

An Overview of the U.S. Wood Preserving Industry

Richard Vlosky
Todd Shupe

Louisiana Forest Products Development Center
School of Renewable Natural Resources
Louisiana State University Agricultural Center

March 23, 2006



Funding provided by:

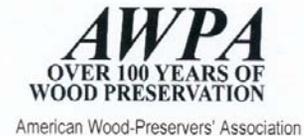
Southern Pine Council
Treated Wood Council
APA – The Engineered Wood Association

With support from:

American Wood-Preservers' Association
Railway Tie Association
Southern Pressure Treaters' Association
Timber Piling Council
Western Wood Preservers Institute



*Southern Pressure
Treaters' Association*



Outline

- Overview of the Study
- Respondent Demographics
- Preservatives
 - Industry Overview
 - Waterborne Preservatives
 - Oilborne Preservatives
 - Creosote Treatments
- Fire Retardants
- Additives
- Concluding Comments



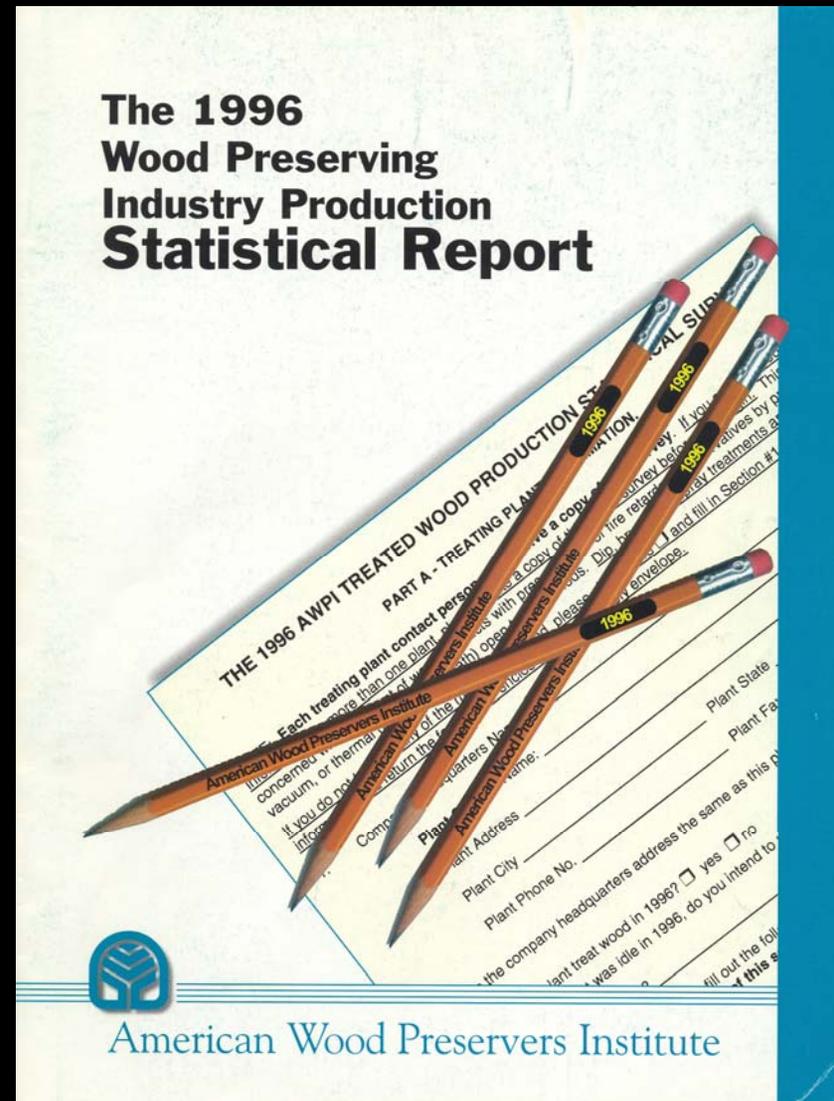
Outline

- Overview of the Study
- Respondent Demographics
- Preservatives
 - Industry Overview
 - Waterborne Preservatives
 - Oilborne Preservatives
 - Creosote Treatments
- Fire Retardants
- Additives
- Concluding Comments



Overview

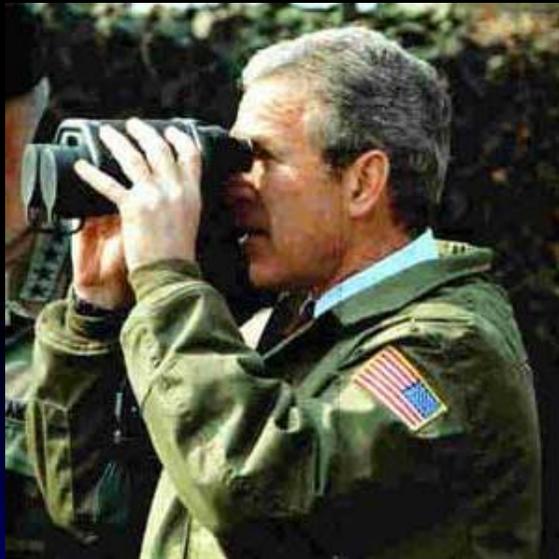
- The motivation for this study was to develop a baseline profile of the treated wood manufacturing industry after an eight year gap since 1997 when industry data were published by the American Wood Preservers Institute (AWPI).



Overview

- This study was conducted using mail surveys sent to a list of wood preserving operations provided by the Southern Forest Products Association (SFPA).
- Data were collected at the plant level.
- The questionnaire included many of the same questions and was formatted similarly to AWPI surveys in order to continue trend lines for key industry data series.
- 168 useable responses/452 plants surveyed.
- Adjusted Response Rate = 37%
- Results are for 2004.

Study Perspective

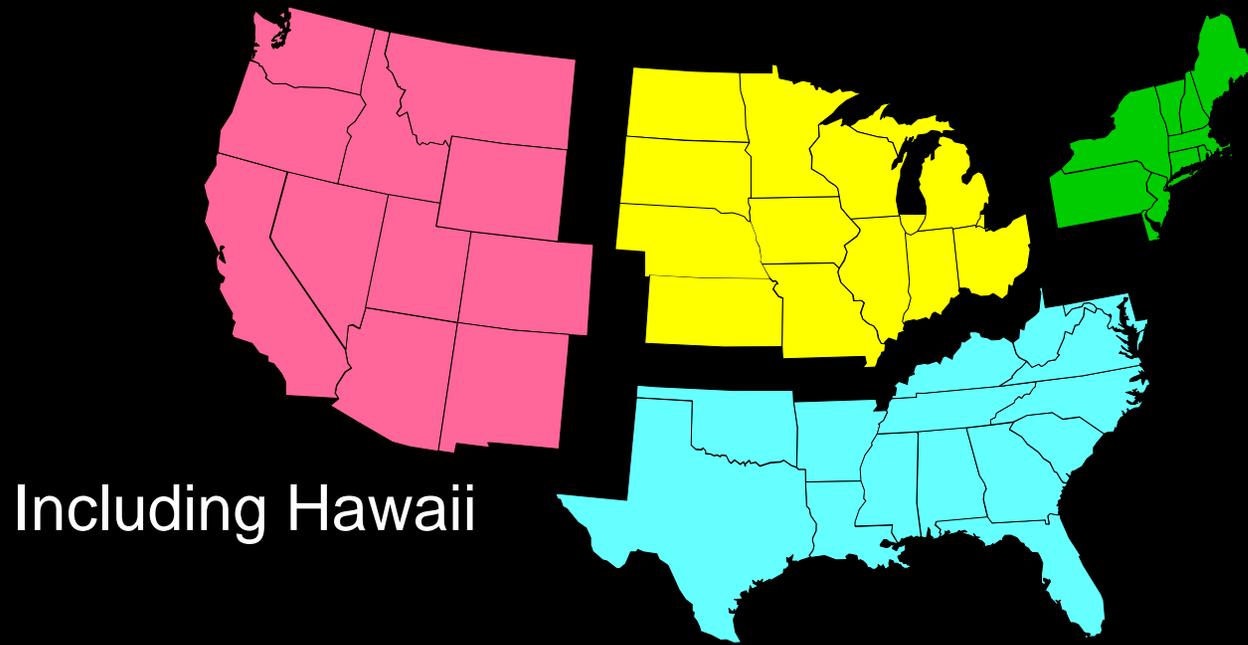


Outline

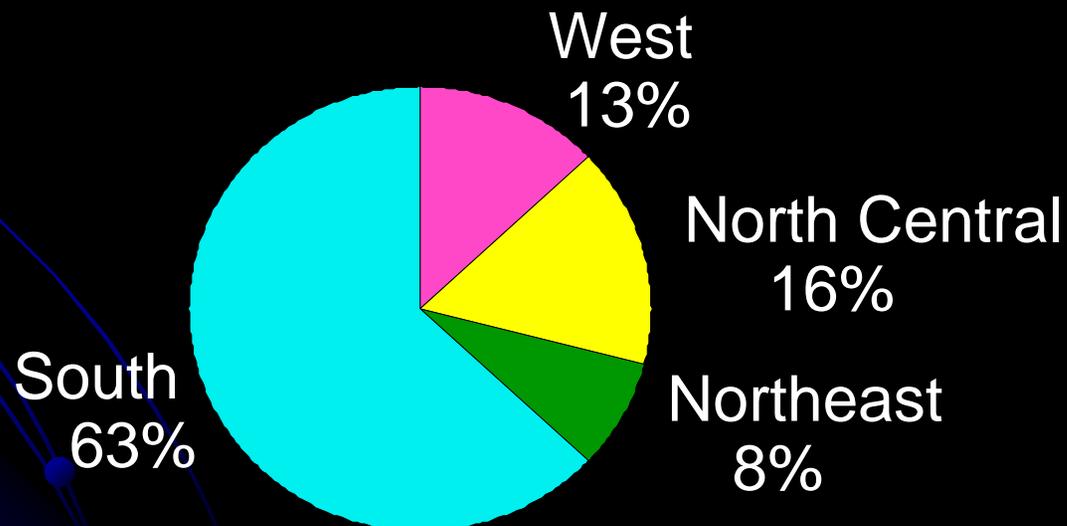
- Overview of the Study
- **Respondent Demographics**
- Preservatives
 - Industry Overview
 - Waterborne Preservatives
 - Oilborne Preservatives
 - Creosote Treatments
- Fire Retardants
- Additives
- Concluding Comments



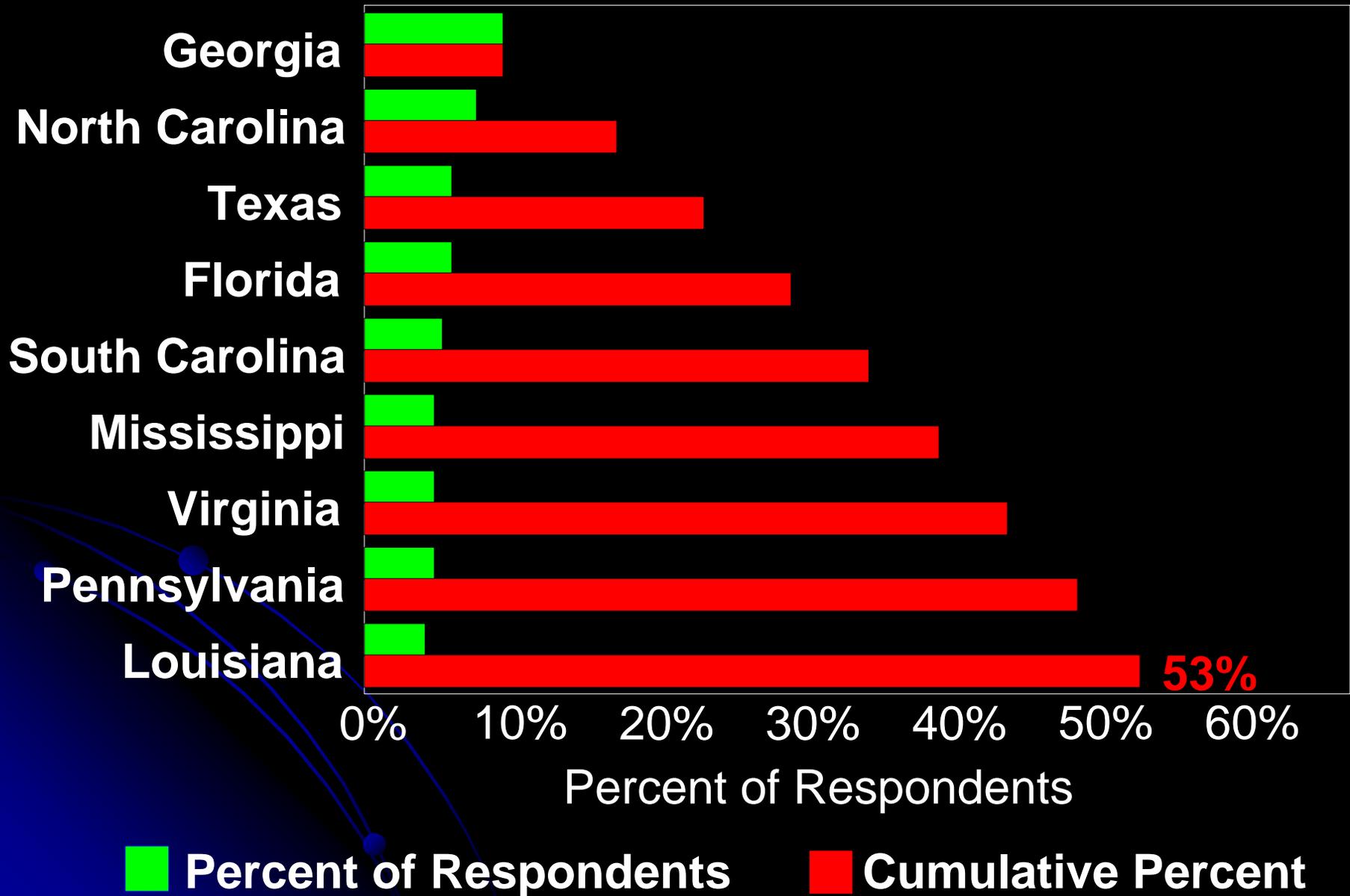
Respondent Locations (n=168)



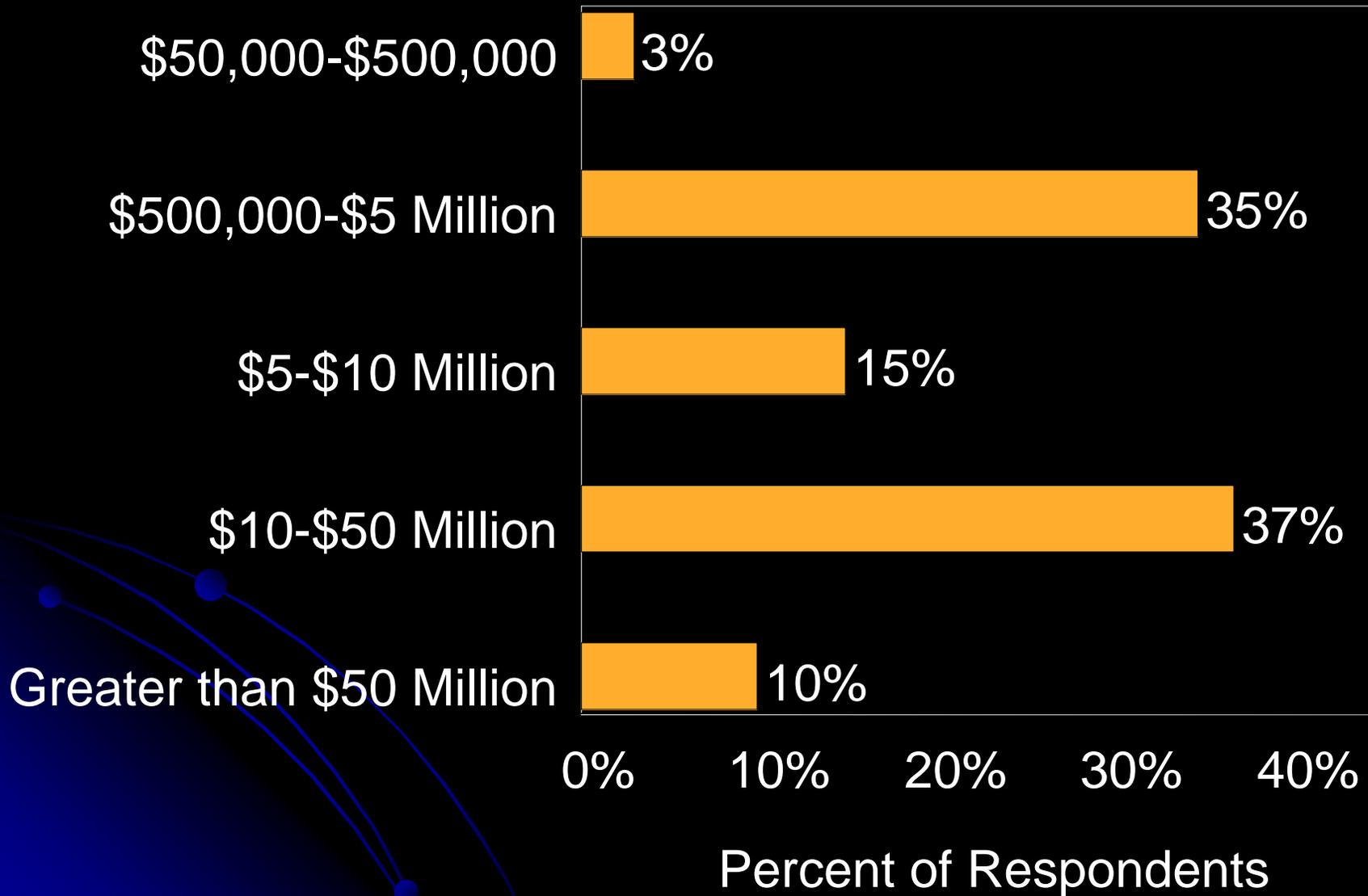
Including Hawaii



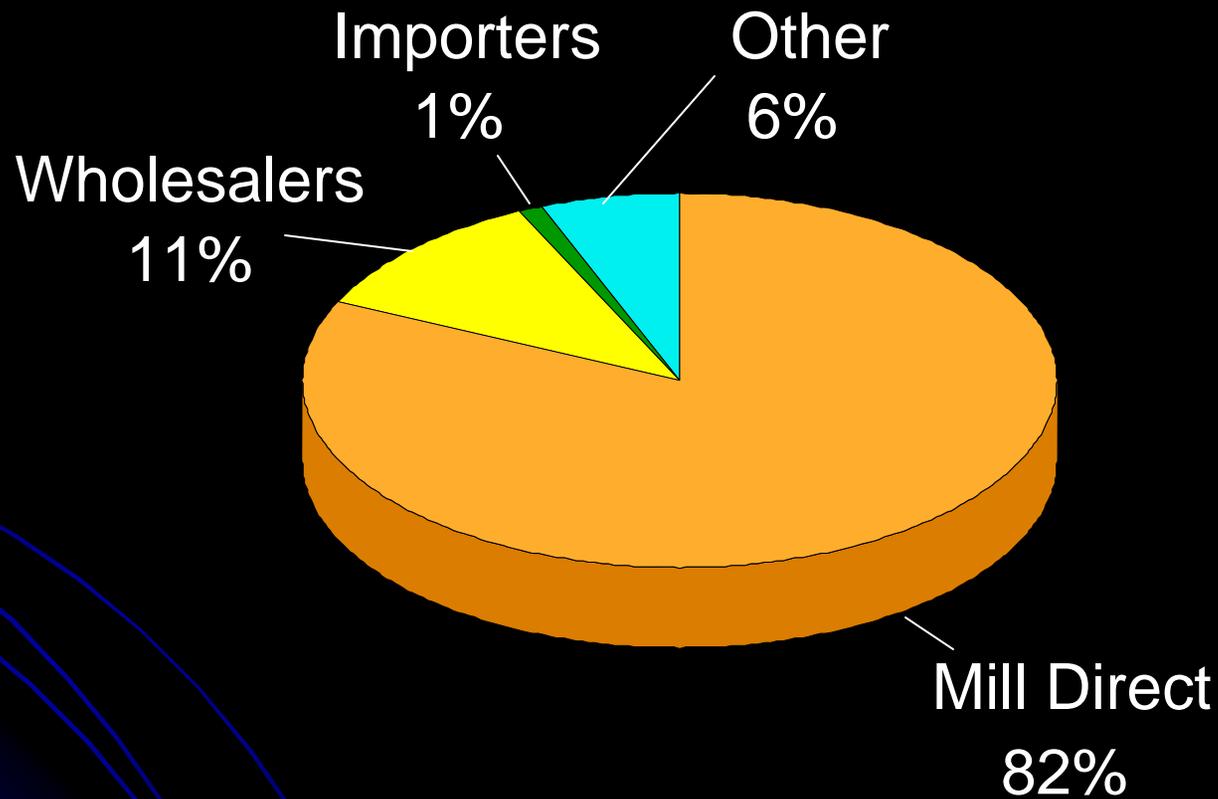
Top Nine Respondent States (n=168)



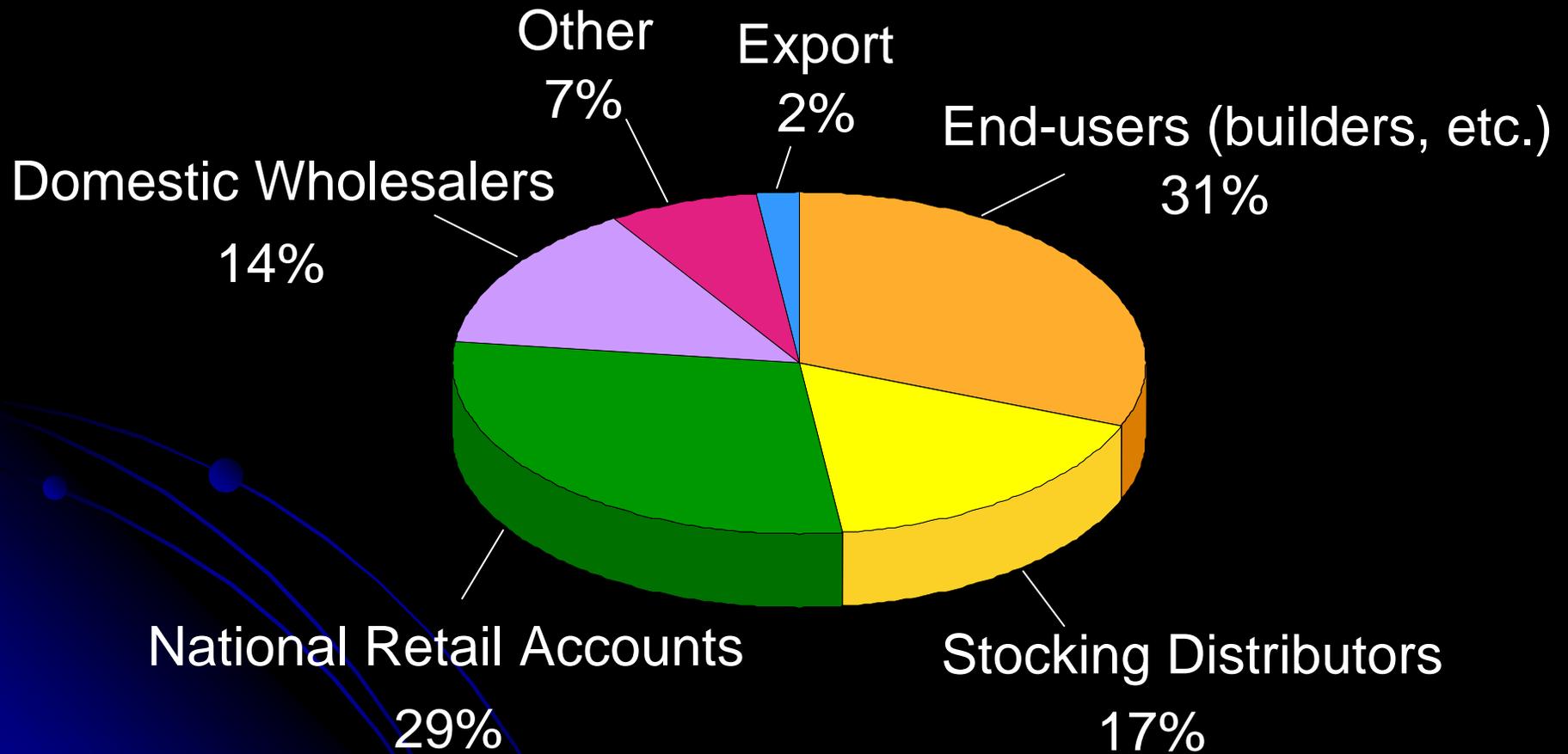
Gross Sales/Plant (n=167)



Percent of Untreated Material Purchases by Distribution Channel (n=165)



Percent of Shipments by Distribution Channel (n=159)



Outline

- Overview of the Study
- Respondent Demographics
- **Preservatives**
 - **Industry Overview**
 - **Waterborne Preservatives**
 - **Oilborne Preservatives**
 - **Creosote Treatments**
- Fire Retardants
- Additives
- Concluding Comments

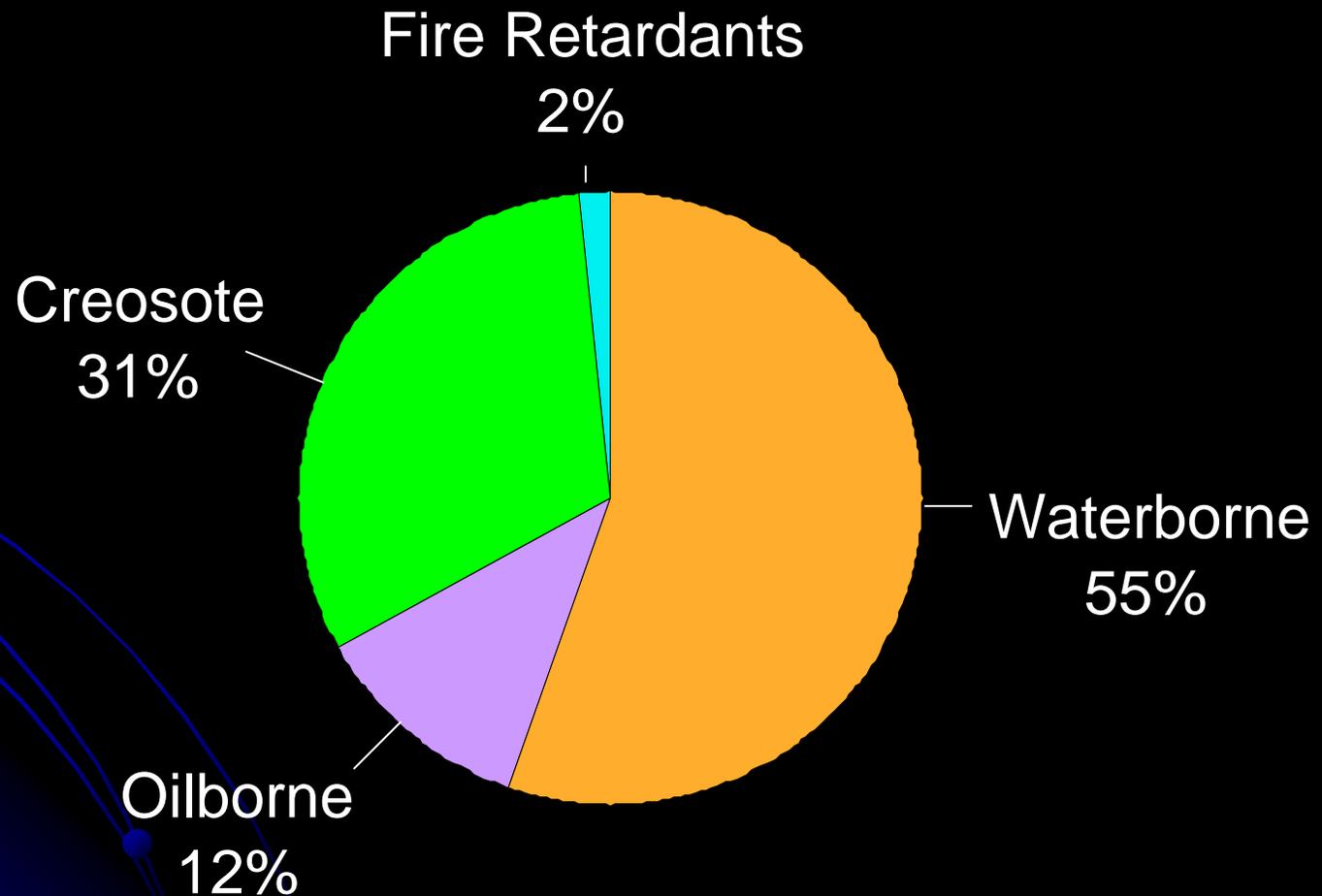


2004 Industry Estimates Compared to Previous Years

	1996 AWPI	1997 US Census	2002 US Census	2004 Estimate
Number of Plants	465	451	515	452
Employees (1,000)	11.0	11.7	12.3	13.6
Gross Sales (\$ Billion)	\$3.9	\$4.5	\$4.4	\$4.9
Payroll (\$ Million)	\$269.7	\$298.1	\$372.6	\$405.0

Preservatives Used Industry Estimate of Total-2004

Total = 275.5 Million Gallons



Products Included in the Study

- Agriculture Stakes (pieces)
- Boards, 1-inch (board ft)
- Bridge Ties (pieces)
- Decorative Parts (pieces)
- Dimension Lumber (board ft)
- Elec. Utility Crossarms (pieces)
- Fence Posts (pieces)
- Furniture Parts (board ft)
- Glue-Lam Beams (board ft)
- Highway Const. Mat' (board ft)
- Landscape Timbers (board ft)
- Marine Piling (linear ft)
- Piling – Other (linear ft)
- Plywood (square ft.-3/8" basis)
- Poles – Buildings (pieces)
- Poles – Utility (pieces)
- Radius Edge Decking (board ft)
- Railroad Crossties (pieces)
- Railroad Switch Ties (pieces)
- Timbers > 4x4 (board ft)

NOT in the same units!

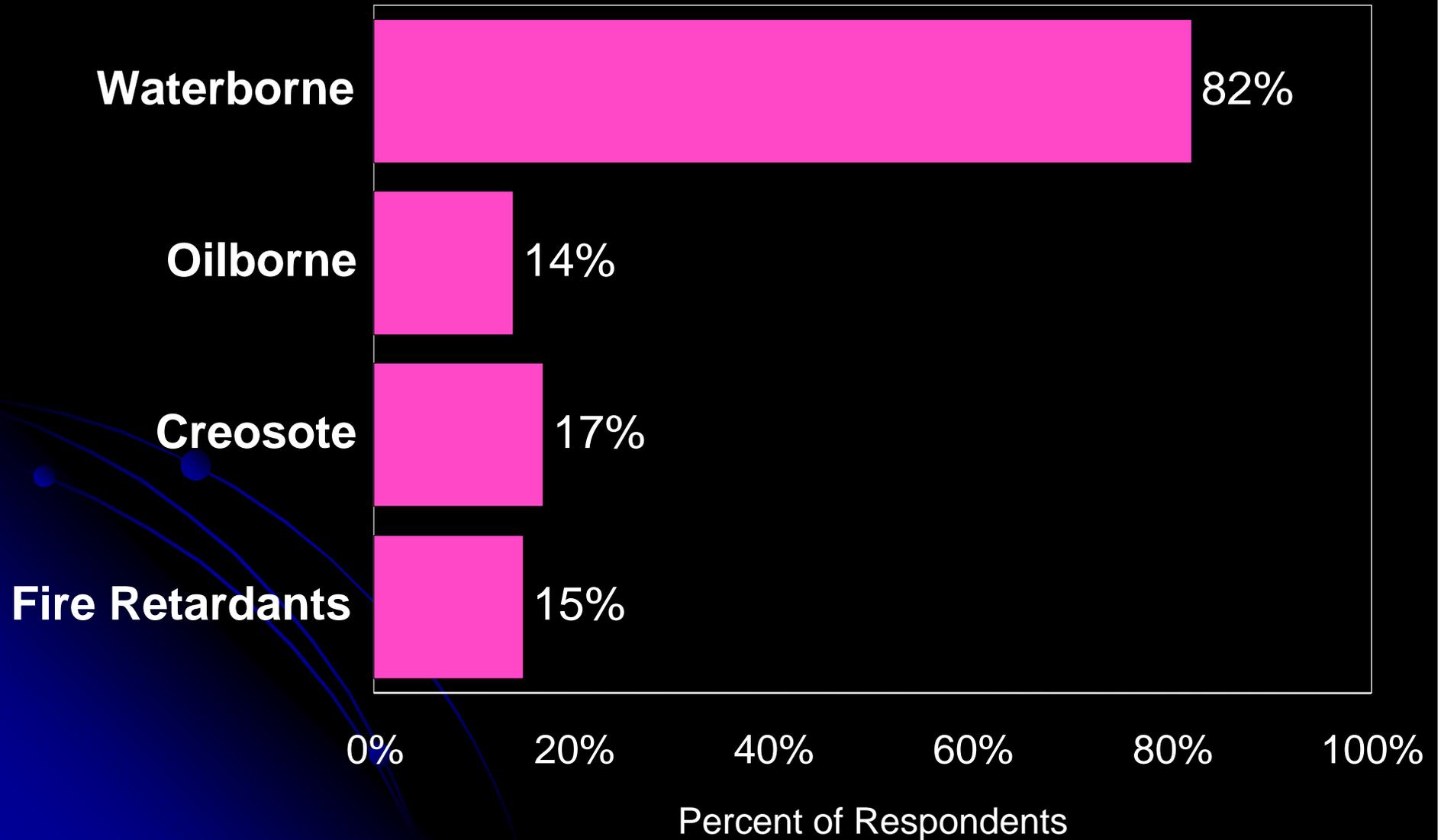
Major Products Treated Industry Estimates-2004

Products	
Dimension Lumber Decking, Boards, Timbers	5.6 BBF
Landscape Timbers	245.4 MMBF
Piling	23.1 MMCF
Plywood	413.6 MMSF (3/8 basis)
Railroad Crossties	17.3 million
Poles	3.9 million
Switch & Bridge Ties	1.7 million
Electric Utility Crossarms	1.4 million

Preservatives Used-Percent of Respondents

(n=168)

(2004)



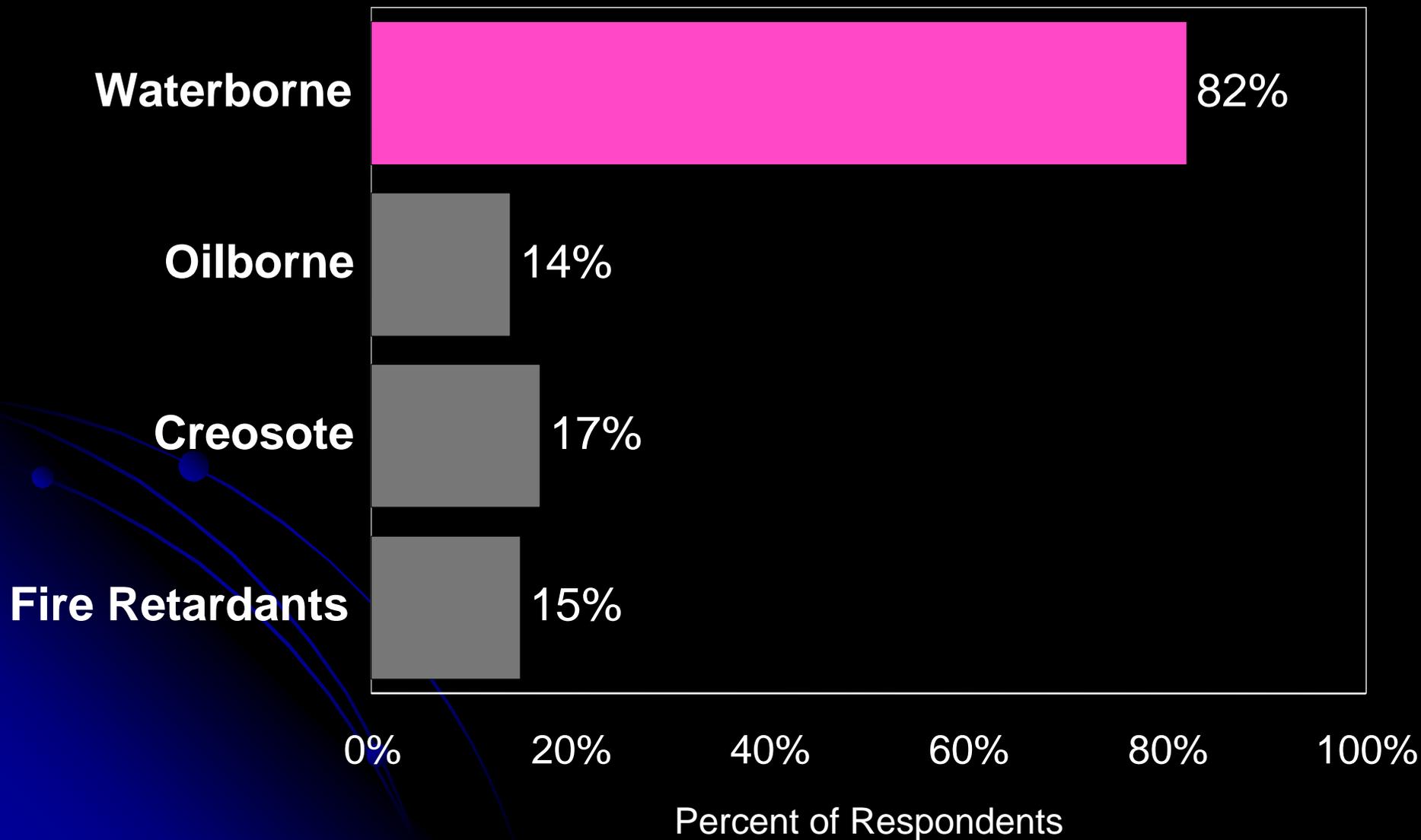
Waterborne Preservatives



Preservatives Used-Percent of Respondents

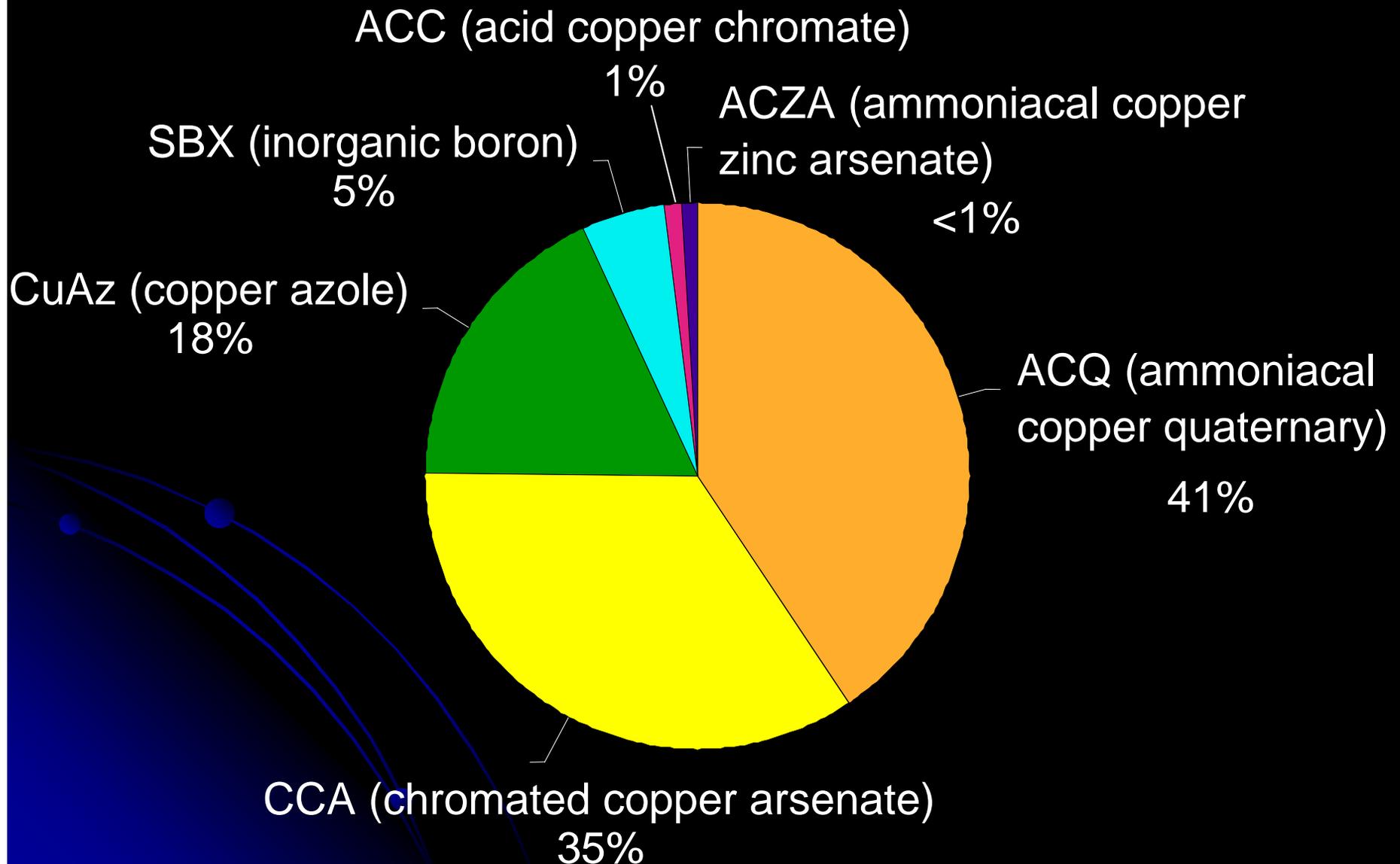
(n=168)

(2004)



Waterborne Preservatives

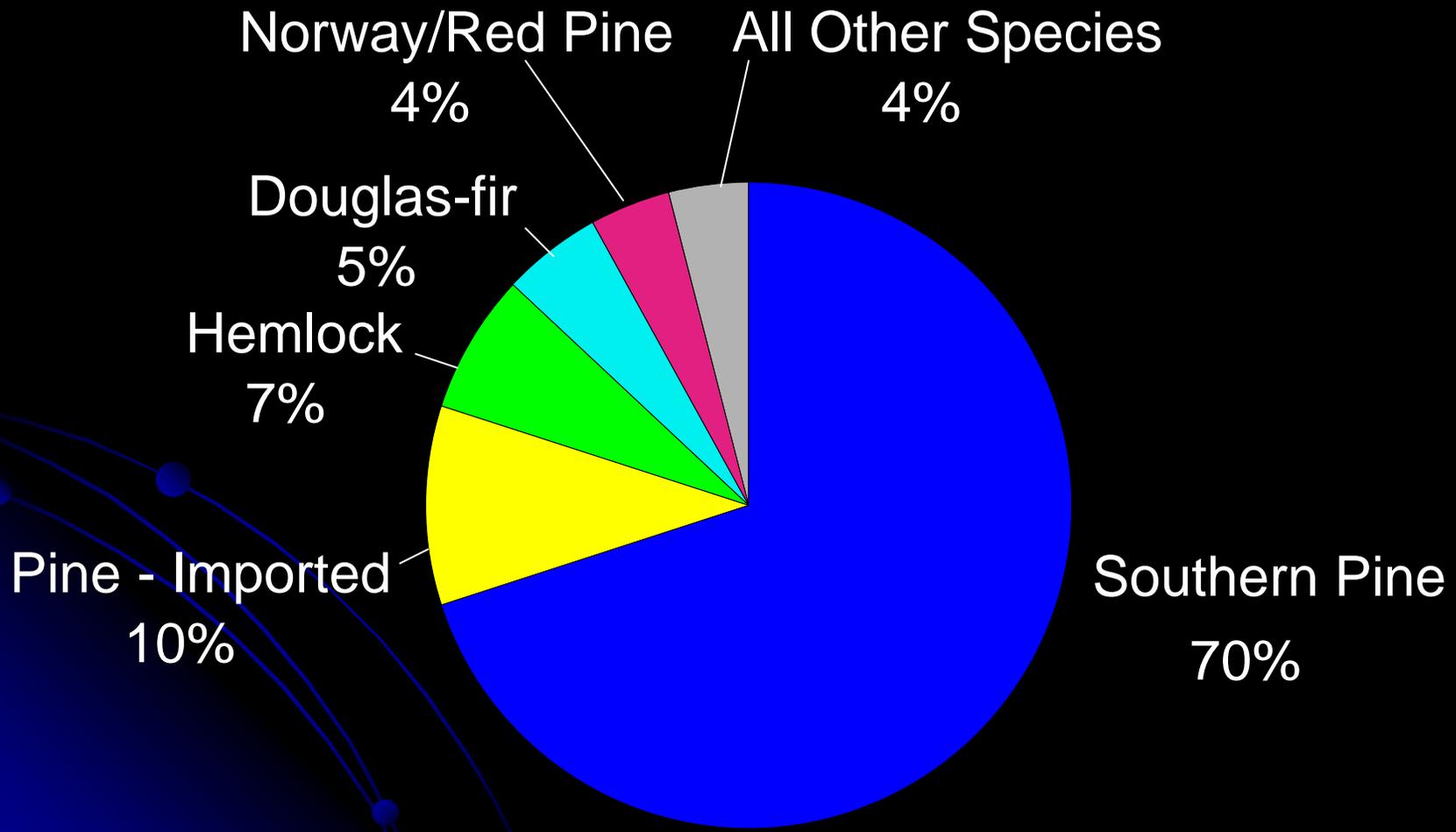
Industry Estimate = 183.2 million lbs. (dry oxide basis)



**Waterborne Preservatives
Pounds Consumed 2004 vs. to 2003)
(percent of respondents)**

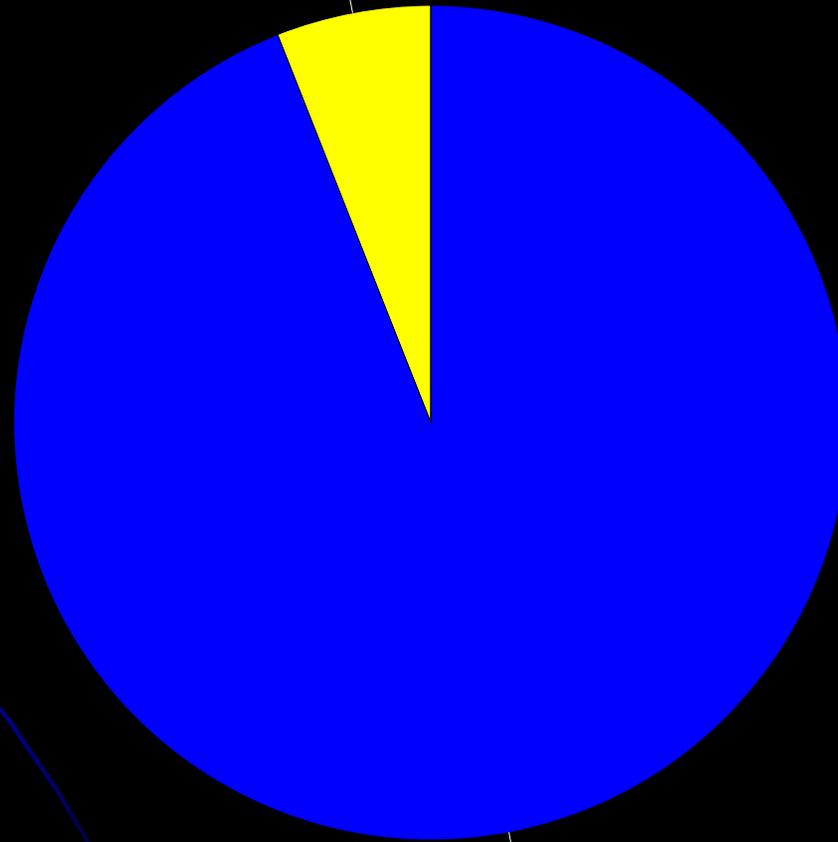
ACQ (n=65)	Less: 6%
	Same: 3%
	More: 91%
CuAz (n=20)	Less: 12%
	Same: 29%
	More: 59%
CCA (n=84)	Less: 56%
	Same: 19%
	More: 25%
SBX (n=38)	Less: 2%
	Same: 3%
	More: 95%

Waterborne Preservatives
Volume of Lumber by Species Treated
Industry Estimate = 8.1 billion board feet



Waterborne Preservatives
Volume of Roundwood by Species Treated
Industry Estimate = 58.6 million cubic feet

All Other Species
6%



Southern Pine
94%

Major Products-Waterborne Treated Industry Estimates-2004

Product	
Bridge Ties	0.6 million
Decorative Parts	141.8 million
Dimension Lumber	4.7 BBF
Fence Posts	34.3 million
Landscape Timbers	245.0 MMBF
Marine & Other Piling	23.0 MMCF
Plywood	413.5 MMSF (3/8 basis)
Poles – Utility & Building	1.7 million

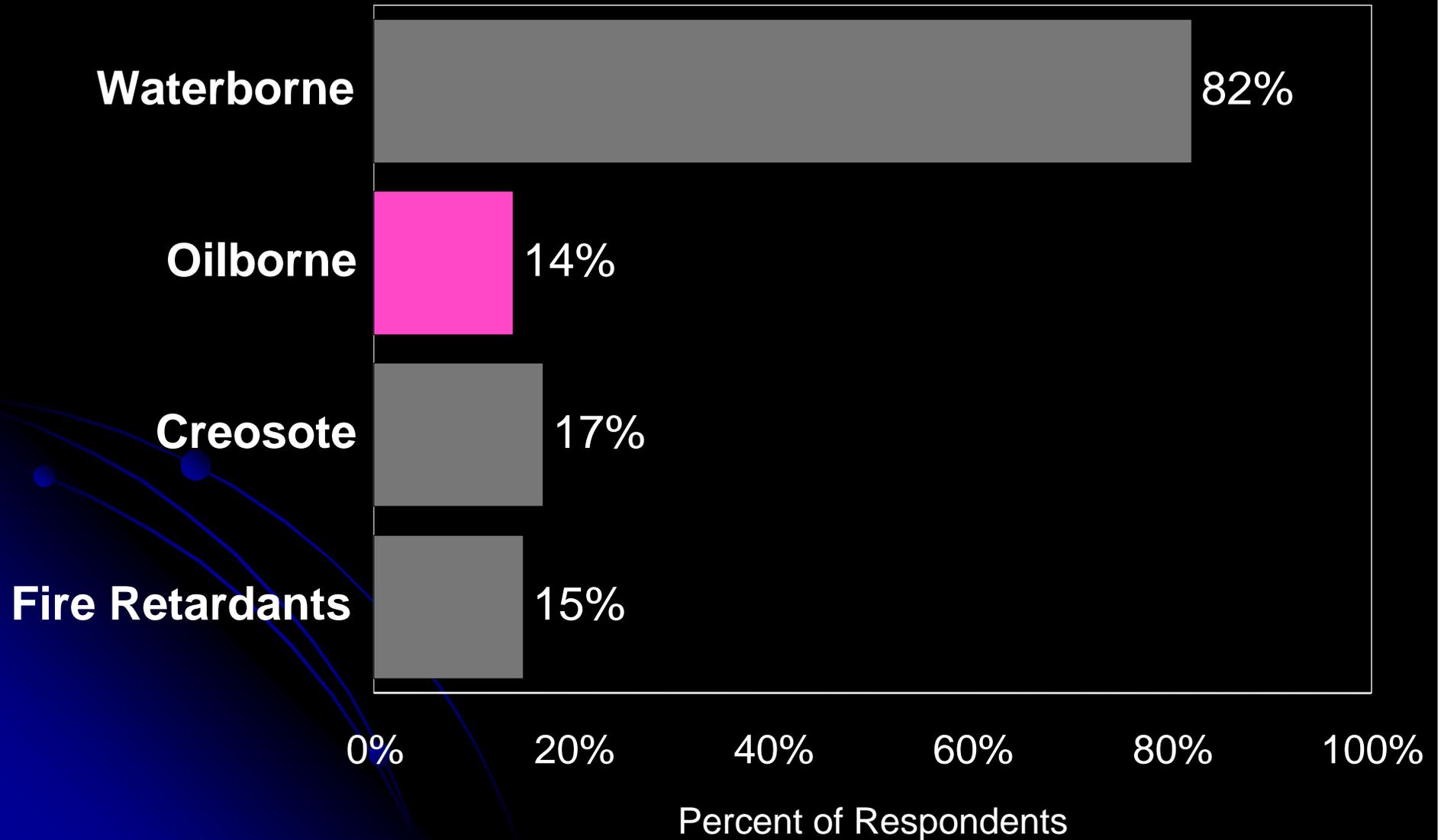
Oilborne Preservatives



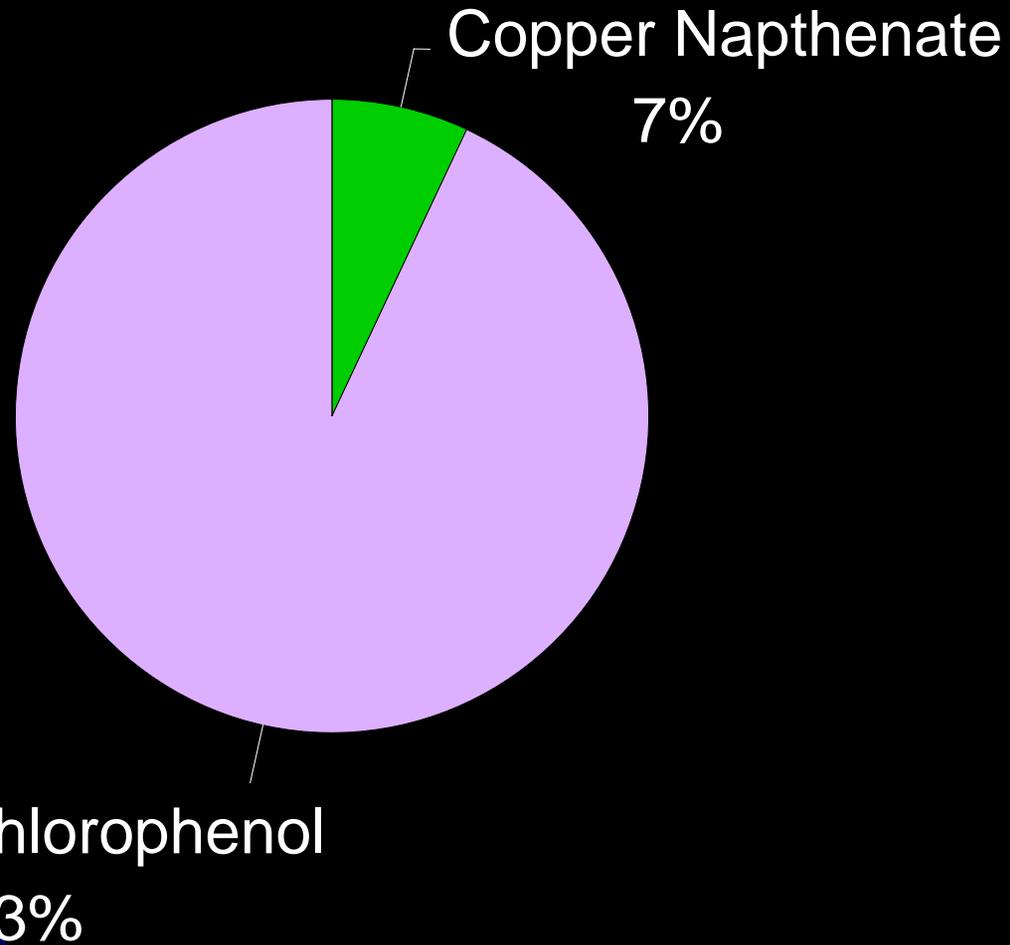
Preservatives Used-Percent of Respondents

(n=168)

(2004)



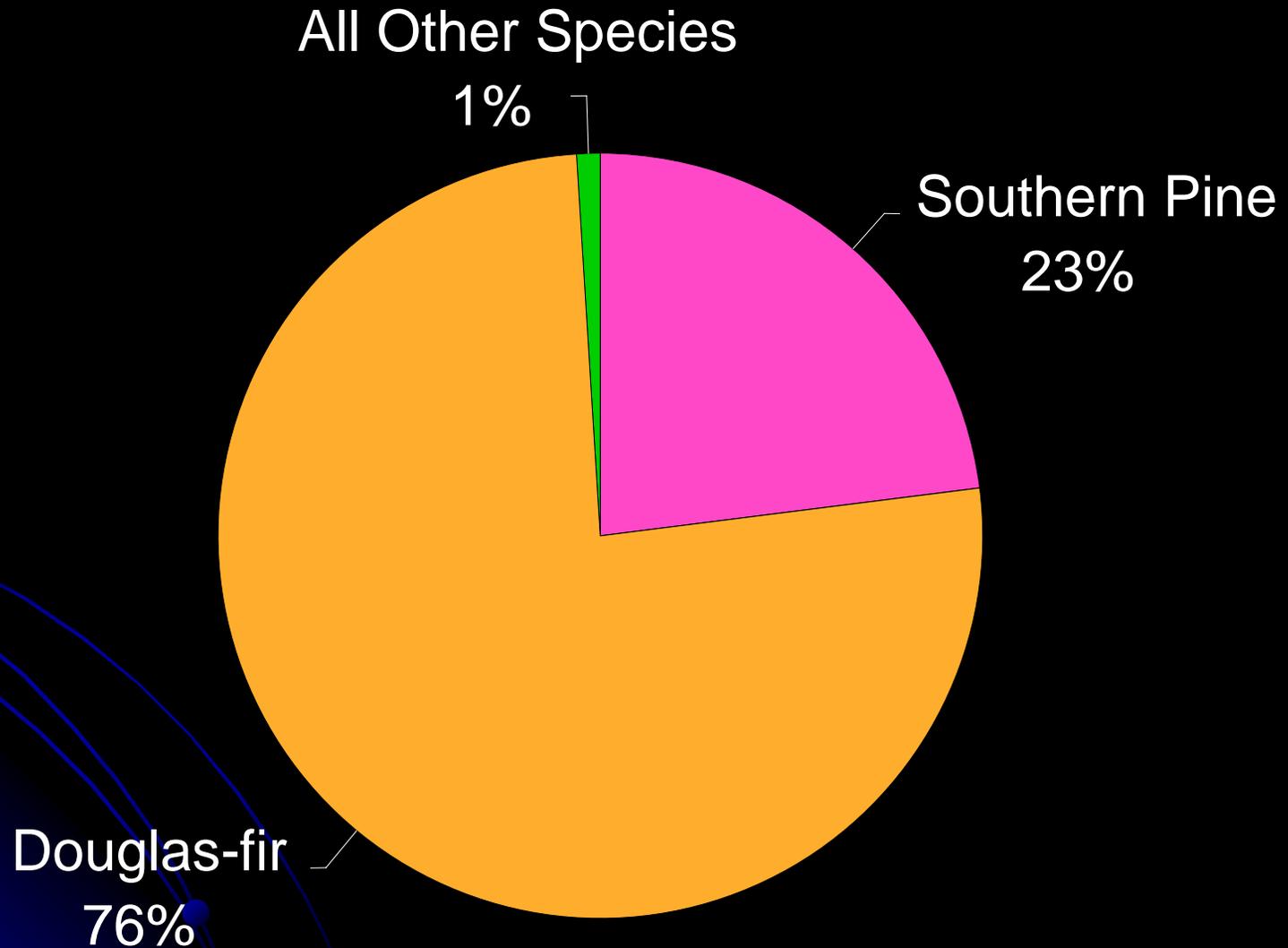
Oilborne Preservatives
Industry Estimate = 31.8 million gallons



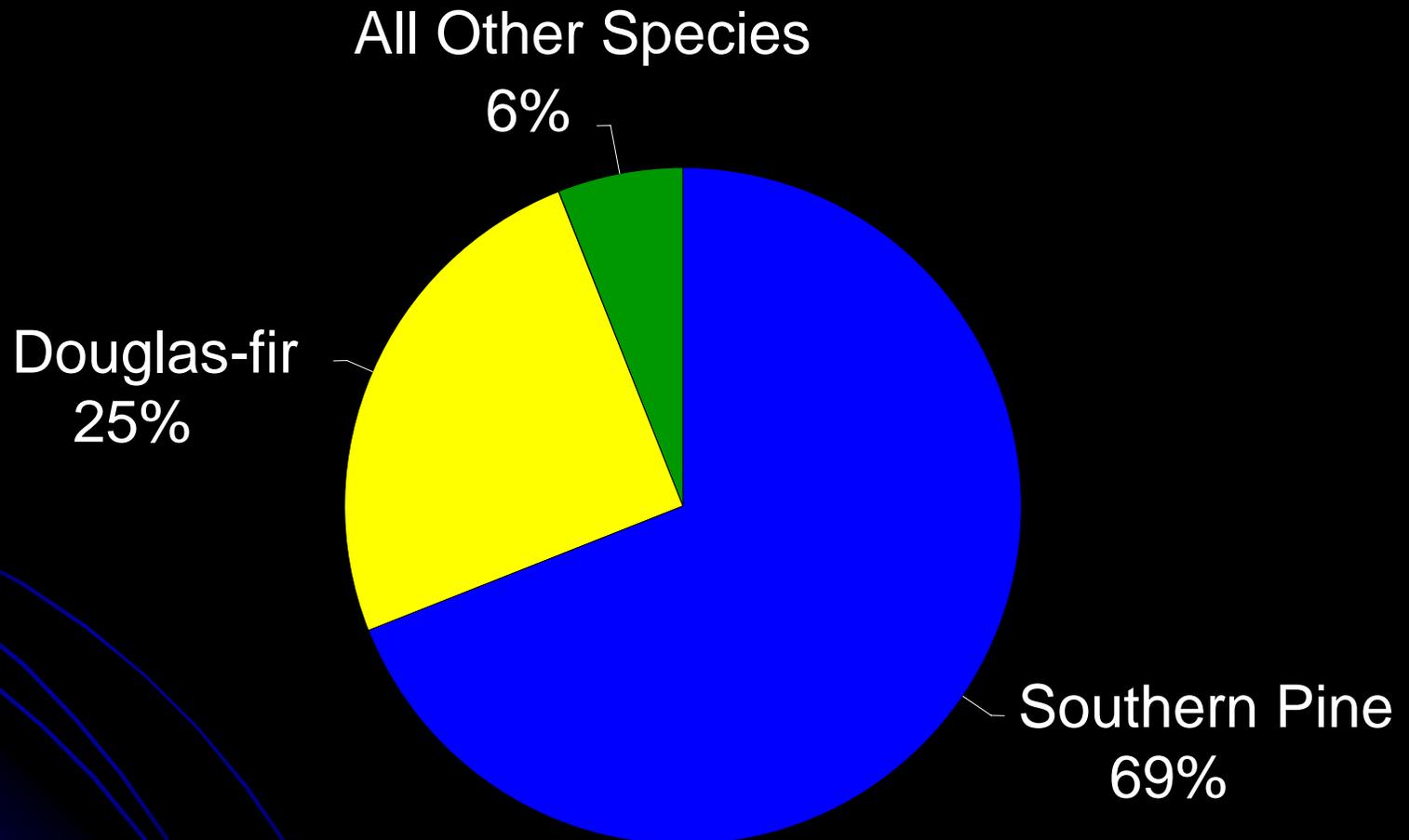
**Oilborne Preservatives
Gallons Consumed 2004 vs. to 2003)
(percent of respondents)**

Copper Napthenate	(Insufficient data)
Pentachlorophenol (n=20)	Less: 8% Same: 15% More: 77%

Oilborne Preservatives
Volume of Lumber by Species Treated
Industry Estimate = 81 million board feet



Oilborne Preservatives
Volume of Roundwood by Species Treated
Industry Estimate = 42.5 million cubic feet



Major Products- Oilborne Treated Industry Estimates-2004

Product	
Electric Utility Crossarms	1.2 million
Fence Posts	1.5 million
Poles – Utility & Building	1.6 million

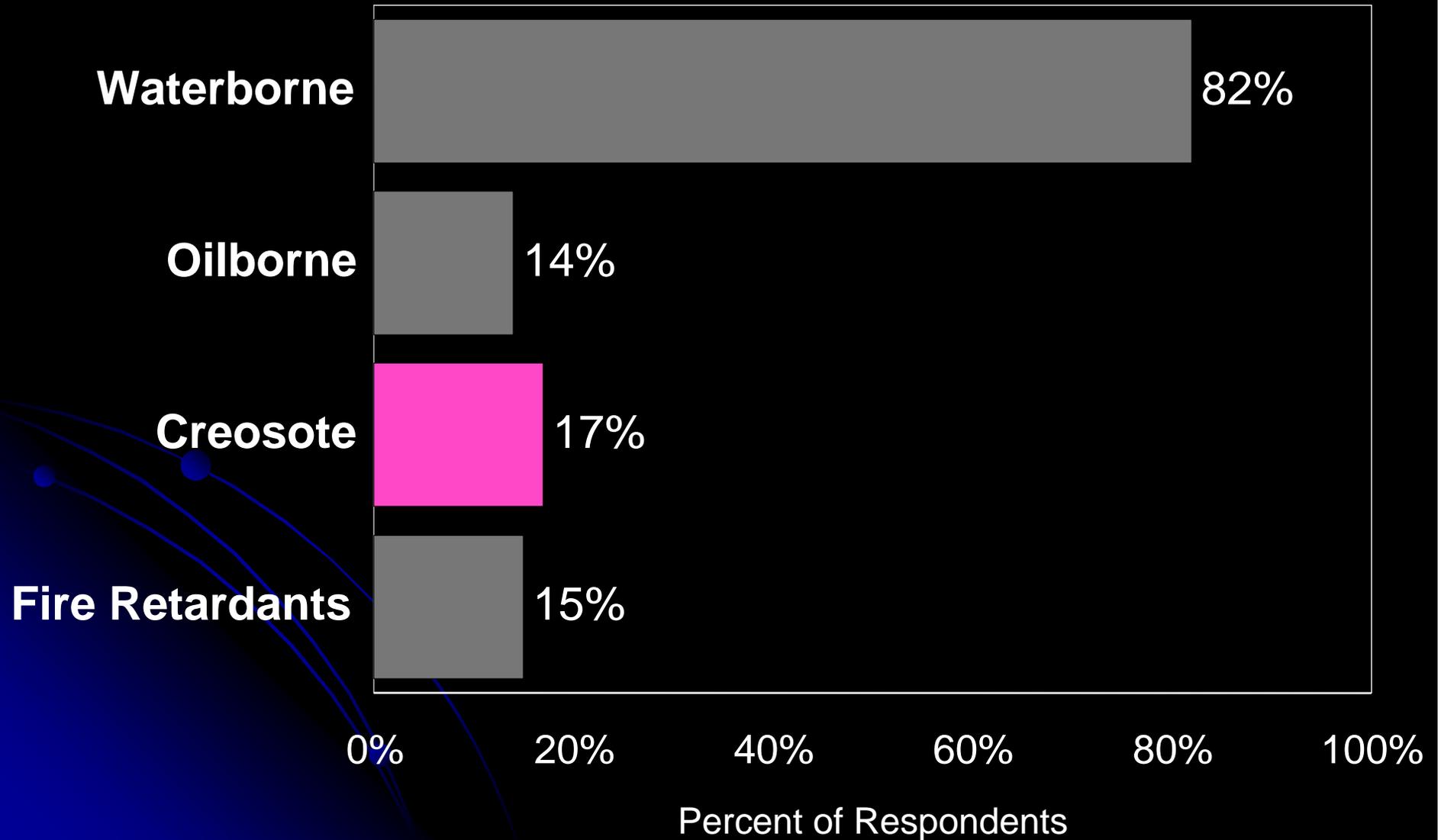
Creosote



Preservatives Used-Percent of Respondents

(n=168)

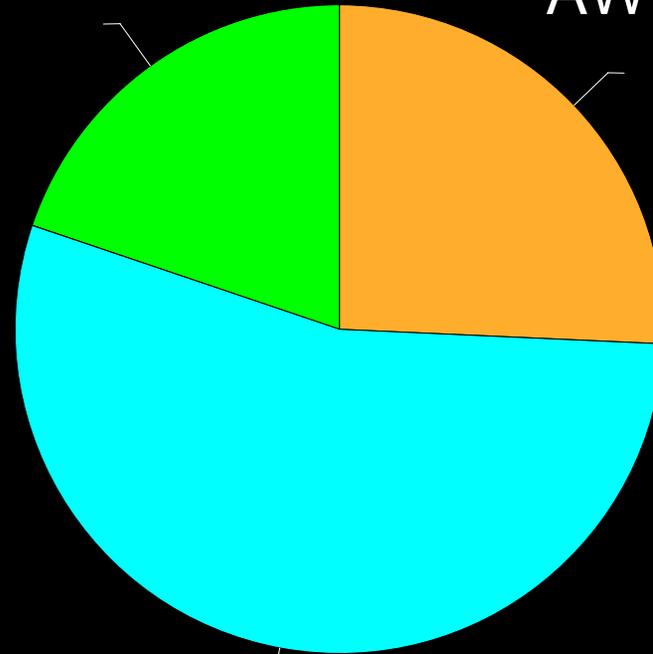
(2004)



Creosote
Industry Estimate = 86.6 million gallons

Creosote Petroleum Blends
20%

AWPA P1/P13 (straight)
26%

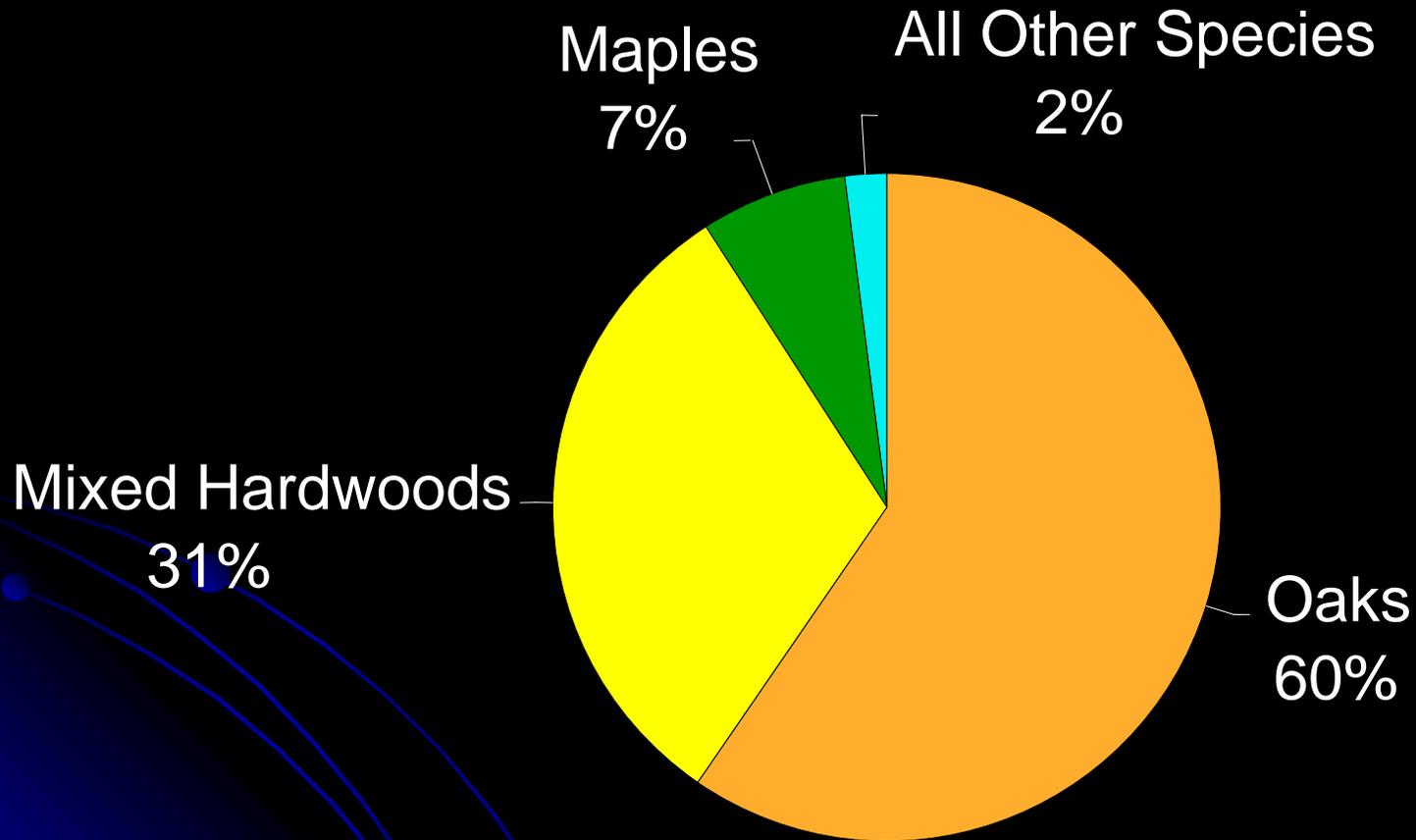


AWPA P2 (coal-tar)
54%

Creosote
Pounds Consumed 2004 vs. to 2003)
(percent of respondents)

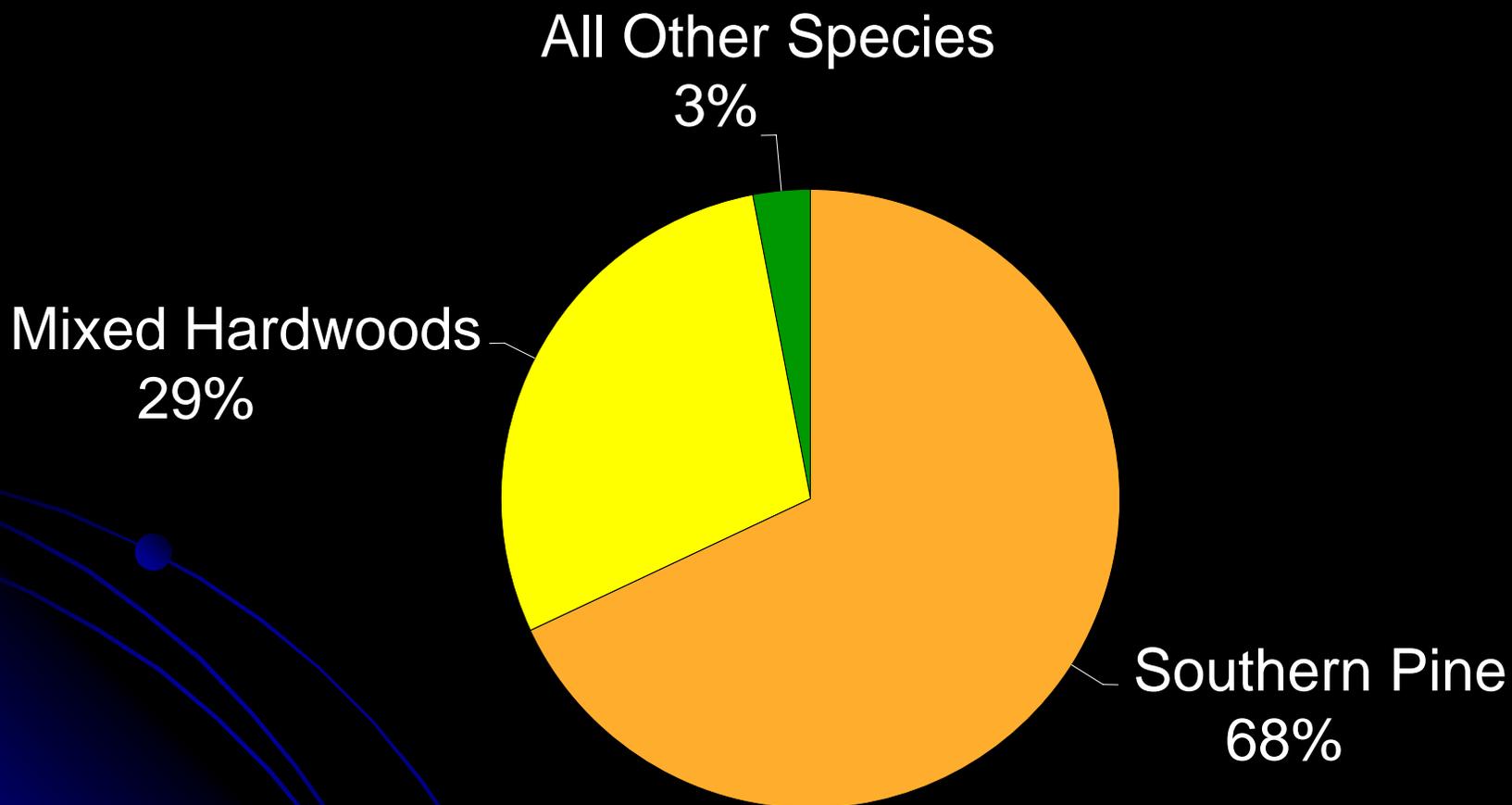
AWPA P1/P13 (straight) (n=14)	Less: 75% Same: 8% More: 17%
AWPA P2 (coal-tar) (n=13)	Less: 10% Same: 50% More: 40%
Creosote Petroleum Blends	(Insufficient data)

Creosote
Volume of Lumber by Species Treated
Industry Estimate = 994.6 million board feet



Creosote

Volume of Roundwood by Species Treated
Industry Estimate = 28.6 million cubic feet



Major Products-Creosote Treated Industry Estimates-2004

Product	
Fence Posts	13.7 million
Poles – Utility	0.6 million
Railroad Crossties	17.3 million
Railroad Switch Ties	1.0 million

Outline

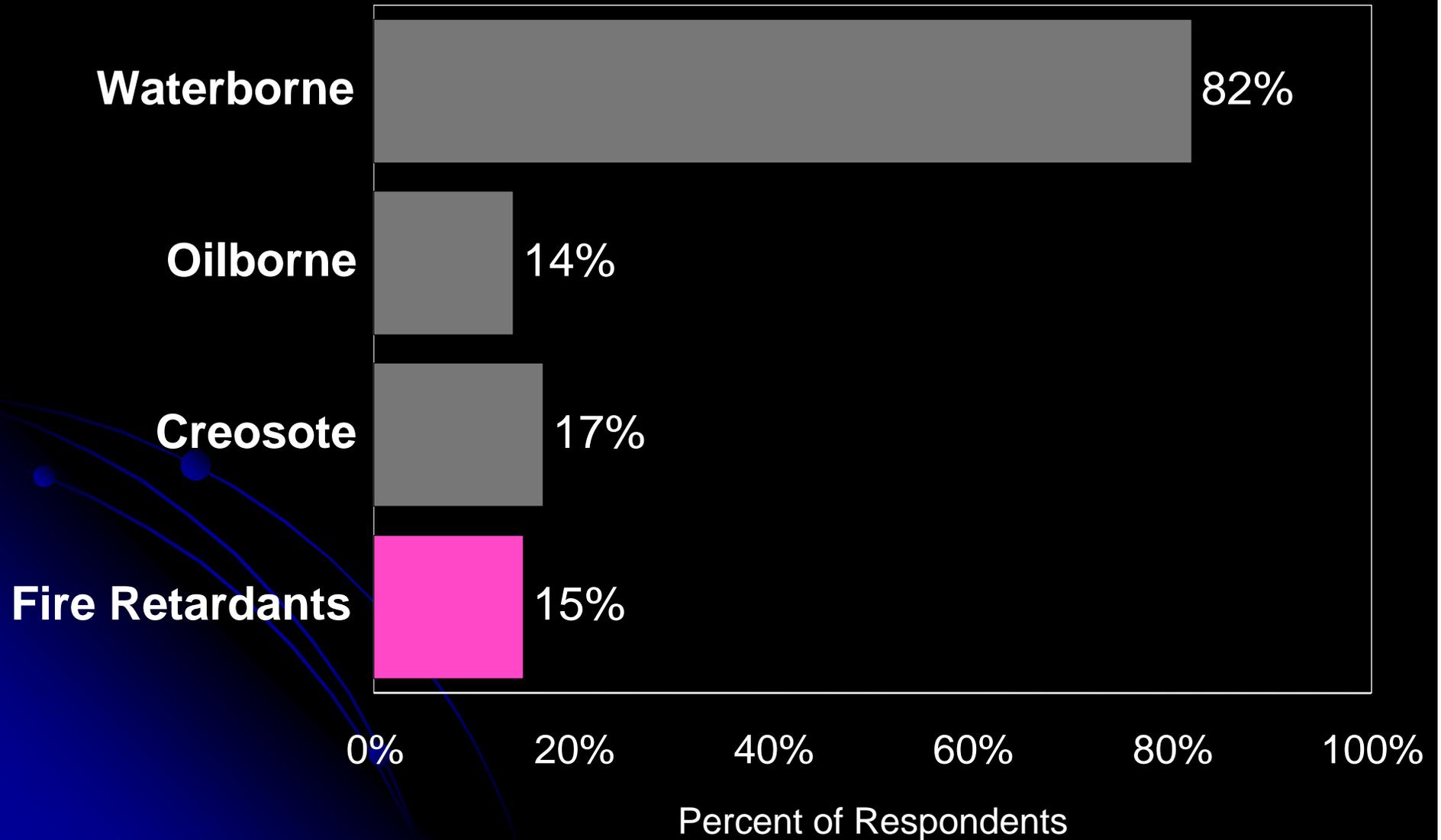
- Overview of the Study
- Respondent Demographics
- Preservatives
 - Industry Overview
 - Waterborne Preservatives
 - Oilborne Preservatives
 - Creosote Treatments
- **Fire Retardants**
- Additives
- Concluding Comments



Preservatives Used-Percent of Respondents

(n=168)

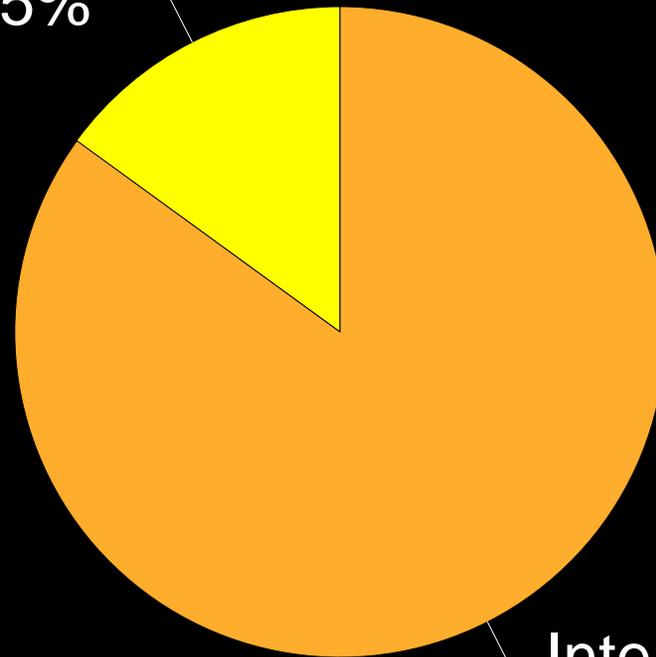
(2004)



Fire Retardants Industry Estimate = 5.4 million pounds*

Interior Type B

15%



Interior Type A

85%

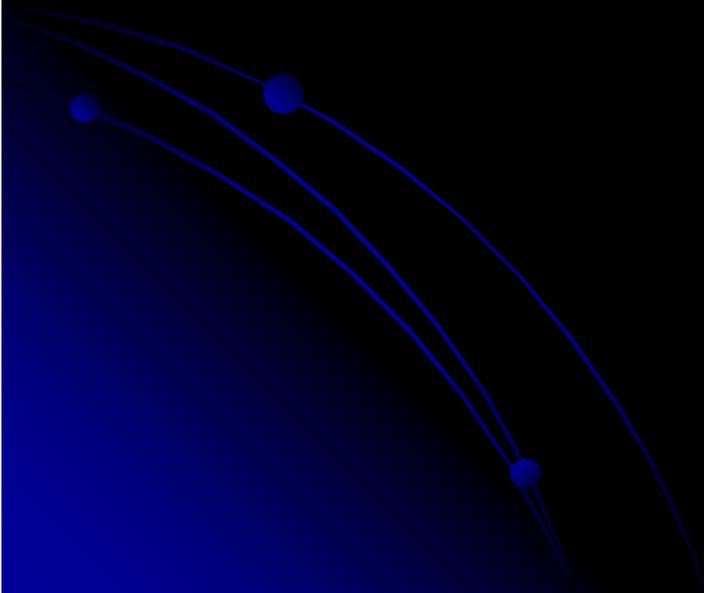
* AWPI (1997) reported that in 1996, 9.1 million pounds were used by the industry and in 1995, 7.8 million pounds were used. As such, it appears that the estimate for 2004 may be conservative.

Fire Retardants
Pounds Consumed 2004 vs. to 2003)
(percent of respondents)

Interior Type A (n=28)	Less: 0% Same: 11% More: 89%
Interior Type B	(Insufficient data)

Fire Retardants
Major Products Treated
Industry Estimates-2004

Product	TOTAL
Dimension Lumber, Boards, Timbers	13.7 MMBF
Plywood	72.9 MMSF (3/8 basis)



Outline

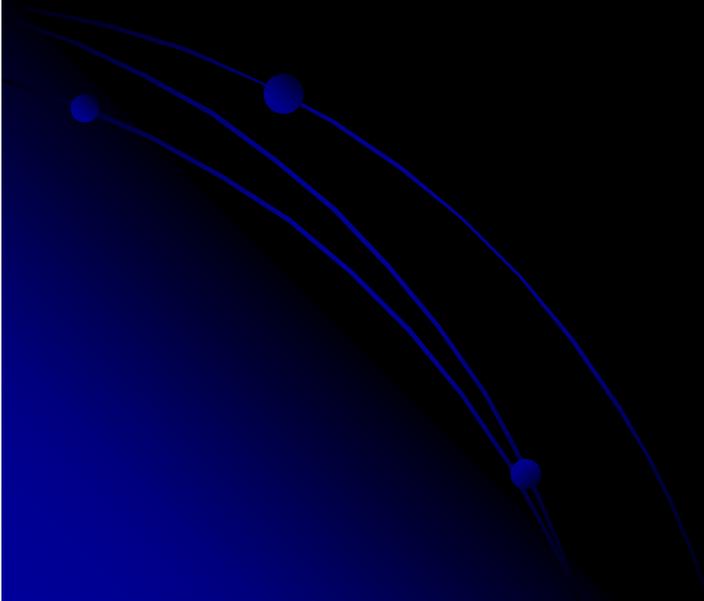
- Overview of the Study
- Respondent Demographics
- Preservatives
 - Industry Overview
 - Waterborne Preservatives
 - Oilborne Preservatives
 - Creosote Treatments
- Fire Retardants
- **Additives**
- Concluding Comments



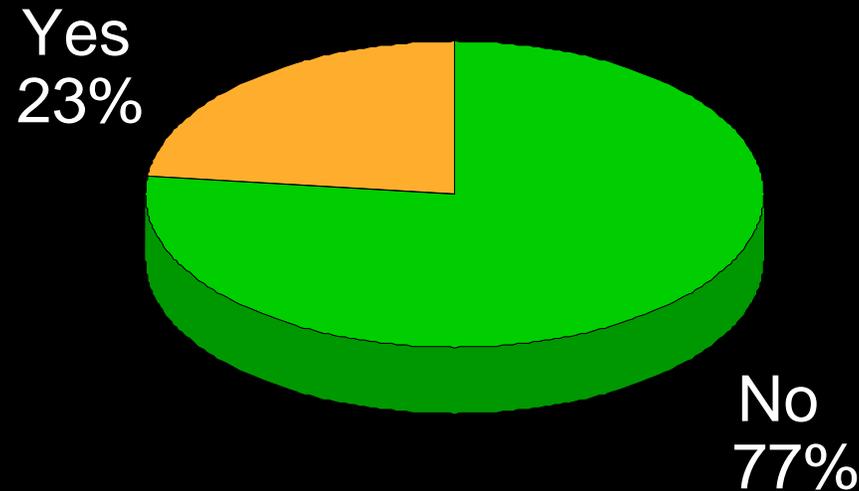
Additives (n=86)

Additive	Percent of Respondents Using Additive	Amount Consumed in 2004 vs. 2003
Mold Inhibitor	92%	Less: 2% Same: 24% More: 75%
Water Repellent	55%	Less: 71% Same: 20% More: 9%
Colorants	6%	(Insufficient data)

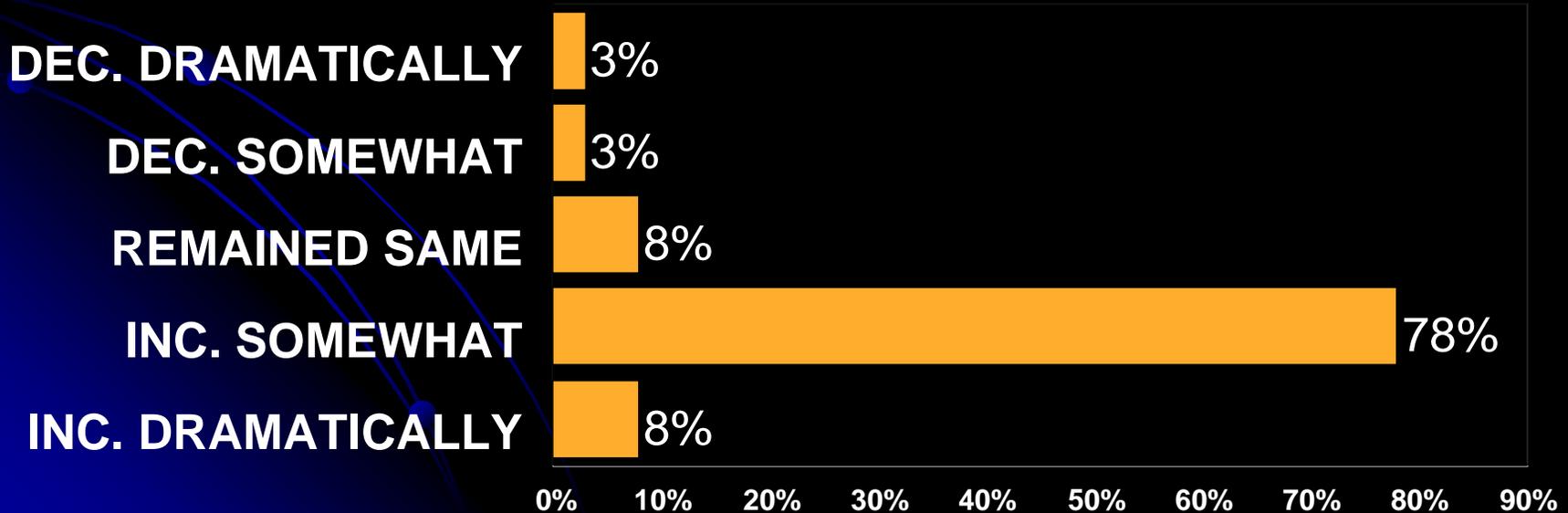
Bonus!



Did your plant stock fiber-composite plastic decking products in 2004? (n=166)



If YES, how has volume changed from 2003 to 2004? (n=38)



Outline

- Overview of the Study
- Respondent Demographics
- Preservatives
 - Industry Overview
 - Waterborne Preservatives
 - Oilborne Preservatives
 - Creosote Treatments
- Fire Retardants
- Additives
- **Concluding Comments**



Concluding Remarks

- This study contributes to the further understanding of the changing structure and economic impact of the wood preserving industry in the United States.
- After a lapse of eight years without comprehensive data on the industry, this report initiates what will be a long-term effort to track trends and changes in the industry over time.
- Reasonable results relative to known industry data
- Plan is to replicate annually
- The data reported are valuable to a several entities involved in the wood preserving industry

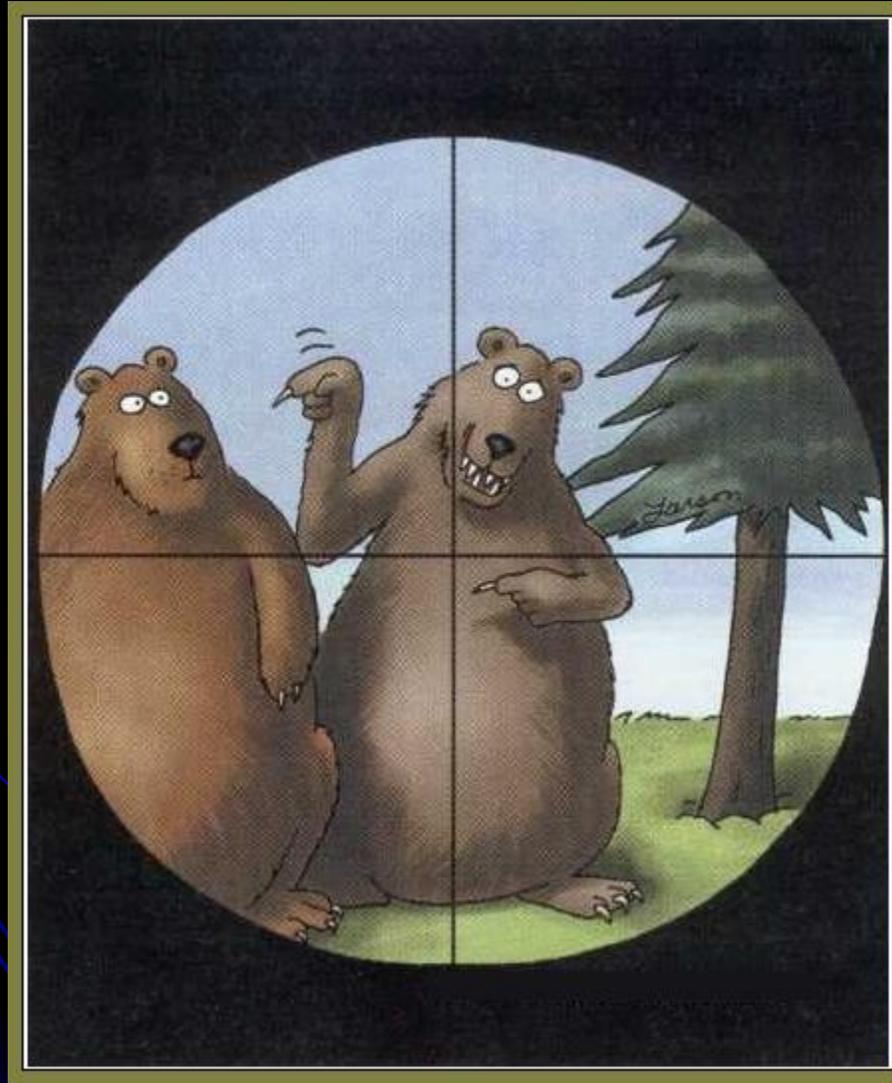
Questions?

?

?

?

?



?

?

?

?