



**United States
Department of
Agriculture**

Marketing and
Regulatory
Programs

Animal and
Plant Health
Inspection
Service



Pine Shoot Beetle Host Material from Canada

Environmental Assessment, October 2004

Pine Shoot Beetle Host Material from Canada

**Environmental Assessment,
October 2004**

Agency Contact:

Frederick A. Thomas
Import Specialist
Plant Protection and Quarantine
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
4300 River Road, Unit 160
Riverdale, MD 20737-1236
Telephone: 301-734-8367

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal employment opportunity provider and employer.

Mention of companies or commercial products in this report does not imply recommendation or endorsement by the U.S. Department of Agriculture over others not mentioned. USDA neither guarantees nor warrants the standard of any product mentioned. Product names are mentioned solely to report factually on available data and to provide specific information.

This publication reports research involving pesticides. All uses of pesticides must be registered by appropriate State and/or Federal agencies before they can be recommended.

CAUTION: Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife—if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.

Table of Contents

I.	Need for the Proposal	1
	A. Introduction	1
	B. Purpose and Need	2
	C. Regulatory Authority to Consider the Rule Change	3
II.	Alternatives	3
	A. Reciprocal Regulation (Preferred Alternative)	3
	B. No Action	7
III.	Environmental Consequences	7
	A. Reciprocal Regulation (Preferred Alternative)	8
	B. No Action	13
IV.	Special Considerations	14
VI.	Agencies, Organizations, and Individuals Consulted	16
	References Cited	17

I. Need for the Proposal

A. Introduction

The pine shoot beetle (*Tomicus piniperda*) is native to Europe and Asia, where it is a destructive pest of pine and related species. Heavy infestations of pine shoot beetle typically kill most of the lateral shoots near the tops of trees. In rare cases, whole trees may be killed either by direct damage or by pathogenic fungi introduced by the beetle. Managed and natural stands of pine are at risk from infestations of pine shoot beetle.

After its detection on a Christmas tree farm near Strongsville, Ohio, in July 1992, the U.S. Department of Agriculture (USDA) managed an extensive detection and delimiting survey effort. Following the survey, the USDA's Animal and Plant Health Inspection Service (APHIS) established domestic regulations for the pest. The regulations, in Title 7 of the Code of Federal Regulations (CFR) Part 301, sections 301.50 through 301.50-10 (Domestic Quarantines, Pine Shoot Beetle), quarantines infested areas, designates regulated items, provides protocols for the movement of those items, and specifies regulatory control methods.

Eradication and suppression have not been considered useful in preventing human-assisted spread of this pest because no reliable methods are available and the current infestation in the United States is so widespread (in the following 13 States: Illinois, Indiana, Maine, Maryland, Michigan, New Hampshire, New York, Ohio, Pennsylvania, Vermont, Virginia, West Virginia, and Wisconsin). Although natural dispersal of pine shoot beetle occurs, transport of infested host material by humans probably accounts for its widespread dispersion. In addition, because all new infestations have been in counties contiguous with regulated counties, it is also probable that new infestations are the result of natural dispersal.

Pine shoot beetle was first detected in Canada approximately 10 years ago. Areas of known infestation are located in the Provinces of Ontario and Quebec and are contiguous, for the most part, with areas infested with pine shoot beetle in the northeastern United States. Pine shoot beetle populations have continued to spread in Ontario and Quebec despite the efforts of Canada's plant protection service, the Canadian Food Inspection Agency (CFIA), in implementing regulatory compliance practices to control the spread of the plant pest. APHIS has taken action to prevent the spread of pine shoot beetle into the United States from Canada under the Federal Plant Pest Act (section 150dd(a)) and more recently under the Plant

Protection Act of 2000 (7 U.S.C. 7701-7772), but there are no regulations in place that restrict the importation of pine forest products to prevent the spread of the pine shoot beetle into the United States from Canada.

On July 24, 2000, the CFIA implemented import restrictions on pine forest products and pine nursery stock based upon pest risk from pine shoot beetle infested areas of the United States. Recently, the Pine Shoot Beetle Management Team, cooperators, APHIS Invasive Species and Pest Management Staff, and Eastern Regional Program Managers performed a thorough review of the importation of pine shoot beetle host material into the United States from Canada. The results of this study indicated that pine shoot beetle host material imported into the United States from Canada must be regulated to prevent the spread of pine shoot beetle to uninfested areas.

B. Purpose and Need

APHIS is considering the implementation of restrictions on the importation of pine shoot beetle host material into the United States from Canada. Under the proposed regulations, pine nursery stock, as well as pine products that consist of pine bark or have pine bark attached, must meet certain requirements relating to documentation, treatment, handling, and utilization as a condition of importation into the United States from Canada. This action is necessary to help prevent the introduction and spread of pine shoot beetle, a pest of pine trees, into noninfested areas of the United States.

The requirements would parallel, in many respects, regulations that the Canadian Government has implemented with respect to the importation of pine shoot beetle host material into Canada from the United States. The reciprocal regulation of imported pine shoot beetle host material by Canada and the United States is consistent with North American Plant Protection Organization standards for preventing the introduction and spread of quarantine plant pests and fostering the preservation of plant resources in North America through coordinated joint programs of mutual interest.

The Council on Environmental Quality (CEQ) implementing regulations for the National Environmental Policy Act of 1969 (NEPA) (42 United States Code (U.S.C.) 4321 *et seq.*) requires Federal agencies to “[b]riefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact” (40 CFR 1508.9 (a) (1)). Thus, this environmental assessment (EA) has been prepared, according to CEQ regulations under NEPA, to consider the potential for environmental impacts from establishing specific requirements

for the importation of pine shoot beetle host material into the United States from Canada. This EA also has been prepared according to USDA regulations implementing NEPA (7 CFR Part 1b) and APHIS' NEPA Implementing Procedures (7 CFR Part 372), and to satisfy Executive Order 12114, "Environmental Effects Abroad of Major Federal Actions."

C. Regulatory Authority to Consider the Rule Change

Under the Plant Protection Act (7 U.S.C. 7701-7772), the Secretary of Agriculture is authorized to prohibit or restrict the importation and entry into the United States of any plants and plant products, including pine materials and products, to prevent the introduction of plant pests or noxious weeds into the United States. The requirements would place certain restrictions on pine materials and products entering the United States from Canada.

APHIS regulates the importation of logs, lumber, and other unmanufactured wood products under 7 CFR 319.40 through 319.40-11, "Logs, Lumber, and Other unmanufactured wood articles" and the importation of nursery stock under 7 CFR 319.37 through 319.37-14 "Nursery stock, Plants, Roots, Bulbs, Seeds, and Other plant products". These two subparts include regulation of certain pine shoot beetle host materials. These regulations are designed to help prevent the entry and spread of nonnative pests.

II. Alternatives

APHIS is considering two alternatives for this program: (1) reciprocal regulation, and (2) no action (no change in the current pine shoot beetle program). Review of the potential for cumulative environmental and pest risks from this reciprocal regulation made it evident that the alternatives should include consideration of the influence of import quarantine regulations of pine shoot beetle host material. Therefore, this assessment includes a brief review of the environmental impacts, particularly as this action contributes to or decreases the potential for cumulative impacts. Both of the alternatives are characterized briefly in this section.

A. Reciprocal Regulation (Preferred Alternative)

This regulation would establish specific requirements for the importation of pine nursery stock and various pine products from Canada in order to prevent the spread of pine shoot beetle into noninfested areas of the United States. Under the reciprocal regulation, pine nursery stock and pine

products that consist of pine bark or have pine bark attached must meet certain requirements relating to documentation, treatment, handling, and utilization as a condition of importation into the United States from Canada. Implementation of this regulation would require the amendment of the nursery stock, permits, and special foreign inspection and certification requirements.

Pine Nursery Stock

This rule will place new restrictions on the importation of pine nursery stock from Canada into the United States. This rulemaking will amend the nursery stock regulations to provide that all restricted articles (except seeds) of pine from Canada be issued a written permit as a condition of importation into the United States. In addition, the phytosanitary certificate accompanying pine nursery stock will have to include specific information regarding the article's origin and destination. If the nursery stock is moved from an infested Province in Canada into or through an area of the United States that is not quarantined for pine shoot beetle, the phytosanitary certificate must also state that the articles have been treated with methyl bromide, or:

- S were produced on a plantation that has a program to control or eradicate pine shoot beetle and were inspected and are considered to be free of pine shoot beetles, or
- S were produced in an area where pine shoot beetle is not considered to be present, or
- S were 100 percent inspected and found to be free from pine shoot beetle, or
- S based on inspection, the restricted articles are no greater than 36 inches high with a bole diameter at soil level of 1 inch or less.

The U.S. destination must also be clearly indicated on the shipment.

If the restricted articles are to be moved through a United States quarantined area for pine shoot beetle en route to an area or areas in the United States not quarantined for pine shoot beetle during the period of January through September when the temperature is 10°C (50°F) or higher, then the restricted articles must be shipped in an enclosed vehicle or completely covered with plastic canvas or other closely woven cloth.

Wood Regulations

APHIS' current wood regulations prohibit or restrict the importation of logs, lumber, and other unmanufactured wood articles that are unprocessed or have received only primary processing. Regulated articles include pine shoot beetle host material such as pine logs, lumber with bark attached, cut pine Christmas trees, wood chips, wood mulch, and composted bark. However, the implementation of this rulemaking will allow the importation of regulated articles of pine (Pinus spp.) from Canada that are not completely free of bark if articles are accompanied by a certificate or a statement of origin and movement. In addition, this rulemaking will amend 7 CFR § 319.40-3 (a) to provide that the general permit will no longer apply to regulated articles of pine (Pinus spp.) that are not completely free of bark from areas of Canada considered to be infested or partially infested with pine shoot beetle; instead, these regulated articles must have a written permit because of the risk of pine shoot beetle associated with these articles. Further, 7 CFR §319.40-5 of the wood regulations will be amended to incorporate specific requirements for the importation of regulated articles of pine (Pinus spp.) from Canada to the United States that are not completely free of bark. The amendment to §319.40-5 provides one set of requirements for the importation of cut pine Christmas trees and another set of requirements for the importation of other pine articles that consist of pine bark or have pine bark attached.

Cut Pine Christmas Trees

Cut pine Christmas trees from Canada, in addition to meeting other applicable requirements of the wood regulations, may be imported into the United States only if the following conditions are met.

Depending on whether the origin and destination are infested or not, the rule requires that cut pine Christmas trees be accompanied by a written permit and either (1) a statement of origin and movement or (2) a certificate issued by the National Government of Canada. Certificates must indicate in the treatment section that the trees have been treated with methyl bromide to kill pine shoot beetle, or:

- S were produced on a plantation that has a program to control or eradicate pine shoot beetle and were inspected and are considered to be free of pine shoot beetles, or
- S were produced in an area where pine shoot beetle is not considered to be present, or

S were 100 percent inspected and found to be free from pine shoot beetle.

The U.S. destination must also be clearly indicated on the shipment.

If the cut pine Christmas trees are to be moved through a United States quarantined area for pine shoot beetle en route to an area or areas in the United States not quarantined for pine shoot beetle during the period of January through September when the temperature is 10°C (50°F) or higher, then the restricted articles must be shipped in an enclosed vehicle or completely covered with plastic canvas or other closely woven cloth.

Other Pine Products

Regulated articles of pine (*Pinus* spp.) from Canada other than cut pine Christmas trees that consist of pine bark, including, but not limited to, chips, nuggets, mulch, and compost, as well as pine products with pine bark attached, including but not limited to, logs, lumber, pulpwood, stumps, and raw pine materials for wreaths and garlands (pine articles), in addition to meeting other applicable requirements of the wood regulations, may be imported into the United States only if the following conditions are met.

Depending on the origin and destination of the shipment, this rule requires other pine products from Canada to be accompanied by a written permit and (1) be accompanied by a statement of origin and movement; or (2) be accompanied by a certificate issued by the National Government of Canada that contains an additional declaration that the regulated articles originated in and were moved only through areas where pine shoot beetle does not exist; or (3) be consigned to a designated U.S. facility that operates under a compliance agreement with APHIS in accordance with 7 CFR § 319.40-8 for specified handling or processing of the articles; or (4) be accompanied by a certificate issued by the National Government of Canada that states that the articles have been treated with methyl bromide in accordance with 7 CFR § 319.40-7(f) to kill the pine shoot beetle; or (5) be accompanied by a certificate issued by the National Government of Canada that states that the regulated articles have been heat treated or heat treated with moisture reduction in accordance with 7 CFR § 319.40-6; or (6) be accompanied by a certificate issued by the National Government of Canada that states that the articles are pine bark that has been ground into pieces less than or equal to 1 inch in diameter; or (7) be shipped from a CFIA-approved facility that is inspected by CFIA at least twice a year to verify its compliance with CFIA handling and processing procedures; or (8) if logs with bark attached, be consigned to a U.S. facility that operates under a compliance agreement with APHIS in accordance with 7 CFR 319.40-8 for specified handling or

processing of the articles; or (9) if pine bark, be shipped from a CFIA-approved facility for use as fuel at a cogeneration facility in the United States approved by APHIS.

The U.S. destination must also be clearly indicated on the shipment.

If the cut pine Christmas trees are to be moved through a United States quarantined area for pine shoot beetle en route to an area or areas in the United States not quarantined for pine shoot beetle during the period of January through September when the temperature is 10°C (50°F) or higher, then the restricted articles must be shipped in an enclosed vehicle or completely covered with plastic canvas or other closely woven cloth.

B. No Action

Under the no action alternative there would be no change in the regulations currently being implemented by APHIS to limit the spread of the pine shoot beetle. The current regulations relate primarily to domestic quarantine requirements in the generally infested areas of the United States. This alternative regulates pine shoot beetle host materials from infested areas within the United States, but does not regulate materials of comparable pest risk from infested parts of Canada. Therefore, the pest risks to uninfested pine forest resources in the United States would be considerably greater from infested sites in Canada than from comparably infested sites in the United States due to the lack of regulation of Canadian pine shoot beetle host material. The close proximity of Canadian pine forests to those across the United States border would result in increased risk of expanded infestation of Canadian forests as well, so the lack of cooperative regulation under this alternative presents potential adverse consequences from pest risk to both Canada and the United States. Environmental effects from the domestic program in the United States relate primarily to the program use of pesticides to eliminate pest risk. These potential impacts are minimized by program standard operating procedures and mitigation measures.

III. Environmental Consequences

The potential environmental consequences from the pine shoot beetle program relate primarily to impacts from pest risk and impacts from regulatory treatments. The ability of each alternative to decrease pest risks from pine shoot beetle relates to the ability to control pest populations and prevent their dissemination from infested or partially infested areas to uninfested areas. The reciprocal regulation would be the most effective alternative at preventing pest risk. The use of program regulatory treatments would be increased under provisions of the reciprocal regulation.

The primary environmental issue relates to the potential impacts from program use of methyl bromide fumigation. In particular, the potential impacts of fumigation with methyl bromide on ozone depletion is discussed in greater detail in the environmental consequences section for the reciprocal regulation alternative.

A. Reciprocal Regulation (Preferred Alternative)

Implementation of the reciprocal regulation alternative would result in decreased pest risk to forests in the United States, in that potential pest risk from pine shoot beetle host materials from Canada would be lowered through regulation of imported pine nursery stock and pine products from infested areas in Canada. This prevents the introduction and spread of pine shoot beetle into noninfested areas of the United States. The regulation would be consistent with the rule already promulgated by the CFIA, and the cooperative international approach to regulating pine shoot beetle host material would make the current regulations more effective at controlling potential spread of pine shoot beetle. This helps to protect pine forests in both the United States and Canada from spread and damage by pine shoot beetle.

The reciprocal regulation maintains the current domestic quarantine regulations, and the potential environmental consequences of the domestic regulatory treatments would not be changed by the potential changes in importation regulations. Those environmental consequences are described in detail in the next section under the no action alternative.

The specific handling and processing of regulated wood products required for regulatory certification of pine shoot beetle host material under the reciprocal regulation poses environmental risks similar to conventional processing of wood products. This processing involves common wood handling procedures that eliminate pest risk and pose minimal impacts to the environment. The cooperative aspects of this regulation provide for a mutual effort to control pine shoot beetle pest risk between APHIS and the CFIA. This cooperation is anticipated to result in better containment of the pine shoot beetle in North America due to regulation of potentially infested products by all pathways.

Methyl Bromide

Methyl bromide is being considered by APHIS as one treatment option in the reciprocal regulation because of its known efficacy. The acceptance of a regulatory treatment method by APHIS is based upon comprehensive

review, efficacy considerations, and approval. The review and approval processes take into consideration safety and health issues as well as logistical considerations. Although certain pest reduction processes may be a part of standard industry practices, these processes may not meet the standards of efficacy and approval required by APHIS. The handling and processing of regulated wood products under this alternative allows certification by the CFIA using methods approved by APHIS. This regulation would permit movement of pine shoot beetle host material for fuel plant, process plant, and mill procedures that eliminate pest risk.

Although the primary goal of this regulation is to prevent the spread of the pine shoot beetle to uninfested parts of the United States, APHIS needs to consider how this regulation could affect trade. The United States is a signatory to the International Plant Protection Convention (IPPC), which establishes standards for acceptable phytosanitary regulations. Phytosanitary measures imposed by a country against regulated pests are acceptable under the IPPC if such measures are (1) transparent (clear to all signatory nations), (2) technically justified, and (3) no more restrictive than measures imposed domestically. The reciprocal regulation affects Canada which is also a signatory to the IPPC. The phytosanitary measures imposed by APHIS under this regulation are consistent with the domestic regulations for pine shoot beetle, including the option of fumigation with methyl bromide.

APHIS cooperates with other countries in control of common pest risks. APHIS has discussed pine shoot beetle pest risk thoroughly with the CFIA. Part of the intent of those discussions was to harmonize regulations of pine shoot beetle host materials between Canada and the United States. The option of fumigation with methyl bromide was provided for pine shoot beetle host materials imported from the United States under the CFIA rule, and APHIS is expected to reciprocate unless there is some clear justification to deviate. Consistency between domestic quarantine regulations and import/export regulations of the two countries is of interest to the facilitation of continuing trade in products derived from pine shoot beetle host materials.

The rule promulgated on July 24, 2000, by the CFIA, “Plant Protection Requirements on Pine Plants and Pine Materials to Prevent the Entry and Spread of Pine Shoot Beetle” (D-94-22), regarding the importation of pine shoot beetle host material from regulated areas of the United States, includes fumigation with methyl bromide as one of the acceptable treatment methods for certification. Although the Canadian regulations are not directly tied to the United States regulations, the effectiveness of regulations of pine shoot beetle host material by both countries is

interdependent, in that spread of pine shoot beetle from inadequate containment of the present infestation would be anticipated to affect the forests of both countries. Therefore, the environmental consequences of the Canadian rule are considered to be important from the standpoint of cumulative pest risk and cumulative ozone depletion risk. The growers and producers in the United States are already subject to the domestic program regulations and are expected to use similar approaches to comply with the Canadian rule. The Canadian rule for movement of pine shoot beetle host material from infested areas of Ontario and Quebec to other parts of Canada allows fumigation also, but this method was applied sparingly to Christmas trees during the first year of implementation and was found to damage the product. No fumigations of pine shoot beetle host material in Canada have occurred since those first fumigations. Therefore, it is anticipated that growers in Canada will select compliance certification methods other than fumigation with methyl bromide to allow movement of their products.

Although methyl bromide is an acutely toxic vapor that has the potential to produce systemic and cumulative effects on humans that are excessively exposed, its limited and controlled use in this program presents minimal potential for environmental impact. This anticipated lack of environmental impact is a result of (1) the carefully controlled manner in which it is used, (2) its short half-life and quick dispersal, (3) the relatively small use from the domestic program, and (4) the minimal contribution of the agricultural use of methyl bromide to the ozone depletion phenomenon. The APHIS treatment manual requires specific safety procedures and protective clothing for all methyl bromide applicators and persons in treatment areas. The domestic pine shoot beetle program provides fumigation of pine shoot beetle host material as a regulatory treatment, but certification of pine shoot beetle host material by fumigation with methyl bromide was only used sparingly in the first year of the domestic regulatory program.

Fumigants, such as methyl bromide, used to treat commodities such as wood are designed to kill organisms present in the commodity. Other organisms such as wildlife and domestic animals that do not have access to the fumigation chamber are not expected to be adversely affected by fumigations. The aeration vent from a fumigation stack or chamber may regularly release gas at a specific location, which could affect those organisms immediately below the vent. However, methyl bromide gas is anticipated to disperse quickly and few organisms would be expected to reside in close enough proximity to the off-gassing vent to be adversely affected. Most fumigation facilities and stacks are placed on physically disturbed sites that are not preferred habitat for wildlife.

Having considered the low frequency of fumigation in the domestic program and the unlikely use of fumigation as a certification treatment in compliance with the Canadian rule, the potential prospects under the reciprocal rule for use of methyl bromide in fumigations for regulatory certification need to be considered. The use of fumigation for other regulatory compliance requirements related to pine shoot beetle has been historically very limited, and it is anticipated that growers and producers will continue to prefer other acceptable treatment methods for their regulated products over fumigation with methyl bromide.

Based upon data from Statistics Canada, the quantity of imports of potentially affected pine was determined. The data includes quantities from the entire provinces of Ontario and Quebec because available data are not limited to regulated (infested) areas. Many pine products cannot be fumigated due to potential damage. This includes articles such as Christmas trees. The general categories of pine products that could be fumigated include wood waste/scrap, fence posts, pine logs, and railroad ties. Although other compliance methods exist for the reciprocal regulation, the conservative assumption for this quantitative analysis was that all potential pine products would be fumigated. Using this conservative approach, the potential annual cubic feet of wood that could be fumigated is just under 4 million cubic feet.

Applying the maximum treatment rate for methyl bromide fumigation of 15 lbs/1000 cubic feet to the quantity of imports, the potential annual methyl bromide use in Canada in compliance with the reciprocal regulation would amount to 26 metric tons (MT). The 1996 worldwide methyl bromide use was determined to be 63,960 MT. The relative annual increase in worldwide methyl bromide use resulting from the reciprocal regulation based upon this data is 0.0407%. The estimated methyl bromide emissions from this use would be 22.88 MT. Based upon these emissions, the potential annual contribution to ozone depletion from this regulation could amount to 0.000407% and the potential hindering effect on restoration of the ozone layer from this regulation could be from 0.00204 to 0.00611%. As was pointed out in the previous paragraphs, this compliance method has not been preferred by the growers and producers. It is anticipated that most growers and producers will not use fumigation to comply with the regulations being considered. The maximum potential use of methyl bromide and the maximum potential ozone depletion resulting from this compliance method are minimal compared to other use patterns and sources of ozone depletion.

Therefore, methyl bromide use resulting from the reciprocal regulation should be insignificant. Nevertheless, impacts on ozone depletion must

also be considered in light of any potential cumulative aspects. As stated earlier, the domestic and Canadian rules for pine shoot beetle host materials are not resulting in methyl bromide fumigations as a preferred compliance strategy. There are, however, other potential regulatory compliance treatments that could involve greater use of fumigation with methyl bromide. Some regulatory treatments with methyl bromide are anticipated as part of reasonably foreseeable future actions. The potential cumulative impacts of these treatments have been described in the draft environmental impact statement (EIS) for importation of unmanufactured wood articles from Mexico (USDA, 2000). The information and analyses of that document are incorporated by reference into this EA. The anticipated potential releases of methyl bromide in Mexico from fumigation of Mexican unmanufactured wood articles determined in the EIS amount to 21 MT. Like the limited releases anticipated from fumigation under the reciprocal regulation alternative, this is a small quantity with minimal impact on the annual levels of ozone depletion. Increasing trade and introduction of new pest risks, such as pine shoot beetle, can be expected to periodically make compliance methods, such as fumigation with methyl bromide, necessary to eliminate pest risk. Although the need for these new regulations is expected to be infrequent, APHIS expects to provide protection to agricultural resources through regulatory actions which may include fumigation with methyl bromide.

Heat Treatment

Heat treatment appears to be a viable method for eliminating pests and pathogens in wood and unmanufactured wood products. The efficacy of heat treatment is dependent upon the time and temperature, as well as humidity, of the treatment. Heat treatment with moisture (water or steam) kills pest and disease organisms by coagulating or denaturing the proteins, particularly enzymes. Heat treatment with moisture reduction (kiln drying) relies primarily on an oxidation process, generally using dry heat to reduce the wood's moisture content to 20 percent or less, to kill pest and disease organisms.

Heat treatment standards (required to ensure the efficacy of the treatments) are provided in 7 CFR 319.40–7, which also requires inspection of the heat treatment facilities by the national government of the country where the facilities are located. APHIS' heat treatment requirements now require the core of each regulated article to be raised to at least 71.1 °C and maintained at that temperature for at least 75 minutes. By contrast, the IPPC Guidelines require a treatment protocol that is somewhat

less—56 °C for at least 30 minutes. Heat treatment with moisture reduction is required to reduce the moisture content of the regulated article to 20 percent or less as measured by an electrical conductivity meter.

The environmental impacts of heat treatments relate primarily to the type of heat source that is used. In all cases, the heat from individual treatments is released to the atmosphere and dissipates readily with no anticipated long-term or cumulative effects on global temperatures. Expansion of the frequency of heat treatments to cover pest risks is not likely to add substantially to the global heat load. However, an additional issue relates to the source of heating for treatments. Heating regulated wood articles in a compartment may be achieved by an electrical apparatus or by fossil fuel combustion. The amount of emissions released from fossil fuel combustion or generation of electricity for the treatment of regulated wood articles would be far less than the amount released from transportation sources or the generation of electricity for public consumption. All of these releases of carbon dioxide and hydrocarbons from fuel combustion do contribute to global warming. Although no quantitative assessment has analyzed the amount of exhaust gases contributed by quarantine heat treatments, the amounts are relatively low compared to other sources of carbon dioxide and hydrocarbon emissions. Based upon the projected cumulative future usages of heat treatments, emissions are not expected to contribute substantially to global warming.

B. No Action

Potential environmental impacts from this alternative would be qualitatively similar to those for the reciprocal regulation, but the magnitude would differ considerably. There would be no regulatory quarantine of pine shoot beetle host material from Canada, so this alternative would allow the pine shoot beetle to spread more rapidly and greater losses would occur to pine timber and pine products. The resulting increase in infested trees would be expected to result in increased overall use of pesticides by the growers to minimize beetle damage and by landowners to protect their ornamental trees.

The amount of fumigation with methyl bromide under this alternative would be less than under the reciprocal regulation in that pine shoot beetle host materials from Canada would not be fumigated. The domestic pine shoot beetle program provides fumigation of pine shoot beetle host material as a regulatory treatment, but certification of pine shoot beetle host material using this method has not been widely used. Grower preference for other methods of pine shoot beetle control leads to infrequent use of methyl

bromide fumigations. Therefore, the amount of fumigation with methyl bromide used to treat pine shoot beetle host material under either the no action or the reciprocal rule alternative is expected to be minimal.

Continuation of the domestic quarantine (no action alternative) would result in no changes in overall impacts. The domestic quarantine would continue to impede the spread of pine shoot beetle, resulting in beneficial environmental impacts (minimization of ecological disruption in natural ecosystems and minimization of losses in commercially managed agricultural systems). Heavy infestations of pine shoot beetle which typically kill most of the lateral shoots near the tops of trees would increase to the extent that the domestic program is unable to limit spread of the beetle. In rare cases, whole trees could be killed either by direct damage or by pathogenic fungi introduced by the beetle. However, most loss would be to the valuable lumber products from healthy pine trees. Beneficial impacts are difficult to quantify because they are related to host distribution and diversity, but it is clear that the use of pine and related tree stands for commercial purposes, aesthetic purposes, recreation, and wildlife cover is enhanced when the spread of pine shoot beetle is impeded. The quarantines placed on newly infested areas limit the ability of pine shoot beetles to spread and damage pine trees. In some cases, where those natural ecosystems provide habitat for endangered and threatened species, the survivability of those species are enhanced by this domestic quarantine.

IV. Special Considerations

Executive Order 12898 - Environmental Justice

Consistent with Executive Order No. 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” APHIS considered the potential for disproportionately high and adverse human health or environmental effects on any minority populations and low-income populations. No disproportionate effects on such populations are anticipated as a consequence of implementing the reciprocal regulation.

Executive Order 13045 - Protection of Children from Environmental Health Risks and Safety Risks

APHIS considered the potential for any disproportionate adverse effects to children from the regulations being considered for this program in compliance with the policy of Executive Order 13045, “Protection of Children From Environmental Health Risks and Safety Risks.” No

disproportionate effects on children are anticipated as a consequence of implementing the reciprocal regulation.

Endangered Species Act

The Endangered Species Act of 1973, 16 U.S.C. 4332 et seq., and its implementing regulations require Federal agencies to consult with the U.S. Department of the Interior's Fish and Wildlife Service (FWS) and/or the U.S. Department of Commerce's National Marine Fisheries Service (NMFS) to ensure their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of critical habitat. Federal agencies must determine if their actions "may affect" an endangered or threatened species or its habitat; if that determination is positive, the Federal agency must initiate consultation with FWS and/or the NMFS. According to the regulations, Federal agencies need not initiate formal consultation if it obtains the concurrence of the FWS and/or the NMFS, through informal consultation, with regards to threatened species or habitat. The measures set forth through the implementation of the preferred alternative is expected to eliminate pine shoot beetles that may be associated with host materials from Canada to a negligible level; thus, it appears that a determination of no effect can be declared with regard to impacts on the environment, listed and proposed threatened and endangered species or their habitats, protected species, and critical habitat.

VI. Agencies, Organizations, and Individuals Consulted

Environmental Services
Policy and Program Development
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
4700 River Road, Unit 149
Riverdale, MD 20737-1238

Import Services
Plant Protection and Quarantine
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
4700 River Road, Unit 140
Riverdale, MD 20737-1236

Invasive Species and Pest Management
Plant Protection and Quarantine
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
4700 River Road, Unit 134
Riverdale, MD 20737-1234

References Cited

EPA—See U.S. Environmental Protection Agency.

EPA,OPP—See U.S. Environmental Protection Agency, Office of Pesticide Programs.

USDA—See U.S. Department of Agriculture

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 1998. Plant protection and quarantine treatment manual, Interim Edition. PPQ 04/98-01. July 1998.

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 2000. Proposed rule for the importation of unmanufactured wood articles from Mexico, with consideration for cumulative impact of methyl bromide use. Draft Environmental Impact Statement—June 2000.

U.S. Environmental Protection Agency, 1999. Protection of stratospheric ozone: incorporation of Montreal Protocol adjustment for a 1999 interim reduction in Class I, Group VI controlled substances. Federal Register 64(104):29240–29245.

**Finding of No Significant Impact
for
Reciprocal Regulation of Pine Shoot Beetle Host Material from Canada
Environmental Assessment,
October 2004**

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), has prepared an environmental assessment (EA) that analyzes potential environmental consequences of regulatory alternatives for the importation of pine shoot beetle host material from Canada. The EA, incorporated by reference in this document, is available from:

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Plant Health Programs
4700 River Road, Unit 140
Riverdale, MD 20737-1236

The EA analyzed alternatives of (1) reciprocal regulation (preferred alternative), and (2) no action (continuing the existing program). Each alternative was determined to have some potential but insignificant environmental consequences. The reciprocal regulation was preferred because of its capability to decrease pest risk by preventing spread of pine shoot beetle in a way that reduces the magnitude of those potential environmental consequences and to maintain the effectiveness of domestic control programs. Program standard operational procedures and mitigative measures serve to negate or reduce the potential environmental consequences of this program.

APHIS has determined that there would be no significant impact to the human environment from the implementation of the preferred alternative. APHIS' Finding of No Significant Impact for this program was based upon the expected limited environmental consequences, as analyzed in the EA. In addition, APHIS anticipates no impacts to threatened or endangered species or their habitats from this regulatory action. I find that the preferred program poses no disproportionate adverse effects to minority and low-income populations and the actions undertaken for this program are entirely consistent with the principles of "environmental justice," as expressed in Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." Likewise, I find that the preferred program poses no disproportionate adverse effects to children and the actions undertaken for this program comply with the policy of Executive Order 13045, "Protection of Children From Environmental Health Risks and Safety Risks."

Lastly, because I have not found evidence of significant environmental impact associated with the proposed program, I further find that an environmental impact statement does not need to be prepared and that proposed program may be implemented.

/S/

Richard Dunkle
Deputy Administrator
Plant Protection and Quarantine
Animal and Plant Health Inspection Agency

October 14, 2004

Date