

Experience With Leaf Scorch in the Southeast

Lenny Wells , UGA Horticulture

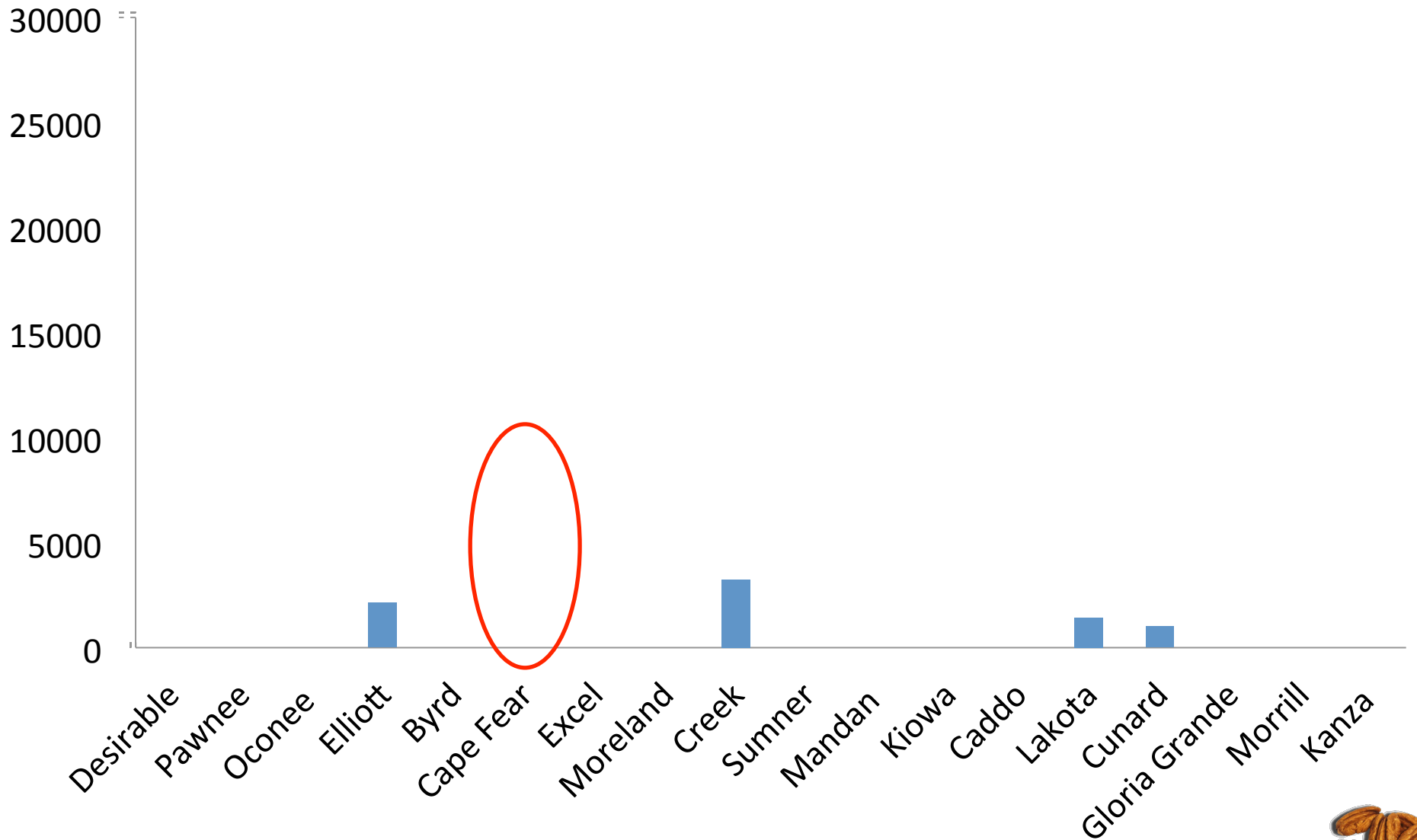




Bacterial Leaf Scorch

- Historically, a problem confined to 'Cape Fear'
- Recently confirmed in 'Kiowa' and Morrill' in Georgia
- Sanderlin identified PBLs in 25 cultivars
- "No resistant cultivars identified"
- Transmission by insect vectors, grafting, seed/
rootstock

Newly Planted Trees by Cultivar 2012







August 2015

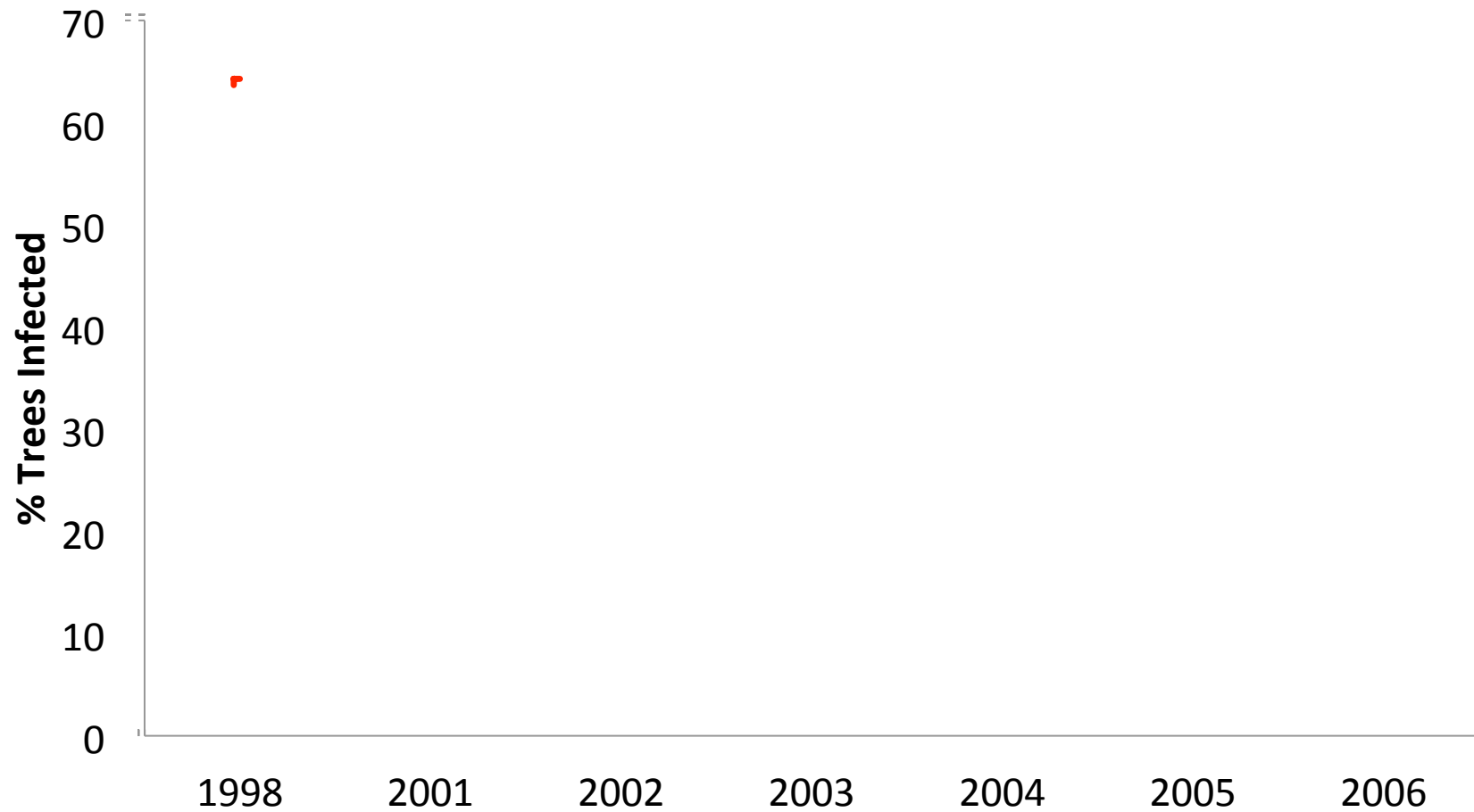
Yield Reductions Resulting From PBLS

Year	% Defoliation	% In-shell weight loss	% kernel reduction
1999	66.6	11.4	18.2
2000	66.3	14.5	16
2001	41	9.2	13.5



Randy Sanderlin

Spread of PBLs in an orchard



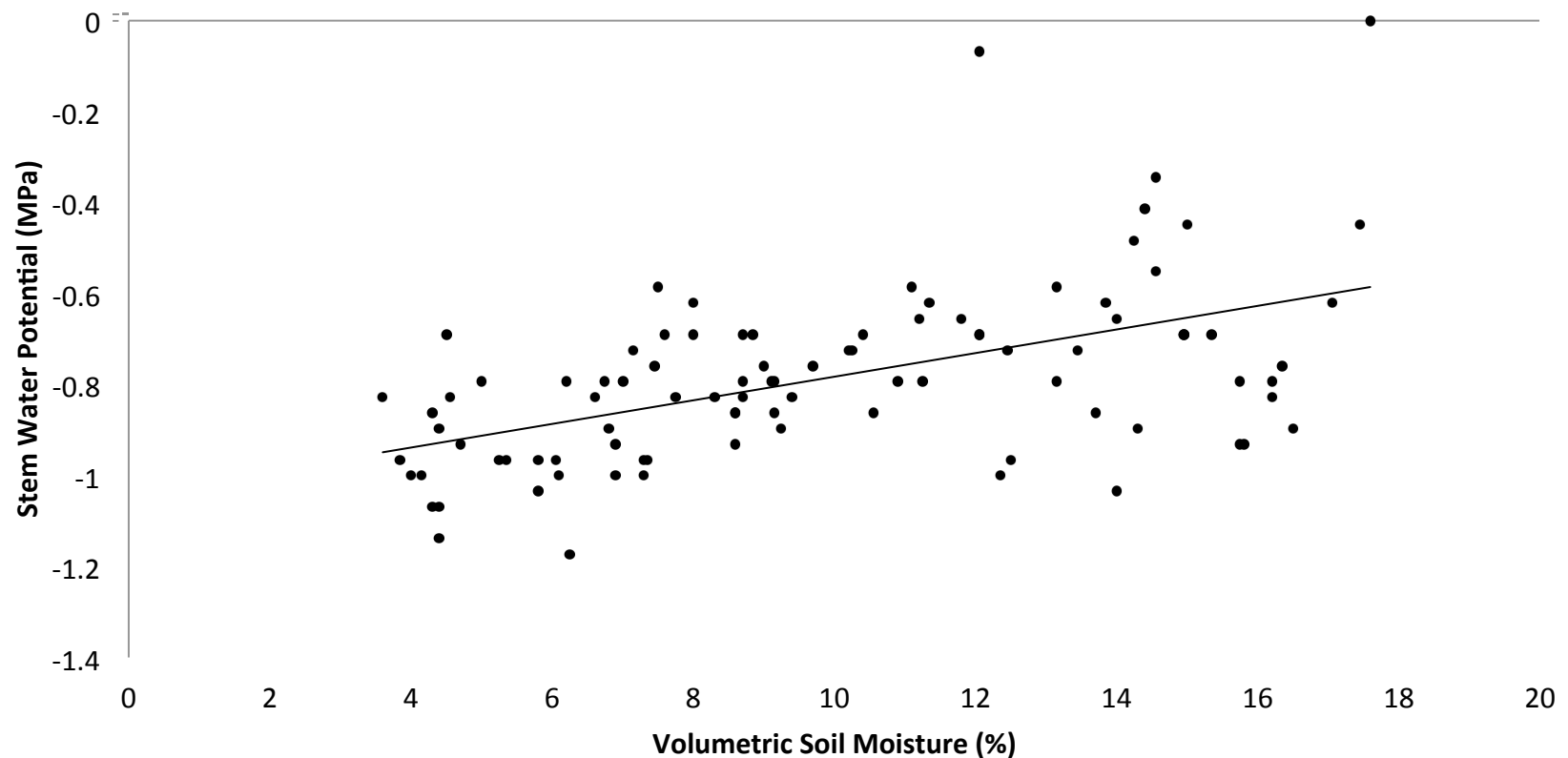
Randy Sanderlin

Bacterial Leaf Scorch

- Problems with PBLs largely a result of symptom expression
- Increase in symptom expression as trees age
- Symptom expression sensitive to tree stress
 - Crop stress
 - Drought Stress
- Symptoms may come and go on same tree from one year to next

Managing Pecan Bacterial Leaf Scorch

- Maintain ***even*** soil moisture
 - Irrigate at 10% Volumetric Soil Moisture



Managing Pecan Bacterial Leaf Scorch

- Maintain even soil moisture
 - Irrigate at 10% Volumetric Soil Moisture
- Manage Crop Load

	Yield	% Kernel
Fruit Thinned	186.5b	51.2a
Non-Thinned	224.9a	47.9b
Fruit Thinned	195a	57.3a
Non-Thinned	8b	56.9a

Managing Pecan Bacterial Leaf Scorch

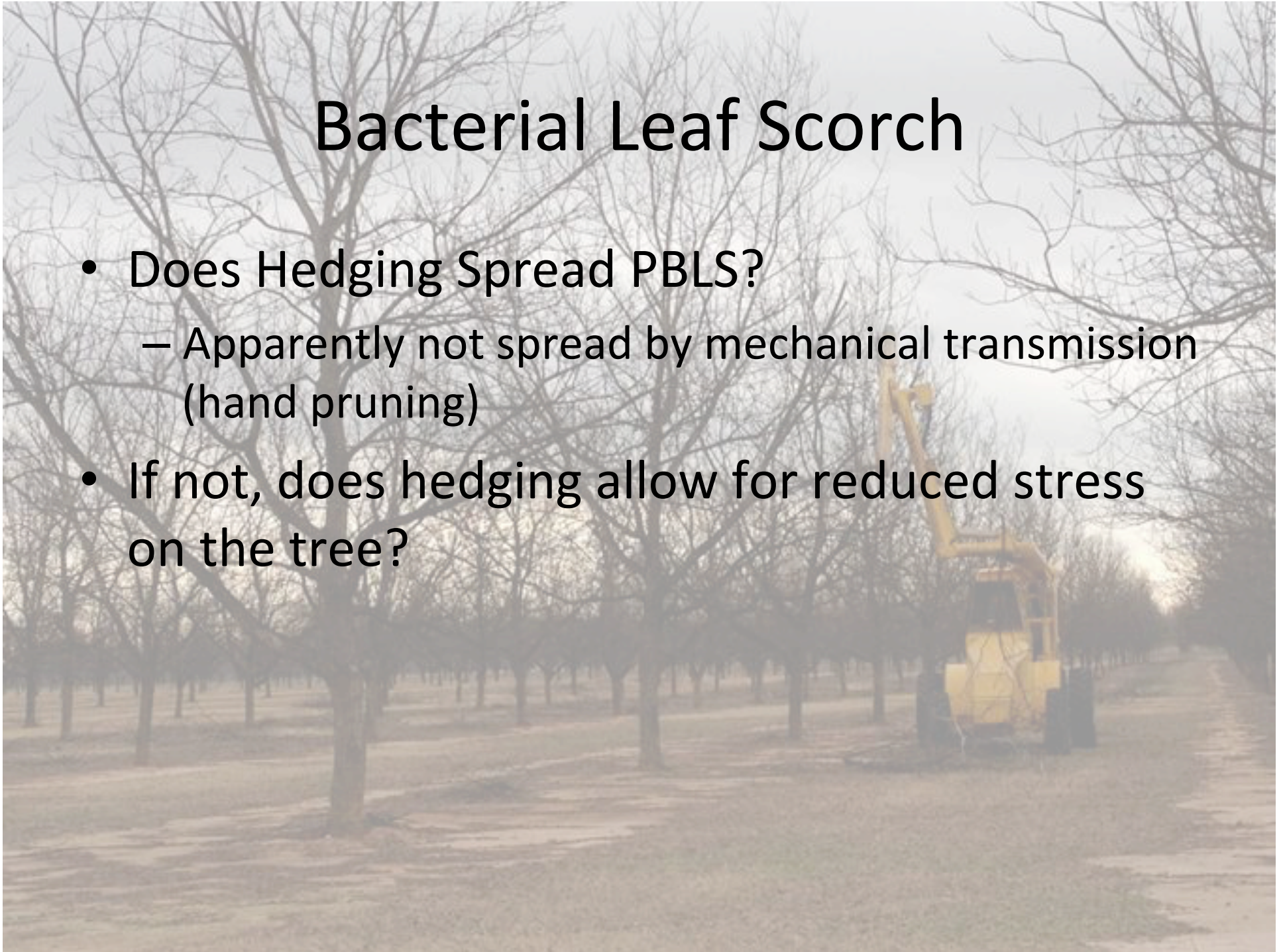
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- Avoid factors that limit root development

Managing Pecan Bacterial Leaf Scorch

- Maintain even soil moisture
 - Irrigate at 10% Volumetric Soil Moisture
- Manage Crop Load
- Avoid factors that limit root development
- Manage Sunlight

Bacterial Leaf Scorch

- Does Hedging Spread PBLIS?
 - Apparently not spread by mechanical transmission (hand pruning)
- If not, does hedging allow for reduced stress on the tree?



Other Factors Leading to Leaf Scorch of Pecan in the Southeast

- Cultural Management/Environment
 - Site Selection
 - Fertility/Nutritional
 - Irrigation
 - Herbicide Injury
- Disease
 - Anthracnose
 - Terminal Die-Back
- Insects
 - Mites
 - Black Aphids

Leaf Scorch of Young Pecan Trees

- Primarily a problem of poor root establishment
- Limitations to root growth
 - Wet spring
 - Wet/Dry extremes
 - Poor soil
 - Water-logged
 - Planting immed. behind pine trees
 - Hard Pan/High water table
- Fertilization



Anthracnose Symptoms



Desirable in July, 2009



Terminal Die-Back

- *Neofusicoccum spp.*
- Naturally occurs in orchard
- Like anthracnose, infects a month or two prior to symptom expression
- Expression brought on by tree stress
- Manage with DMI/Strobi fungicides



Leaf Scorch From Nutritional Imbalance

- Nitrogen/
Phosphorus
Imbalance



Severe Zinc Deficiency



Questions?

