



**MSU/RTA - Alternative Wood  
Preservatives Research Project  
2<sup>nd</sup> Annual Inspection**

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# MSU/RTA-Alternative Wood Preservative Research Project

- Two Primary Goals
  - Assess relative performance of new preservative systems in direct comparison to existing creosote and borate/creosote systems in both refractory and non-refractory species
  - Concurrently duplicate the research in location where Formosan Subterranean Termites are known to be active

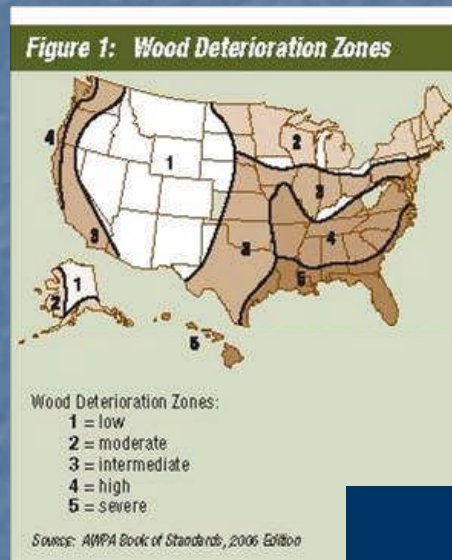
# MSU/RTA-AWPRP

- Other Goals
  - Non-indigenous species evaluation
  - Corrosion evaluation – tie plates/spikes
  - Dimensional stability evaluation

# MSU/RTA-AWPRP (Set-up)

- Insure each tie is exposed to decay
- Insure each tie is exposed to termites  
(Formosan & Retics.)
- Maximize exposure risk for both types of deterioration

# MSU/RTA-AWPRP



## Site 1

- AWPA Hazard Class 5
- Sandy Loam Soil
- Activity by both decay and *Coptotermes formosanus*



### Formosan Termite Research Facility

Department of Forest Products  
Forest and Wildlife Research Center  
Mississippi State University



# MSU/RTA-AWPRP

## Initial Setup

### Site 1:

- ❖ OSB panels placed on ground end-to-end
- ❖ SYP 2x4 or 2x6 placed on OSB and allowed to weather
- ❖ Mulch placed between SYP boards to the depth of the boards (and to the projected ends of the ties)
- ❖ Ties separated by  $\approx 4''$  and treatment replicates randomly placed throughout test area
- ❖ Formosan termites introduced to test setup as past studies have indicated foraging by Formosan not as random and wide spread as natives

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## Site 1

2nd year  
Inspection

### Procedure:

- Visual Inspection of all ties (top side)
- Photo-documentation of degradation
- One tie from each treatment group sacrificed for internal evaluation
- Photo-documentation of all segmented ties

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## Site 1

2<sup>nd</sup> Year  
Inspection

Overall



What did we see?



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## Site 1

2<sup>nd</sup> Year  
Inspection

Overall  
(weathered)



# MSU / RTA-AWPRP

## Site 1

2<sup>nd</sup> Year  
Inspection

Checking



# MSU / RTA-AWPRP

## Site 1

2<sup>nd</sup> Year  
Inspection

Decay



# MSU/RTA-AWPRP

## Site 1

2<sup>nd</sup> Year  
Inspection

Segmented  
Ties



What did we see?

# MSU/RTA-AWPRP

## Site 1

### 2<sup>nd</sup> Year Inspection

As expected, very few problems were noted this early in the study



What did we see?

# MSU / RTA-AWPRP

## Site 1

2<sup>nd</sup> Year  
Inspection



# MSU / RTA-AWPRP

## Site 1

2<sup>nd</sup> Year  
Inspection



# MSU/RTA-AWPRP

## Site 1

2<sup>nd</sup> Year  
Inspection





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## Site 1

2<sup>nd</sup> Year  
Inspection



10/14/10

17

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## Site 1

2<sup>nd</sup> Year  
Inspection



# MSU / RTA-AWPRP

## Site 1

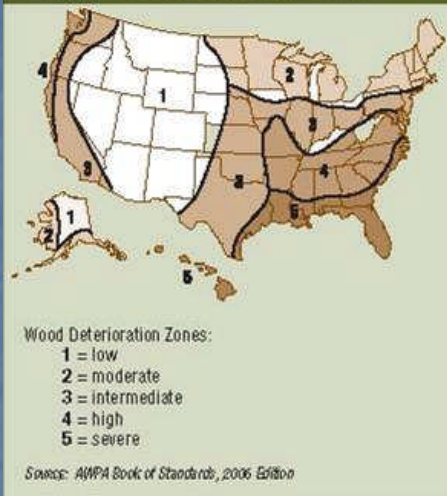
2<sup>nd</sup> Year  
Inspection

Some control  
ties did show  
evidence of decay



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Figure 1: Wood Deterioration Zones



## MSU Dorman Lake Test Site



- AWPA Hazard Class 4
- Clay Soil
- Activity by both decay and *Reticulitermes flavipes*

## Site 2

# MSU / RTA-AWPRP

## Initial Setup

### Site 2:

- ❖ SYP 2x4 or 2x6 placed directly on ground and allowed to weather
- ❖ Mulch placed between SYP boards to the depth of the boards (and to the projected ends of the ties)
- ❖ Ties separated by  $\approx 4''$  and treatment replicates randomly placed throughout test area
- ❖ Area chosen due to heavy activity by *Reticulitermes* in feeder material already in place

# MSU/RTA-AWPRP



## Procedure:

- Visual Inspection of all ties (top side)
- Photo-documentation of degradation
- One tie from each treatment group sacrificed for internal evaluation
- Photo-documentation of all segmented ties

## Site 2

2nd year  
Inspection

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## Site 2

2nd year  
Inspection

Overall

What did we see?

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## Site 2

2nd year  
Inspection

Untreated white oak  
control  
(decay)



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## Site 2

2nd year  
Inspection

Untreated red oak  
control  
(decay)

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## Site 2

1st year  
Inspection

Untreated Control  
(termites)

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What did we see?

Site 2

2nd year  
Inspection

Segmented  
Ties

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## Site 2

2<sup>nd</sup> Year  
Inspection

As with Site 1, very few problems were noted this early in the study



What did we see?

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## Site 2

1st year  
Inspection

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## Site 2

1st year  
Inspection

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## Site 2

1st year  
Inspection

# MSU/RTA-AWPRP



## Site 2

1st year  
Inspection

10/14/10

32



# MSU/RTA-AWPRP



## Site 2

1st year  
Inspection

# MSU/RTA-AWPRP



## Site 2

1st year  
Inspection

One tie did show  
evidence of  
pre-treatment decay

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## 2<sup>nd</sup> Year Inspection Summary:

### Summary Site 1

- Ties with visible decay
- Ties with severe checking (more sunlight/drying)
- All Ties weathering

### Summary Site 2

- Ties with visible decay
- Ties with termite damage
- All ties weathering

**A photographic record of all segmented ties can be found on the RTA web site contained in the 2<sup>nd</sup> year evaluation report**

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Questions???



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**Thank you**

