

debarking process destroys the pests themselves and disrupts the host material so that life stages of the pests cannot be completed. Debarking the *Eucalyptus* logs in the country of origin could effectively remove egg masses and larvae of purple moth and carpenterworm on the bark. It would also be effective against Scolytid bark beetles.¹ Debarked logs can be inspected more effectively at the port of first arrival for the presence of boring insects. Because it is impossible to completely remove all pieces of bark, and because debarked logs might be reinfested by pests if not protected after debarking, however, debarking is best used to increase the efficacy of other mitigation measures such as heat treatment, fumigation, or pesticide treatment, rather than as a stand-alone measure.

Heat treatment is effective against all pests, and has been proven to be an effective means of reducing risk.² This treatment would be effective against purple moth since this pest can be found in all of its life stages on the surface of the wood. Kiln drying or steam or hot water treatment would be effective for Scolytid bark and ambrosia beetles.³ For pests such as round-headed borers, eucalyptus longhorned borers, and carpenterworm, which are found in the wood itself, kiln drying or steam heat or hot water treatments would be effective.⁴

Fumigation with methyl bromide has been used for many years to treat logs and lumber because of the chemical's high volatility, ability to penetrate most materials, and broad toxicity against a

wide variety of pests (all stages of insects, mites, ticks, nematodes including cysts, snails, slugs, and fungi). The ability of methyl bromide to penetrate into wood has been a limitation of efficacy, but the removal of bark facilitates the penetration of the fumigant into wood.⁵ Although methyl bromide may not be effective against all organisms, particularly those found deep in the wood, Agency review of the efficacy of methyl bromide fumigations against pests and diseases in wood has been acceptable for two treatment schedules listed in the APHIS Plant Protection and Quarantine Treatment Manual (T-312 and T-404).⁶ This treatment would be effective for the purple moth, Scolytid bark and ambrosia beetles, round-headed borers, the eucalyptus longhorned borer, and carpenterworm.⁷

The evidence in the risk assessment suggests that logs, lumber, and wood chips of species of *Eucalyptus* from South America may be relatively free of most damaging organisms because the commercial *Eucalyptus* plantations are well managed for maximum production, closely monitored to detect and control damaging pests, and grow under conditions that do not generally lead to a high incidence of damage by pests. The proposed treatment requirements, which would be in addition to the current requirements that apply to debarked tropical hardwood logs and lumber, would provide additional protection against the introduction or dissemination of plant pests through the importation of logs and lumber of tropical species of *Eucalyptus* into the United States from South America.

Logs and Lumber of Eucalyptus

Although no wood products of tropical species of *Eucalyptus* from South America are currently being imported into the United States, the regulations do contain provisions under which such logs and lumber could be imported from South America. Specifically, the provisions of § 319.40-5(c) regarding the importation of tropical hardwood logs and lumber and the universal importation options for

logs and lumber in § 319.40-6(a) are applicable to the importation of logs and lumber of tropical species of *Eucalyptus* from South America.

For tropical hardwood logs and lumber, § 319.40-5(c)(1) provides that those articles may be imported if they have been debarked in accordance with § 319.40-7(b) and subject to the inspection and other requirements of § 319.40-9.

Under the universal importation options in § 319.40-6(a), logs may be imported if they are: (1) Debarked in accordance with § 319.40-7, (2) heat treated in accordance with § 319.40-7(c), and (3) stored and handled in such a way that plant pests have no access to the logs during the entire interval between treatment and export. Lumber may be imported under the universal importation options in § 319.40-6 if it is heat treated in accordance with § 319.40-7(c) or heat treated with moisture reduction in accordance with § 319.40-7(d), and meets certain other conditions.

Similarly, temperate species of *Eucalyptus* from South America can be imported pursuant to § 319.40-5(d) of the regulations, which provides that temperate hardwoods from specified locations can be imported if fumigated prior to arrival in the United States in accordance with § 319.40-7(f) and subject to the inspection and other requirements of § 319.40-9. Temperate species of *Eucalyptus* can also be imported pursuant to the universal importation options in § 319.40-6(a).

Under this proposed rule, the universal importation options in § 319.40-6, which are more restrictive than the regulations in § 319.40-5 for tropical hardwoods, would continue to apply to logs and lumber of tropical species of *Eucalyptus* from South America. However, based on the evidence in the pest risk assessment discussed previously, we are proposing to amend § 319.40-5 to provide more restrictive entry requirements for debarked logs and lumber of tropical species of *Eucalyptus* from South America, with the aim of eliminating the risk of the introduction into the United States of plant pests associated with these articles. Specifically, we are proposing to amend the regulations in § 319.40-5(c)(1) to require that logs and lumber of tropical species of *Eucalyptus* from South America be fumigated with methyl bromide or heat treated in accordance with the regulations in § 319.40-7 prior to importation.

Wood Chips

The regulations in § 319.40-6(c)(2) provide conditions under which wood

¹ U.S. Department of Agriculture (USDA), APHIS. 1991. An efficacy review of control measures for potential pests of imported Soviet timber. Misc. Pub. 1496, September 1991. Riverdale, MD.

² Dwinell, L.D. 1997. Pinewood nematode: Regulation and mitigation. Ann. Rev. Phytopath. 35:153-166.

Dwinell, L.D. 1995. Using heat to decontaminate unbarked Virginia pine logs. Proc. Ann. Meeting Forest Products Society, Portland, OR, June 1995.

Morell, J.J. 1995. Importation of unprocessed logs into North America: a review of pest mitigation procedures and their efficacy. Forest Products Journal 45:41-49.

³ Ostaff, D.P. and M.Y. Cech. 1978. Heat-sterilization of spruce-pine-fir lumber containing sawyer beetle larvae (Coleoptera: Cerambycidae). Monochamus sp. Rep. OPX200E. Canadian Forestry Service, Ottawa, ON, 9 pp.

USDA, APHIS. 1991. An efficacy review of control measures for potential pests of imported Soviet timber. Misc. Pub. 1496, September 1991. Riverdale, MD.

⁴ Ostaff, D.P. and M.Y. Cech. 1978. Heat-sterilization of spruce-pine-fir lumber containing sawyer beetle larvae (Coleoptera: Cerambycidae). Monochamus sp. Rep. OPX200E. Canadian Forestry Service, Ottawa, ON, 9 pp.

USDA, Forest Service. 1991. Dry Kiln Operator's Manual. Forest Products Laboratory, Madison, WI. Agriculture Handbook 188. Revised August 1991.

⁵ Richard, J.L., and T.E. See, and W.B. Bollen. 1968. Control of incipient decay with gases in Douglas-fir poles. Forest Prod. Journal. 18(4): 45-51.

⁶ USDA, APHIS. 1998. Plant Protection and Quarantine Treatment Manual, Interim Edition. PPQ04-98-01.

⁷ Hanula, J.L. and C.W. Berisford. 1982. Methyl bromide fumigation destroys broods of the smaller European elm bark beetle (Coleoptera: Scolytidae) in elm logs. Journal Econ. Entomol. 75(4): 688-690.

USDA, APHIS. 1991. An efficacy review of control measures for potential pests of imported Soviet timber. Misc. Pub. 1496, September 1991. Riverdale, MD.