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## **FUSIFORM RUST TRENDS IN EAST TEXAS: 1969 TO 2002**

Dean W. Coble and Young-Jin Lee

**Abstract--**Fusiform rust ( *Cronartium quercuum* [Berk.] Miyabe ex Shirai f. sp. *fusiforme*) infection rates in East Texas increased to nearly 50 percent in slash pine (*Pinus elliottii* Engelm.) and about 15 percent in loblolly pine ( *Pinus taeda* L.) plantations during the 18-year period from 1969 to 1987. New data from the East Texas Pine Plantation Research Project showed that fusiform rust infection rates in slash pine stabilized around 20 - 30 percent after 1987, then decreased to about 15 percent by 2002. For loblolly pine, the rates stabilized around 10 percent after 1987, then decreased to around 5 percent by 2002. The peak infection rates occurred circa 1987 when plantations were 8 to 11 years old. This 32-year continuous record of fusiform rust incidence in East Texas indicates that infection rates are relatively stable (about 10 percent) for loblolly pine and much greater (up to 50 percent) for slash pine.

**Table**--Average fusiform rust incidence (expressed as a percentage) in loblolly and slash pine plantations greater than 5 years old by survey year and geographic location in Texas

Species Location of rust galls	Survey year									
	1969	1976	1980	1984	1987	1990	1993	1996	1999	2002
<b><u>East Texas<sup>a</sup></u></b>										
<b>Slash</b>										
Stem only	8	--	--	35	41	33	26	27	22	14
Stem + branches <sup>c</sup>	--	30	--	45	44	37	29	34	24	16
<b>Loblolly</b>										
Stem only	6	--	--	8	11	10	7	9	8	5
Stem + branches	--	9	--	11	15	14	8	11	10	5
<b><u>Southeastern Texas<sup>b</sup></u></b>										
<b>Slash</b>										
Stem only	19	--	32	39	41	32	27	28	23	15
Stem + branches	--	43	55	47	44	36	30	36	25	17
<b>Loblolly</b>										
Stem only	--	--	8	10	13	11	9	9	9	6
Stem + branches	--	6	18	14	16	15	10	13	11	6

<sup>a</sup> Includes counties in southeastern Texas.

<sup>b</sup> Includes all counties located south of Cherokee, Angelina, San Augustine, and Sabine counties.

<sup>c</sup> May or may not also have rust-infected branches located greater than 12 inches from stem.

**Reference:** Coble, D.W., and Y.J. Lee. 2004. Fusiform rust trends in East Texas: 1969 to 2002. P. 153 - 157. In: Connor, Kristina F. (ed.), Proceedings of the twelfth biennial southern silvicultural research conference; 2003 February 24-28 Biloxi, MS. Gen. Tech. Rep. SRS-71. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 594 p.

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