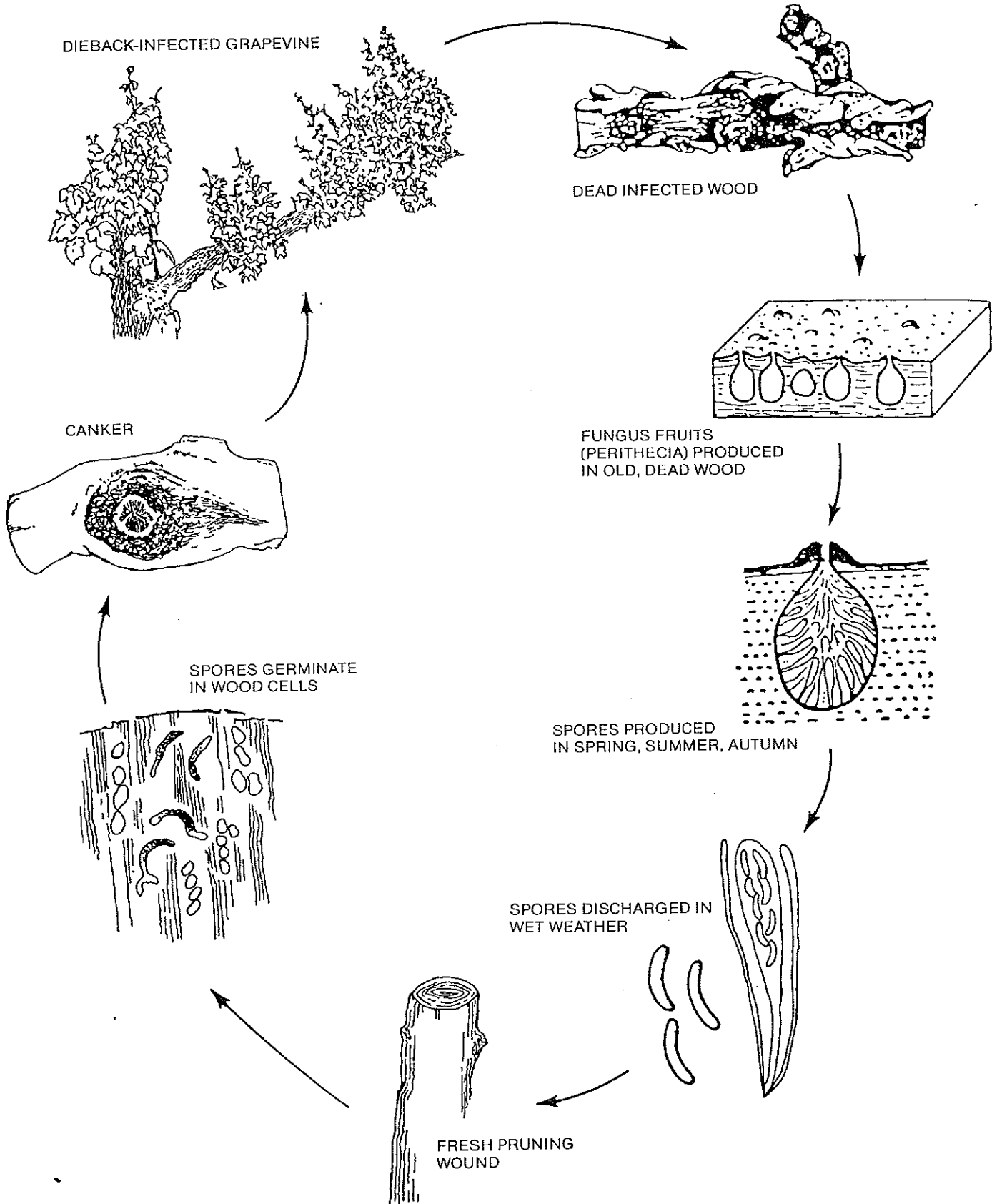


Influence of Vine Trellis  
Training Systems on Growth,  
Yield, Fruit Composition, and  
Eutypa Incidence in Cabernet  
Sauvignon

Dr. Keith Striegler  
Research Scientist

Viticulture and Enology Research Center, CSU Fresno

# Eutypa Dieback Cycle



# Objectives of Experiment

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- Hypothesis

A reduction in pruning wounds during infection periods (when ascospores are being released) will result in a lower incidence of *Eutypa dieback*.

# Materials and Methods

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## ● Plot Description

The vineyard consists of Cabernet Sauvignon on Freedom rootstock in the Lodi-Woodbridge District. Row orientation is east to west and vineyard spacing is 7' by 10'. Trellis system is a two-wire vertical trellis. When the experiment began (1992), the vines had received only one training cut and should have been free of "prior" Eutypa infection when data collection began

# Materials and Methods

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## ● Treatment Descriptions

- 1) Cordon-trained with spur pruning (Control).
- 2) Head-trained with cane pruning
- 3) Hudson River Umbrella (HRU)
- 4) Machine pruning with hand follow-up
- 5) Machine pruning w/o hand follow-up
- 6) Minimal pruning

Table 1. Effect of training system and pruning method on yield<sup>2</sup> of Cabernet Sauvignon grapevines. 1993. Vino Farms, Inc. Lodi, CA.

Treatment	Yield (lbs/vine)	Yield (tons/A)	Clusters/ vine	Berry weight (oz.)	Cluster weight (lbs)	Berries/ cluster
Cordon trained - spur pruned (Control)	29.5b <sup>y</sup>	9.2b	108b	0.04a	0.27b	111b
Minimal pruning	35.0ab	10.9ab	177a	0.03b	0.20f	95b
Machine pruning - no hand followup	40.1a	12.5a	172a	0.04a	0.23e	106a
Machine pruning - with hand followup	37.5a	11.7a	155a	0.04a	0.24d	112a
Head trained - cane pruned	21.0c	6.5c	74c	0.04a	0.28a	115a
Hudson River Umbrella	30.2b	9.4b	122b	0.04a	0.25c	110a

<sup>2</sup> Vines were harvested on September 29, 1993.

<sup>y</sup> Means followed by the same letter do not differ significantly at the 0.05 level;  
n.s. = not significant. Mean separation by Duncan's Multiple Range Test.

Table 2. Effect of training system and pruning method on fruit composition<sup>2</sup> of Cabernet Sauvignon grapevines. 1993. Vino Farms, Inc. Lodi, CA.

Treatment	Soluble Solids (%)	pH	Titratable Acidity (g/100mL)
Cordon trained - spur pruned (Control)	25.2a <sup>Y</sup>	3.62ab	0.48
Minimal pruning	22.7b	3.46d	0.51
Machine pruning - no hand followup	23.6b	3.53bcd	0.45
Machine pruning - with hand followup	23.6b	3.58abc	0.44
Head trained - cane pruned	25.2a	3.63a	0.48
Hudson River Umbrella	23.9ab	3.52cd	0.49
			n.s.

<sup>2</sup> Vines were sampled on September 26, 1992.

<sup>Y</sup> Means followed by the same letter do not differ significantly at the 0.05 level; n.s. = not significant. Mean separation by Duncan's Multiple Range Test.

Table 3. Effect of training system and pruning method on growth<sup>z</sup> of Cabernet Sauvignon grapevines. 1993. Vino Farms, Inc. Lodi, CA.

Treatment	Pruning Weight (lbs/vine)	Nodes retained per vine
Cordon trained - spur pruned (Control)	5.33 <sup>y</sup>	49.82
Minimal pruning	----	544.57
Machine pruning - no hand followup	----	605.99
Machine pruning - with hand followup	----	203.06
Head trained - cane pruned	4.70	54.21
Hudson River Umbrella	3.41	49.82

<sup>z</sup> Vines were pruned on January 10, 1994 (hand pruning); data not available for machine pruning.

<sup>y</sup> Means followed by the same letter do not differ significantly at the 0.05 level; n.s. = not significant. Mean separation by Duncan's Multiple Range Test.



Table 4. Effect of training system and pruning method on yield<sup>1</sup> of Cabernet Sauvignon grapevines. 1994. Vino Farms, Inc. Lodi, CA.

Treatment	Yield (lbs/vine)	Yield (tons/A)	Clusters/ vine	Berry weight (oz.)	Cluster weight (lbs)	Berries/ cluster
Cordon trained - spur pruned (Control)	37.5 <sup>y</sup>	11.7 <sup>cd</sup>	117 <sup>c</sup>	0.04 <sup>a</sup>	0.32 <sup>a</sup>	128 <sup>a</sup>
Minimal pruning	41.6 <sup>bc</sup>	12.9 <sup>bc</sup>	298 <sup>a</sup>	0.03 <sup>b</sup>	0.14 <sup>c</sup>	80 <sup>c</sup>
Machine pruning - no hand followup	49.3 <sup>a</sup>	15.3 <sup>a</sup>	249 <sup>b</sup>	0.03 <sup>b</sup>	0.20 <sup>b</sup>	100 <sup>b</sup>
Machine pruning - with hand followup	46.0 <sup>ab</sup>	14.3 <sup>ab</sup>	231 <sup>b</sup>	0.03 <sup>b</sup>	0.20 <sup>b</sup>	100 <sup>b</sup>
Head trained - cane pruned	26.9 <sup>e</sup>	8.4 <sup>e</sup>	89 <sup>c</sup>	0.04 <sup>a</sup>	0.31 <sup>a</sup>	119 <sup>a</sup>
Hudson River Umbrella	32.5 <sup>de</sup>	10.1 <sup>de</sup>	109 <sup>c</sup>	0.04 <sup>a</sup>	0.30 <sup>a</sup>	124 <sup>a</sup>

<sup>2</sup> Vines were harvested on October 4, 1994.

<sup>y</sup> Means followed by the same letter do not differ significantly at the 0.05 level; n.s. = not significant. Mean separation by Duncan's Multiple Range Test.

Table 5. Effect of training system and pruning method on fruit composition<sup>1</sup> of Cabernet Sauvignon grapevines. 1994. Vino Farms, Inc. Lodi, CA.

Treatment	Soluble Solids (%)	pH	Titratable Acidity (g/100mL)
Cordon trained - spur pruned (control)	23.4a <sup>y</sup>	3.74ab	0.69b
Minimal pruning	21.3c	3.59c	0.87a
Machine pruning - no hand followup	21.6bc	3.59c	0.73b
Machine pruning - with hand followup	22.1a	3.60c	0.72b
Head trained - cane pruned	23.7a	3.78a	0.72b
Hudson River Umbrella	23.9a	3.71b	0.70b

<sup>z</sup> Vines were sampled on October 4, 1994.

<sup>y</sup> Means followed by the same letter do not differ significantly at the 0.05 level; n.s. = not significant. Mean separation by Duncan's Multiple Range Test.

Table 6. Effect of training system and pruning method on growth<sup>2</sup> of Cabernet Sauvignon grapevines. 1994. Vino Farms, Inc. Lodi, CA.

Treatment	Pruning Weight (lbs/vine)	Nodes retained per vine
Cordon trained - spur pruned (Control)	4.30a <sup>y</sup>	54.21c
Minimal pruning	----	456.90a
Machine pruning - no hand followup	2.60b	238.97b
Machine pruning - with hand followup	2.72b	206.24b
Head trained - cane pruned	4.29a	61.08c
Hudson River Umbrella	3.35b	49.73c

<sup>2</sup> Vines were pruned on February 17, 1995 (hand pruning) and April 6, 1995 (machine pruning).

<sup>y</sup> Means followed by the same letter do not differ significantly at the 0.05 level; n.s. = not significant. Mean separation by Duncan's Multiple Range Test.

# Eutypa lata Summary

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- Symptoms of Eutypa Infection have not been Observed in the Research Plots
- Spore Trapping has been Problematic

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