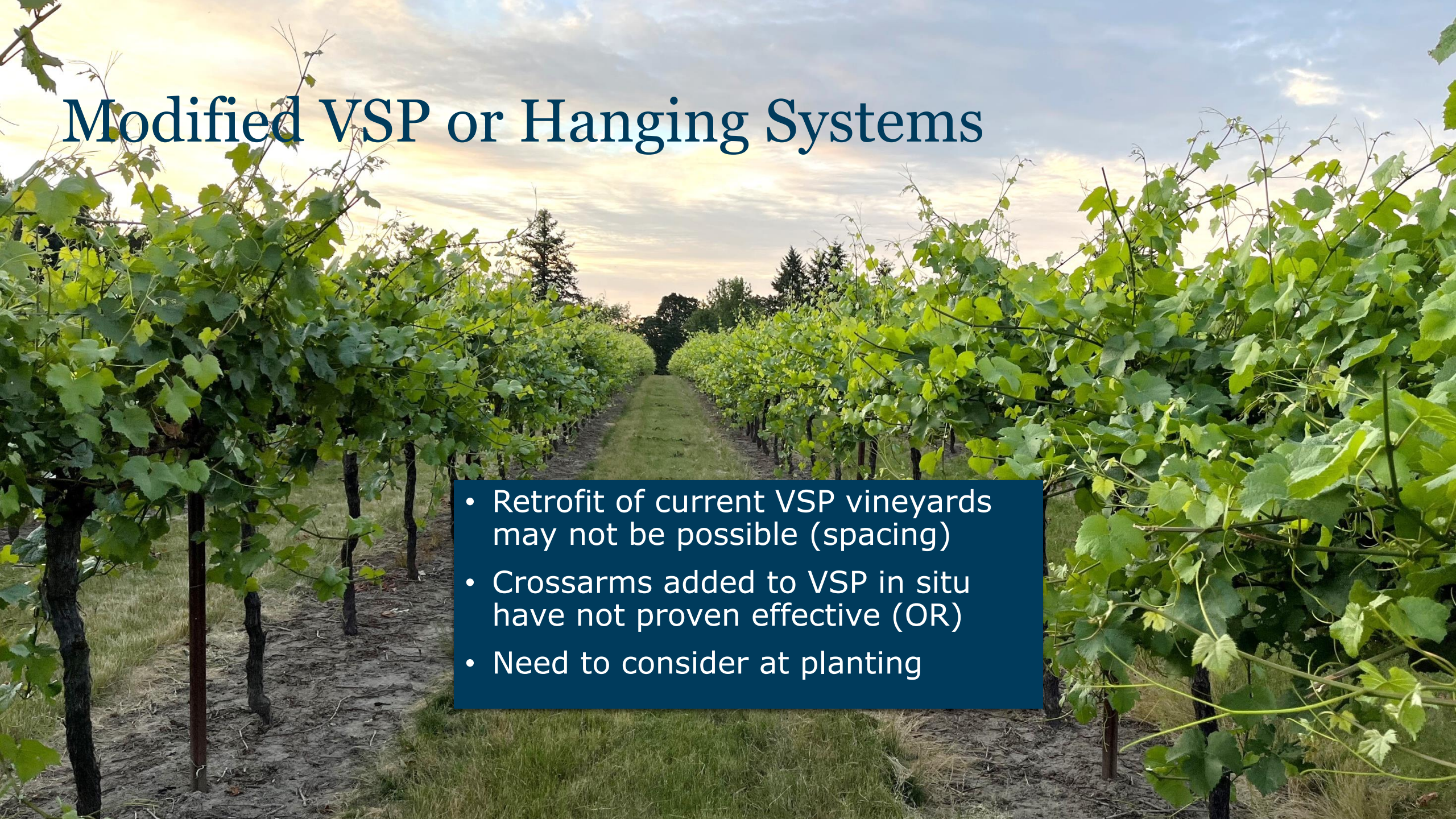
Vine Density (spacing) → Training System

Annual canopy management impacts

- Dormant pruning
- Shoot thinning
- Hedging/skirting
- Shoot positioning
- Leaf removal

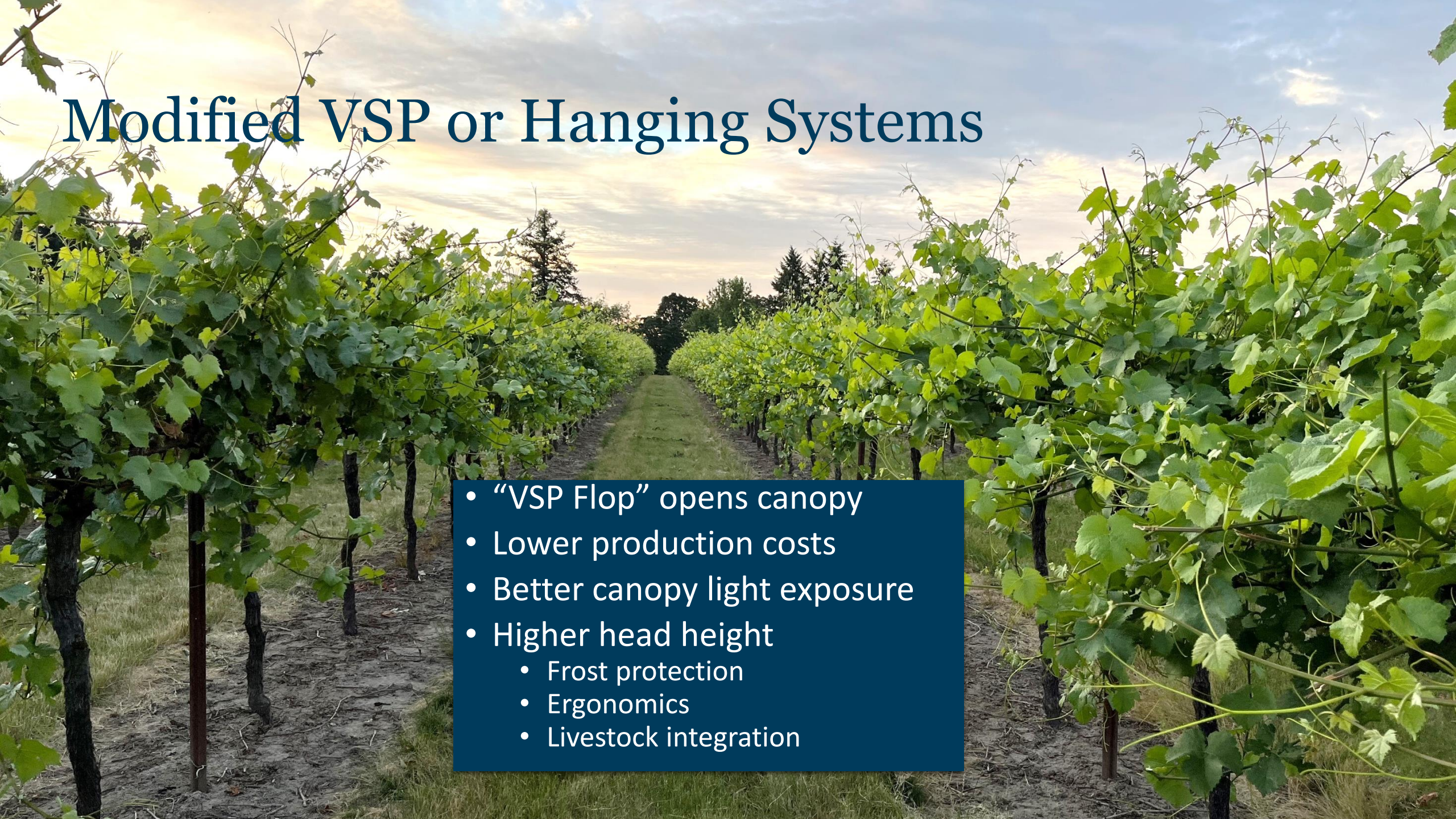
Alternative Training Systems

Modified VSP or Hanging Systems



- Retrofit of current VSP vineyards may not be possible (spacing)
- Crossarms added to VSP in situ have not proven effective (OR)
- Need to consider at planting

Modified VSP or Hanging Systems



- “VSP Flop” opens canopy
- Lower production costs
- Better canopy light exposure
- Higher head height
  - Frost protection
  - Ergonomics
  - Livestock integration

Would you consider a different training system other than VSP?

How challenging will it be for industry to accept different training systems?

Cultivar and Rootstock

Can we change what is grown to be more sustainable?

Pinot noir

18 Rootstocks & Own-rooted

Rootstock Parentage

Vitis species	Rootstocks
V. riparia x V. rupestris	**101-14**
V. riparia (tomentose) x V. rupestris cv. Martin	**3309 C**
V. riparia cv. Michaux *x V. rupestris* cv. Scheele	**Schwarzmann**
V. riparia cv. Michaux	**Riparia Gloire**
V. berlandieri x V. riparia	**5BB**
	5C
	8B
	125AA
	420A
	SO4
V. riparia x V	**161-49**
V. riparia x G ia x V. rupestris)	**44-53**
V. berlandieri cv. Las Sorres *x V. rupestris* cv. Lot	**99R**
V. berlandieri cv. Rességuier n°2 *x V. rupestris* cv. Martin	**110R**
V. berlandieri cv. Rességuier n°2 *x V. rupestris* cv. Lot	**140Ru**
	1103P
V. riparia cv. 183 GM *x V. cinerea* cv. Arnold	**Borner**
161-49 Couderc x 3309 Couderc	**Gravesac**

Rootstocks influence
- growth
- yield
- water use

OSU Rootstock Trials

Improved Cultivars Considered

Desired traits: High wine quality and disease resistance

Red Wine Grape Cultivars

- Cabernet Volos
- Crimson Pearl
- Frontenac
- Marquette
- Petite Pearl
- Regent

White Wine Grape Cultivars

- Aravelle
- Aromella
- Fleurtai
- Itasca
- La Crescent
- Traminette

OSU Improved Cultivars Trial Timeline

Choose cultivars and order vines

Spring-Fall 2025

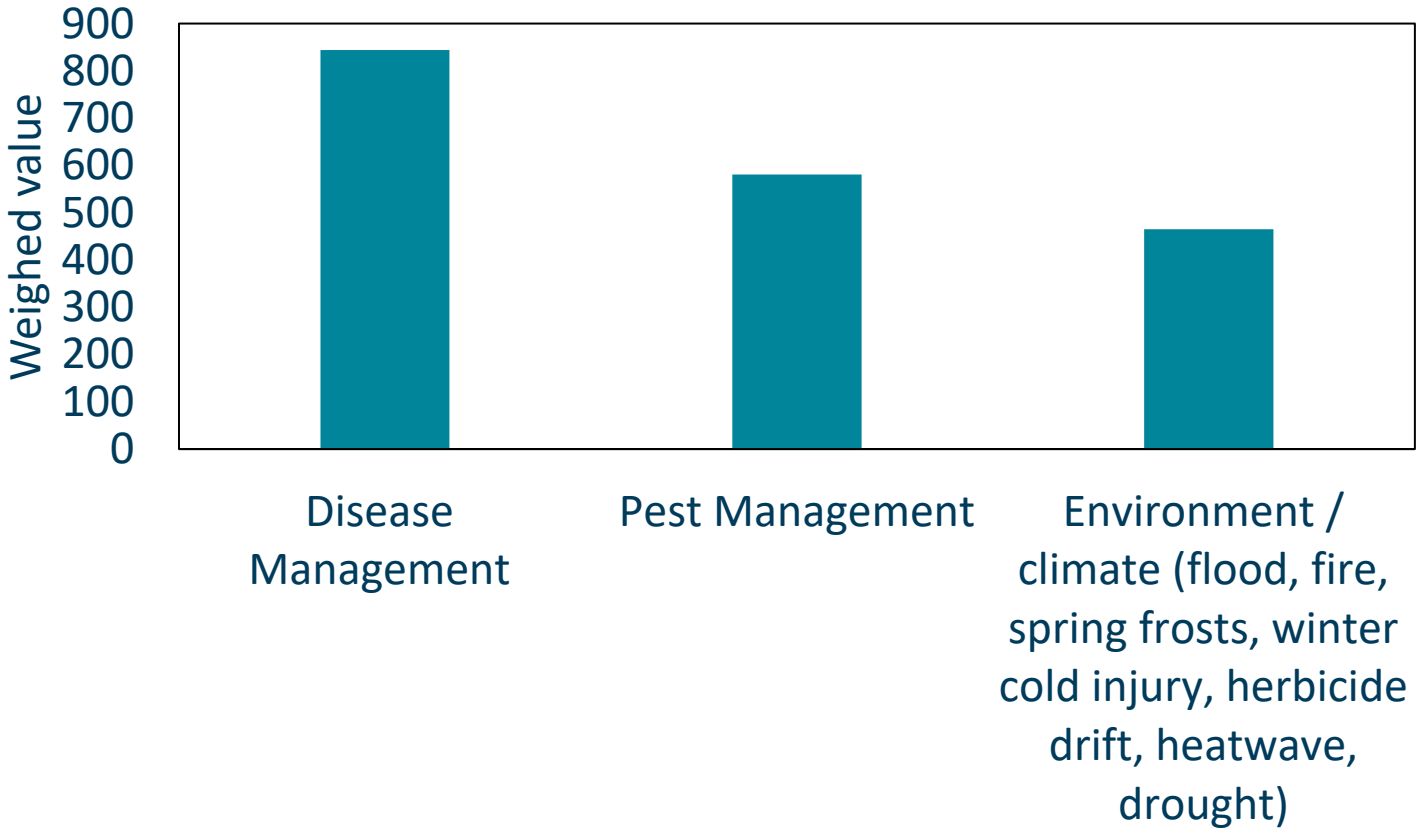
Plant cultivars at OSU Woodhall Vineyard (Monroe) and OSU-SOREC (Central Point)

Fall 2026

Establish vines, monitor and quantify vine growth for establishment

2027 -

Top 3 Viticulture Challenges in the US



> Climate-adapted grape varieties and sustainable vineyard practices are needed, regardless of US wine region.

(n=624, weighed value)

Are you interested in growing improved cultivars if they reduce costs and have high quality potential?

How likely are you to try different rootstocks in the future?

Summary

- Consider short, intermediate and long-term goals
- Information exists in viticulture technical research to support decision making:
  - Planting densities
  - Training systems
  - Improved cultivars
  - Rootstocks
- Doing the same thing will not be a solution for the future.

Up Next! Webinar with Tim Hanni

Making Informed Decisions with the Vineyard P&L Profit Planner Tool

Tim Hanni MW, CEO of Wine Business Education

Thursday, June 26, 2-3 p.m.

Register in advance: bit.ly/June26Hanni

WINE BUSINESS EDUCATION

or.

What questions do you have?

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