

Longleaf Pine (Pinus palustris) Pests:

A Selected Bibliography

by Dr. Kim D. Coder, Daniel B. Warnell School of Forest Resources, University of Georgia 5/99

Longleaf pine (Pinus palustris) is stressed by a number of pests — some of them significant to the lifespan and utilization of the pine. Recent papers on longleaf pine pests are given in this publication. This list is not a comprehensive listing of all relevant information, but a carefully selected set of papers and publications that present the many diverse aspects of current thinking on longleaf pests and their management. The combined literature citations within each of these listed papers would represent a recent compilation of pest management information for longleaf pine.

Anderson, RF, Doggett, CA. 1980. Some relationships between infestations by the southern pine beetle (Dendroctonus frontalis) and stand conditions. Forestry Note, Division of Forest Resources, North Carolina. No. 49.

Anderson, RF, Doggett, CA. 1993. Host preference of southern pine beetle in North Carolina. Forestry Note, Division of Forest Resources, North Carolina. No. 66.

Anderson, RL, Walkinshaw, CH. 1989. Correlation of greenhouse inoculations of longleaf pine with Cronartium quercuum fusiforme with field ranking of resistance. Plant Disease. 73:859.

Barnard, EL, Ash, EC, Dixon, WN. 1995. Benomyl root dip and scalping improve early performance of longleaf pine on pest infested agricultural croplands. Tree Planters' Notes. 46:93-96.

Barnard, EL, Cordell, CE, Gilly, SP, Kais, AG. 1993. Comparative performance of sand and longleaf pines on a Phytophthora cinnamomi infested sandhill in West Florida. Southern Journal of Applied Forestry. 17:90-95.

Barnett, JP, Edwards, MB. 1995. Anipel fails to repel rodents from direct seeded longleaf pine seeds. Proceedings of the Eighth Biennial Southern Silvicultural Research Conference (Auburn, Alabama, 1-3 November, 1994). General Technical Report Southern Research Station, USDA Forest Service. SRS #1:119-121.

Bridges, JR, Perry, TJ. 1987. Ceratocystiopsis ranaculosus sp. now associated with the southern pine beetle. Mycologia. 79:630-633.

Brissette, JC, Barnett, JP, Jones, JP. 1996. Fungicides improve field performance of stored loblolly and longleaf pine seedlings. Southern Journal of Applied Forestry. 20:5-9.

Carey, WA, Kelley, WD. 1994. First report of Fusarium subglutinans as a cause of late season mortality in longleaf pine nurseries. Plant Disease. 78:754.

Cordell, C.E. Anderson, R.L. Kais, A.G. 1989. How to identify and control brown-spot disease on longleaf pine. Protection Report R8-PR-15. Pp.9.

Dennington, RW, Farrar, RM Jr. 1983. Longleaf pine management. Forestry Report, Southern Region, USDA Forest Service. R8-FR-3. Pp.17.



University of Georgia Daniel B. Warnell School of Forest Resources Extension publication FOR99-013

WEB site = www.forestry.uga.edu/efr

THE UNIVERSITY OF GEORGIA, THE UNITED STATES DEPARTMENT OF AGRICULTURE,
AND COUNTIES OF THE STATE COOPERATING. THE COOPERATIVE EXTENSION SERVICE OFFERS
EDUCATIONAL PROGRAMS, ASSISTANCE AND MATERIALS TO ALL PEOPLE WITHOUT REGARD TO
RACE, COLOR, NATIONAL ORIGIN, AGE, SEX OR HANDICAP STATUS.
A UNIT OF THE UNIVERSITY SYSTEM OF GEORGIA.
AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION ORGANIZATION

- Doggett, C, Langston, FW, Worley, WL. 1994. Nantucket pine tip moth infests longleaf pine seedlings in a North Carolina nursery. *Tree Planters' Notes*. 45: 86-87.
- Doggett, CA, Smith, T. 1992. Pales weevil: A serious threat to longleaf pine production. *Tree Planters' Notes*. 43:87-88.
- English, J.T. Ploetz, R.C. Barnard, E.L. 1986. Seedling blight of longleaf pine caused by a binucleate Rhizoctonia solani-like fungus. *Plant Disease*. 70(2):148-150.
- Esher, RJ, Marx, DH, Ursic, SJ, Baker, RL, Brown, LR, Coleman, DC. 1992. Simulated acid rain effects on fine roots, ectomycorrhizae, microorganisms, and invertebrates in pine forests of the southern United States. *Water, Air, and Soil Pollution*. 161:269-278,
- Farrar, RM Jr. 1990. Proceedings of the Symposium on the management of longleaf pine. (April 4-6, 1989, Long Beach, Mississippi.) USDA Forest Service. General Technical Report SO-75. Pp. 293.
- Fatzinger, C.W. Muse, H.D. Miller, T. Bhattacharyya, H. 1990. Survey and pest monitoring system for southern pine seed orchards. *Southern Journal of Applied Forestry*. 14(3):147-154.
- Funk, A. 1986. Two new Discomycetes on Pinus. *Mycotaxon*. 27:283-288.
- Gilly, S.P. Barnard, E.L. Schroeder, R.A. 1985. Field trials for control of Rhizoctonia blight of longleaf pine seedlings: effects of seedbed planting densities, fungicides and mulches. Proceedings of the International Symposium on Nursery Management Practices for the Southern Pines. D.B. South, editor. (Montgomery, Alabama, August 4-9, 1985.)
- Goddard, R.E. Rockwood, D.L. Kok, H.R. 1984. Cooperative Forest Genetics Research Program: 26th Progress Report. Research Report, University of Florida, School of Forest Resources and Conservation. #35. Pp.26.
- Grelen, H.E. 1983. May burns benefit survival and growth of longleaf pine seedlings. USDA Forest Service General Technical Report SE-24:70-73.
- Griggs, M.M. Schmidt, R.A. 1986. Disease progress of Scirrhia acicola in single and mixed family plantings of resistant and susceptible longleaf pine. USDA Forest Service General Technical Report WO. 50:5-10.
- Hatchell, GE, Marx, DH. 1987. Response of longleaf, sand, and loblolly pines to Pisolithus ectomycorrhizae and fertilizer on a sandhills site in South Carolina. *Forest Science*. 33: 301-315.
- Hayes, JL, Meeker, JR, Foltz, JL, Strom, BL. 1996. Suppression of bark beetles and protection of pines in the urban environment: A case study. *Journal of Arboriculture*. 22:67-74.
- Hooper, RG. 1996. Arthropod biomass in winter and the age of longleaf pines. *Forest Ecology and Management*. 82:115-131.
- Jewell, F.F. 1986. Histological studies of Scirrhia acicola and other needle-inhabiting fungi on longleaf and loblolly pines. USDA Forest Service General Technical Report WO. 50:1-4.
- Jewell, FF. 1990. Histopathology of longleaf pine needles infected by Ploioderma hedgcockii. *European Journal of Forest Pathology*. 20:24-31.
- Jones, JP, Pantone DJ, Barnett JP, Brissette JC. 1992. The relationship between fungal population development and root damage of cold stored longleaf pine seedlings. *Bulletin of the Louisiana Agricultural Experiment Station*. #832.
- Kais, A.G. Cordell, C.E. Affeltranger, C.E. 1986. Nursery application of benomyl fungicide for field control of brown-spot needle blight (Scirrhia acicola) on longleaf pine (Pinus palustris). *Tree Planters' Notes* 37(1):5.
- Kais, A.G. Griggs, M.M. 1986. Control of brown spot needle blight infection on longleaf pine through benomyl treatment and breeding. USDA Forest Service General Technical Report WO. 50:15-19.

- Kohnle, U, Vite, JP, Meyer, H, Francke, W. 1994. Response of four American engraver bark beetles, Ips spp. to synthetic racemates of chiral pheromones. *Journal of Applied Entomology*. 1994, 117:451-456.
- Kraus, J.F. 1986. Brown spot needle blight susceptibility of longleaf pine seed sources in Georgia and Florida. USDA Forest Service General Technical Report WO. 50:11-14.
- Lantz, CW, Barnett, JP, Kais, AG. 1988. Benomyl improves storability and brown spot resistance of longleaf pine seedlings. *Management Bulletin of the Southern Region, USDA Forest Service*. R8-MB-17. Pp.2.
- Lauer, DK. 1987. Seedling size influences early growth of longleaf pine. *Tree Planters' Notes*. 1987, 38:16-17.
- Li, CD, Zhu, XQ, Han, ZM, Zhang, JN, Shen, BK, Zhang, ZH, Zheng, WP, Zou, KM, Shi, FY. 1986. Investigation on brown spot needle blight of pines in China. *Journal of Nanjing Institute of Forestry*. #2. Pp.11-18,
- Li, XP, Wang, YJ. 1997. Pinus strobus var. chiapensis and other exotic pines: Investigation and analysis of natural nematode infections and death. *Journal of Zhejiang Forestry College*. 14:273-276.
- Lipscomb, D.J. 1989. Impacts of feral hogs on longleaf pine regeneration. *Southern Journal of Applied Forestry*. 13(4):177-181.
- Lott, LH, Schmidting, RC, Snow, GA. 1997. Susceptibility to brown spot needle blight and fusiform rust in selected longleaf pine and hybrids. *Tree Planters' Notes*. 47:11-15.
- Otrosina, WJ, Hess, NJ, Zarnoch, SJ, Perry, TJ, Jones, JP. 1997. Blue stain fungi associated with roots of southern pine trees attacked by the southern pine beetle, Dendroctonus frontalis. *Plant Disease*. 81:942-945.
- Peterson, GW. 1986. Recent research on conifer needle diseases. USDA Forest Service, GTR WO-50. Pp.106.
- Runion, G.B. Bruck, R.I. 1988. Effects of thiabendazole-DMSO treatment of longleaf pine seed contaminated with Fusarium subglutinans on germination and seedling survival. *Plant Disease*. 72(10):872-874.
- Runion, GB, Kelley, WD, Land, DH, Gilly, SP, Sharp, DJ. 1994. Chemical control of Rhizoctonia seedling blight of longleaf pine. *Southern Journal of Applied Forestry*. 18: 5-9.
- Siegfried, BD. 1987. In flight responses of the pales weevil, Hylobius pales to monoterpene constituents of southern pine gum turpentine. *Florida Entomologist*. 70:97-102.
- Sluder, E.R. 1983. Three increments of gain from three stages of selection in slash and longleaf pines and heritabilities at age 21 years. *Proceedings of the Southern Forest Tree Improvement Conference*. #39: 253-261.
- Sluder, E.R. 1986. Gains from first-cycle selection in slash and longleaf pines. *Silvae Genetica*. 35(4):155-159.
- South, DB, Loewenstein, NJ. 1994. Effects of Viterra root dips and benomyl on root growth potential and survival of longleaf pine seedlings. *Southern Journal of Applied Forestry*. 18:19-23.
- Suga, T, Ohta, S, Munesada, K, Ide, N, Kurokawa, M, Shimizu, M, Ohta, E. 1993. Endogenous pine wood nematicidal substances in pines, Pinus massoniana, P. strobus and P. palustris. *Phytochemistry*. 33:1395-1401.
- Taylor, A.D. Hayes, J.L. Roton, L. Moser, J.C. 1992. A phloem sandwich allowing attack and colonization by bark beetles and associates. *Journal of Entomological Science*. 27(4):311-316.
- Twardus, D, Taylor, S. 1975. Attractant/bait traps for the pales weevil (Hylobius pales): Effect of pine species and trap size. *Forestry Note #22*. Division of Forest Resources, North Carolina.

Longleaf Pine (Pinus palustris) Pests:

A Selected Bibliography

by Dr. Kim D. Coder, Daniel B. Warnell School of Forest Resources, University of Georgia 5/99

Longleaf pine (Pinus palustris) is stressed by a number of pests — some of them significant to the lifespan and utilization of the pine. Recent papers on longleaf pine pests are given in this publication. This list is not a comprehensive listing of all relevant information, but a carefully selected set of papers and publications that present the many diverse aspects of current thinking on longleaf pests and their management. The combined literature citations within each of these listed papers would represent a recent compilation of pest management information for longleaf pine.

Anderson, RF, Doggett, CA. 1980. Some relationships between infestations by the southern pine beetle (Dendroctonus frontalis) and stand conditions. Forestry Note, Division of Forest Resources, North Carolina. No. 49.

Anderson, RF, Doggett, CA. 1993. Host preference of southern pine beetle in North Carolina. Forestry Note, Division of Forest Resources, North Carolina. No. 66.

Anderson, RL, Walkinshaw, CH. 1989. Correlation of greenhouse inoculations of longleaf pine with Cronartium quercuum fusiforme with field ranking of resistance. Plant Disease. 73:859.

Barnard, EL, Ash, EC, Dixon, WN. 1995. Benomyl root dip and scalping improve early performance of longleaf pine on pest infested agricultural croplands. Tree Planters' Notes. 46:93-96.

Barnard, EL, Cordell, CE, Gilly, SP, Kais, AG. 1993. Comparative performance of sand and longleaf pines on a Phytophthora cinnamomi infested sandhill in West Florida. Southern Journal of Applied Forestry. 17:90-95.

Barnett, JP, Edwards, MB. 1995. Anipel fails to repel rodents from direct seeded longleaf pine seeds. Proceedings of the Eighth Biennial Southern Silvicultural Research Conference (Auburn, Alabama, 1-3 November, 1994). General Technical Report Southern Research Station, USDA Forest Service. SRS #1:119-121.

Bridges, JR, Perry, TJ. 1987. Ceratocystiopsis ranaculosus sp. now associated with the southern pine beetle. Mycologia. 79:630-633.

Brissette, JC, Barnett, JP, Jones, JP. 1996. Fungicides improve field performance of stored loblolly and longleaf pine seedlings. Southern Journal of Applied Forestry. 20:5-9.

Carey, WA, Kelley, WD. 1994. First report of Fusarium subglutinans as a cause of late season mortality in longleaf pine nurseries. Plant Disease. 78:754.

Cordell, C.E. Anderson, R.L. Kais, A.G. 1989. How to identify and control brown-spot disease on longleaf pine. Protection Report R8-PR-15. Pp.9.

Dennington, RW, Farrar, RM Jr. 1983. Longleaf pine management. Forestry Report, Southern Region, USDA Forest Service. R8-FR-3. Pp.17.



University of Georgia Daniel B. Warnell School of Forest Resources Extension publication FOR99-013

WEB site = www.forestry.uga.edu/efr

THE UNIVERSITY OF GEORGIA, THE UNITED STATES DEPARTMENT OF AGRICULTURE,
AND COUNTIES OF THE STATE COOPERATING. THE COOPERATIVE EXTENSION SERVICE OFFERS
EDUCATIONAL PROGRAMS, ASSISTANCE AND MATERIALS TO ALL PEOPLE WITHOUT REGARD TO
RACE, COLOR, NATIONAL ORIGIN, AGE, SEX OR HANDICAP STATUS.
A UNIT OF THE UNIVERSITY SYSTEM OF GEORGIA.
AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION ORGANIZATION

- Doggett, C, Langston, FW, Worley, WL. 1994. Nantucket pine tip moth infests longleaf pine seedlings in a North Carolina nursery. *Tree Planters' Notes*. 45: 86-87.
- Doggett, CA, Smith, T. 1992. Pales weevil: A serious threat to longleaf pine production. *Tree Planters' Notes*. 43:87-88.
- English, J.T. Ploetz, R.C. Barnard, E.L. 1986. Seedling blight of longleaf pine caused by a binucleate Rhizoctonia solani-like fungus. *Plant Disease*. 70(2):148-150.
- Esher, RJ, Marx, DH, Ursic, SJ, Baker, RL, Brown, LR, Coleman, DC. 1992. Simulated acid rain effects on fine roots, ectomycorrhizae, microorganisms, and invertebrates in pine forests of the southern United States. *Water, Air, and Soil Pollution*. 161:269-278,
- Farrar, RM Jr. 1990. Proceedings of the Symposium on the management of longleaf pine. (April 4-6, 1989, Long Beach, Mississippi.) USDA Forest Service. General Technical Report SO-75. Pp. 293.
- Fatzinger, C.W. Muse, H.D. Miller, T. Bhattacharyya, H. 1990. Survey and pest monitoring system for southern pine seed orchards. *Southern Journal of Applied Forestry*. 14(3):147-154.
- Funk, A. 1986. Two new Discomycetes on Pinus. *Mycotaxon*. 27:283-288.
- Gilly, S.P. Barnard, E.L. Schroeder, R.A. 1985. Field trials for control of Rhizoctonia blight of longleaf pine seedlings: effects of seedbed planting densities, fungicides and mulches. Proceedings of the International Symposium on Nursery Management Practices for the Southern Pines. D.B. South, editor. (Montgomery, Alabama, August 4-9, 1985.)
- Goddard, R.E. Rockwood, D.L. Kok, H.R. 1984. Cooperative Forest Genetics Research Program: 26th Progress Report. Research Report, University of Florida, School of Forest Resources and Conservation. #35. Pp.26.
- Grelen, H.E. 1983. May burns benefit survival and growth of longleaf pine seedlings. USDA Forest Service General Technical Report SE-24:70-73.
- Griggs, M.M. Schmidt, R.A. 1986. Disease progress of Scirrhia acicola in single and mixed family plantings of resistant and susceptible longleaf pine. USDA Forest Service General Technical Report WO. 50:5-10.
- Hatchell, GE, Marx, DH. 1987. Response of longleaf, sand, and loblolly pines to Pisolithus ectomycorrhizae and fertilizer on a sandhills site in South Carolina. *Forest Science*. 33: 301-315.
- Hayes, JL, Meeker, JR, Foltz, JL, Strom, BL. 1996. Suppression of bark beetles and protection of pines in the urban environment: A case study. *Journal of Arboriculture*. 22:67-74.
- Hooper, RG. 1996. Arthropod biomass in winter and the age of longleaf pines. *Forest Ecology and Management*. 82:115-131.
- Jewell, F.F. 1986. Histological studies of Scirrhia acicola and other needle-inhabiting fungi on longleaf and loblolly pines. USDA Forest Service General Technical Report WO. 50:1-4.
- Jewell, FF. 1990. Histopathology of longleaf pine needles infected by Ploioderma hedgcockii. *European Journal of Forest Pathology*. 20:24-31.
- Jones, JP, Pantone DJ, Barnett JP, Brissette JC. 1992. The relationship between fungal population development and root damage of cold stored longleaf pine seedlings. *Bulletin of the Louisiana Agricultural Experiment Station*. #832.
- Kais, A.G. Cordell, C.E. Affeltranger, C.E. 1986. Nursery application of benomyl fungicide for field control of brown-spot needle blight (Scirrhia acicola) on longleaf pine (Pinus palustris). *Tree Planters' Notes* 37(1):5.
- Kais, A.G. Griggs, M.M. 1986. Control of brown spot needle blight infection on longleaf pine through benomyl treatment and breeding. USDA Forest Service General Technical Report WO. 50:15-19.

- Kohnle, U, Vite, JP, Meyer, H, Francke, W. 1994. Response of four American engraver bark beetles, Ips spp. to synthetic racemates of chiral pheromones. *Journal of Applied Entomology*. 1994, 117:451-456.
- Kraus, J.F. 1986. Brown spot needle blight susceptibility of longleaf pine seed sources in Georgia and Florida. USDA Forest Service General Technical Report WO. 50:11-14.
- Lantz, CW, Barnett, JP, Kais, AG. 1988. Benomyl improves storability and brown spot resistance of longleaf pine seedlings. *Management Bulletin of the Southern Region, USDA Forest Service*. R8-MB-17. Pp.2.
- Lauer, DK. 1987. Seedling size influences early growth of longleaf pine. *Tree Planters' Notes*. 1987, 38:16-17.
- Li, CD, Zhu, XQ, Han, ZM, Zhang, JN, Shen, BK, Zhang, ZH, Zheng, WP, Zou, KM, Shi, FY. 1986. Investigation on brown spot needle blight of pines in China. *Journal of Nanjing Institute of Forestry*. #2. Pp.11-18,
- Li, XP, Wang, YJ. 1997. Pinus strobus var. chiapensis and other exotic pines: Investigation and analysis of natural nematode infections and death. *Journal of Zhejiang Forestry College*. 14:273-276.
- Lipscomb, D.J. 1989. Impacts of feral hogs on longleaf pine regeneration. *Southern Journal of Applied Forestry*. 13(4):177-181.
- Lott, LH, Schmidting, RC, Snow, GA. 1997. Susceptibility to brown spot needle blight and fusiform rust in selected longleaf pine and hybrids. *Tree Planters' Notes*. 47:11-15.
- Otrosina, WJ, Hess, NJ, Zarnoch, SJ, Perry, TJ, Jones, JP. 1997. Blue stain fungi associated with roots of southern pine trees attacked by the southern pine beetle, Dendroctonus frontalis. *Plant Disease*. 81:942-945.
- Peterson, GW. 1986. Recent research on conifer needle diseases. USDA Forest Service, GTR WO-50. Pp.106.
- Runion, G.B. Bruck, R.I. 1988. Effects of thiabendazole-DMSO treatment of longleaf pine seed contaminated with Fusarium subglutinans on germination and seedling survival. *Plant Disease*. 72(10):872-874.
- Runion, GB, Kelley, WD, Land, DH, Gilly, SP, Sharp, DJ. 1994. Chemical control of Rhizoctonia seedling blight of longleaf pine. *Southern Journal of Applied Forestry*. 18: 5-9.
- Siegfried, BD. 1987. In flight responses of the pales weevil, Hylobius pales to monoterpene constituents of southern pine gum turpentine. *Florida Entomologist*. 70:97-102.
- Sluder, E.R. 1983. Three increments of gain from three stages of selection in slash and longleaf pines and heritabilities at age 21 years. *Proceedings of the Southern Forest Tree Improvement Conference*. #39: 253-261.
- Sluder, E.R. 1986. Gains from first-cycle selection in slash and longleaf pines. *Silvae Genetica*. 35(4):155-159.
- South, DB, Loewenstein, NJ. 1994. Effects of Viterra root dips and benomyl on root growth potential and survival of longleaf pine seedlings. *Southern Journal of Applied Forestry*. 18:19-23.
- Suga, T, Ohta, S, Munesada, K, Ide, N, Kurokawa, M, Shimizu, M, Ohta, E. 1993. Endogenous pine wood nematicidal substances in pines, Pinus massoniana, P. strobus and P. palustris. *Phytochemistry*. 33:1395-1401.
- Taylor, A.D. Hayes, J.L. Roton, L. Moser, J.C. 1992. A phloem sandwich allowing attack and colonization by bark beetles and associates. *Journal of Entomological Science*. 27(4):311-316.
- Twardus, D, Taylor, S. 1975. Attractant/bait traps for the pales weevil (Hylobius pales): Effect of pine species and trap size. *Forestry Note #22*. Division of Forest Resources, North Carolina.