ASIAN LONG HORNED BEETLE
Questions and Answers

Q.1 What is the Asian long-horned beetle?
A.1 The Asian long-horned beetle (ALHB), *Anoplophora glabripennis*, is an invasive quarantine insect native to Asia known to attack and kill healthy trees.

Q.2 What trees in Canada are susceptible to the Asian long-horned beetle?
A.2 The majority of Canadian broadleaf trees are at risk from this insect, including all species of maple along with elm, ash, poplars, alder, arbutus, and willow.

Q.3 Has the Asian long-horned beetle been found in Canada?
A.3 On September 4, 2003, a member of the public found a live beetle in the parking lot at his place of employment. The sample was collected by the Canadian Food Inspection Agency (CFIA) Toronto Regional Office (TRO) and positively identified by the Centre of Plant Quarantine Pests on September 8, 2003. This is the first find of ALHB attacking trees in Canada.

Q.4 Where has Asian long-horned beetle been detected in Canada?
A.4 The CFIA have positively confirmed the introduction of ALHB in a concentrated area of an urban industrial park located in Woodbridge and Toronto, Ontario.

Q.5 Is Asian long-horned beetle harmful to humans or animals?
A.5 No, the Asian long-horned beetle poses no threat to human health or animal health. It only harms certain species of trees.

Q.6 Does Asian long-horned beetle kill all trees?
A.6 Many of Canada’s native broadleaf trees are susceptible to infestation by the Asian long-horned beetle. Evergreen or coniferous trees are not attacked by ALHB.
Q.7 **How could Asian long-horned beetle be transported from Asia to Canada?**

A.7 Asian long-horned beetle is one of many insect pests that is capable of surviving transport in wood and wood packaging materials. On arrival, pests contained within the wood may emerge and move to local host trees to feed and complete their life cycles.

The CFIA has implemented strict import policies to regulate wood packaging and wood products. The CFIA also supports the adoption of a recent international standard created by the International Plant Protection Convention (IPPC) to reduce the plant health risks associated with wood packaging used in trade.

Q.8 **How does Asian long-horned beetle kill infested trees?**

A.8 Asian long-horned beetle larvae feed within the trunk and limbs of trees and eventually riddle the trees with holes, causing them to die. In some situations, mature trees may be killed in one or two growing seasons.

The adult beetles can also feed on leaves, bark and shoots, causing considerable damage to the tree.

Asian long-horned beetle has a preference for some species of trees, especially maples.

Q.9 **Has the Asian long-horned beetle been found in other countries outside of Asia?**

A.9 Recently, infestations have been found in Austria and the United States; New York (1996), Chicago (1998) and Seattle (2000) and have resulted in the removal and destruction of over 5000 trees. Millions of dollars have been spent on the required surveys and control programs.

Q.10 **What does the Asian long-horned beetle look like?**

A.10 **Adult beetle:** six legs, large shiny black body (35 mm long and 12 mm wide maximum size) with up to 20 white dots. The adult has two long antennae composed of 11 segments. Each segment is black with a whitish ring at the base.

There are a couple of native beetles that look similar to Asian long-horned beetle such as the pine sawyer beetle.

Electronic images are available on the CFIA website (www.inspection.gc.ca) or printed pest pamphlets from a local CFIA office.

Q.11 **What is the life cycle of the Asian long-horned beetle?**
A.11 The Asian long-horned beetle has a one to two year life cycle with four stages: egg, larva, pupa and adult beetle. Asian long-horned beetle can overwinter in Canada as an egg, larva or pupa. An adult will generally emerge in July and August and live as late as the first frost. The life stages may be delayed due to variable climatic conditions.

Q.12 What are the signs and symptoms of a tree attached by Asian long-horned beetle?

A.12 Emerging adults signs: The emerging adult beetles will chew their way out of the tree, leaving large round holes (9 - 11 mm) in the branches and trucks of trees.

Egg laying: Oval-shaped wounds can be found on the tree where the female beetles have chewed through the bark to lay their eggs. These wounds may also produce dripping sap.

Feeding Damage by adults: Adult beetles feed on the leaves, bark and branch tips.

Feeding Damage by Larvae: Coarse sawdust may be found at the base of trees and where the branches connect to the trunk as a result of larvae feeding and chewing the tree.

Q.13 What do I do if I suspect Asian long-horned beetle is on my property?

A.13 Contact us at 1-800-442-2342. Pest descriptions and resource material can also be found on the CFIA Forestry website and at Canadian Forest Service Offices. Many municipalities may also have information and resources available on Asian long-horned beetle.

Q.14 What is the CFIA doing to contain the new find of the Asian long-horned beetle in Ontario?

A.14 A CFIA survey team has conducted visual surveys of the urban industrial park bordering Woodbridge and Toronto, Ontario. In addition, they have conducted interviews with local businesses to gain a better sense of the potential introduction locations. The survey team is composed of plant health inspectors specializing in entomology and surveys. The team will expand the intensive survey around the industrial park with the assistance of other governmental partners.

Where required, the CFIA will issue “Prohibition of Movement Notices” to regulate infested and potentially infested trees and wood. Traceout and traceback surveys will also be initiated to ensure control over the potential spread of ALHB.

If the current Asian long-horned beetle introduction is found to have spread further and requires a more extensive eradication project, the CFIA will seek a “Ministerial Order” to regulate the affected area.
Q.15 What is the proposed CFIA plan to control and eradicate Asian long-horned beetle?

A.15 During the fall and winter of 2003, the CFIA led visual surveys to determine the extent of the introduction and damage. Where infested material is found, it will be destroyed to eliminate the risk of Asian long-horned beetle spreading to uninfested trees.

With no natural predators on this side of the world, the only way to stop the beetle’s spread is to cut down all similar trees- even healthy ones- within 400 metres of an infested tree.

The Agency will also maintain and enforce restrictive measures for the movement of potentially infested wood items from the area where the beetle was found.

The CFIA will ask for the public’s help in spotting the beetle and reporting it to their local CFIA office. In addition, the Agency will implement an extensive industry communication program to share information on the beetle.

Q.16 What will happen with infested trees or wood materials?

A.16 To control the recent introduction of Asian long-horned beetle, all infested plant material must be destroyed by chipping and subsequent composting. CFIA inspectors are investigating all links to the infested trees, conducting intensive surveys in the surrounding areas and determining movement of any infested tree material.

Q.17 Will the federal government compensate property owners for the loss of their trees?

A.17 Compensation, if approved by the Minister, would be limited to costs related to removal and disposal of trees ordered destroyed by the CFIA. There are no provisions under the Plant Protection Act and Regulations to compensate affected property owners for replacement costs, lost markets, loss of income or decreases in land value.

Q.18 Has the CFIA contacted major international trading partners?

A.18 The CFIA has contacted the USDA to inform them of the new find. This find will also be reported in accordance to international standards on pest reporting.

Q.19 Who has the responsibility for undertaking an eradication project and taking regulatory control?

A.19 Under the authority of the Plant Protection Act, the CFIA is the agency responsible for preventing the entry and spread of pests of quarantine significance into Canada. While the CFIA is the lead agency, the continued efforts and cooperation of federal, provincial and
municipal partners is required to protect the natural and urban biodiversity of Canada and the valuable industries relying on agriculture and forestry resources.

**Q.20 How will infested trees be disposed of? What will be done with the infested material? What was done in Chicago and New York (NY)?**

**A.20** This question is currently being addressed by the ALHB science sub-committee. The Science sub-committee is reviewing information from the U.S. that indicates that trees chipped to 5/8th of an inch are small enough to destroy any ALHB life stages present. A problem arose in the U.S. with the chips as people refused to use the chips for compost due to the stigma associated with material from an eradication program. The USDA indicates that it is totally safe.

U.S. studies indicated that if chipped to 5/8 inches would pose no risk. In New York, chips were initially stored in the old naval yard with no cover, only left to compost. Wood chips were also used energy production in New York, while in Chicago they were burnt in a down draft burner. This is no longer due to a perception problem but it the easiest way to dispose of the chips.

**Q.21 Who is actually responsible for marking and removing trees - federal, provincial or municipal? Who is responsible in the U.S.?**

**A.21** In Toronto, crews are made up of staff from CFIA, City of Toronto, City of Vaughan and many other municipalities and agencies. Various people from these organizations have been designated CFIA inspectors. When a tree is suspected of infestation it is confirmed by a CFIA employee. A sample is collected and confirmed by an entomologist. Egg, larva, pupa or adults stages can be used to determine infestation. The overall responsibility for regulatory actions lies with the CFIA.

In the U.S., APHIS is responsible for marking trees but this is contracted out. Some is done in cooperation with city and state authorities on public lands. State legal authority is the one that is most often being worked under to do initial marking and disposal.

**Q.22 When will the CFIA begin informing land owners if trees on their properties are infested?**

**A.22** The CFIA has already informed public and private tree owners in the City of Toronto, City of Vaughan, Region of York and Toronto Regional Conversation Authority of trees under their care, control or ownership being infested.
Q.23 When will they start marking trees?

A.23 The CFIA began marking infested trees the week of Oct 27.

Q.24 Is the above done by government employees or is it contracted out? What was done in Chicago and New York?

A.24 Cutting of trees will be done by affected municipalities when they are in care or control of the tree. Discussions are on-going as to who will take responsibility for cutting of trees on private property.

In the U.S. state authorities are responsible for removing trees, but this is often contracted out. Some is done in cooperation with city and state authorities on public lands but these too are sometimes contracted out. A USDA inspector will supervise removal in most cases.

Q.25 Do they just cut down the tree or do they remove the root system? What was done in Chicago and New York?

A.25 It may on the size of the tree and the way it is infested. The Science panel is looking into this and advise the CFIA of the best course of action.

In the U.S., the root system is removed through stump grinding after tree cutting to eight inches below soil in almost all cases.

Q.26 Who pays compensation for property damage and other expenses related to removal of trees? Are replacement trees provided and are there any costs involved to the property owner? What was done in Chicago and New York?

A.26 Under the Plant Protection Act there is a provision compensation (limited to the cost of eradication - cutting and disposal and/or treatment), however, if the Minister elects to pay compensation, this will require the development of specific regulations. It would appear from a CFIA perspective other agencies cooperating with this eradication effort have legislation more suitably that allows for the components such as on-going treatment of trees, replanting and restoration efforts.

In the U.S. they had a replacement and landscape subsidy program through U.S. Forest Service. Property owners are given “credits” for trees removed based on their size. Landowners have different options: can do nothing; can replace with two four inch trees and take rest of credits to plant beetle resistant material or can use their credits to plant with landscaping material. The USDA-APHIS felt that this component would increase the level of cooperation from property owners and that the U.S. forest service was in a better position to lead the efforts on replanting and restoration. It is a cost sharing program between Forest Service and local community.
The U.S. Forest Service passes money through their program to a state cooperator agency that is working with a city organization (a Non-governmental organization) to actually plant trees. In New York, this NGO actually plants the trees.

In Chicago they had more opportunity to do more as philanthropists provided $1 million USD and this allowed for landscaping and restoration.

Q.27 Who is responsible for monitoring for further infestations?

A.27 CFIA and partners are responsible for monitoring for other infestations. In the coming months CFIA will work with partners to develop a comprehensive plan to deal with future surveys for this pest.

Q.28 Is anyone actively looking for other infested areas now?

A.28 In Ontario, the CFIA has trained foresters based on visiting of sites, review of symptoms, video and power point presentations from numerous municipalities and Ontario Ministry of Natural Resources (OMNR) and the Canadian Forest Service (CFS) staff to look for ALHB. When these people are carrying out their own work duties, they also look for beetle.

CFIA staff from other areas including Ottawa and Quebec have been trained and will put this training to use based on survey plans for the next survey year. These are presently under development.

Q.29 What material/information has CFIA sent out to residents in affected areas? What additional information will be sent out in the future?

A.29 The CFIA has held public information sessions in Toronto and Vaughan. At the first finding in September, CFIA put out two rounds of news releases and advertising in major dailies and community newspapers in Toronto and Vaughan. CFIA has also printed a number of information documents including a fact sheet on ALHB that has pictures of the insect as well as the symptoms and 1-800 number and web site. This was widely distributed in the affected areas by household drops. CFIA has also put information on back of fact sheets in three languages, (English, French and Italian) explaining who CFIA is, that we will be surveying and why. We are trying to ensure that all parties know of what we are doing and keep them informed as the situation evolves.

CFIA has developed posters and information cards for general distribution and these have gone out to people in the affected area.

CFIA has put together information packages for local churches and has contacted churches and community groups and will do the same for other houses of worship in the area. CFIA is planning to be in contact with the Boy Scouts and Girl Guides as well. CFIA has also done work with other stakeholders and have formed a communication sub-
committee with partners interested in the issue and has provided them with information and documents for distribution through their own organizations’ communication channels.

CFIA plans to continue Public information sessions to inform citizens of plans as they develop and will continue to do mailbox drops to bring public up to speed. In addition, CFIA will continue to perform presentations as they have previously done for approximately ten stakeholder groups.

Q.30  Are there any specific steps being taken for conservation areas or parklands?

A.30  CFIA is trying different techniques to survey the ravines and parklands. CFIA and partners are using several methods including ground survey, tree climber survey and tying-in with an on-going forest management survey being run by the City of Toronto.

In the U.S., in a Chicago forest preserve, 100% inspection is carried out with climbers and all trees are treated with imidacloprid by stem injection. The U.S. has found treatment in forests to be easier and cheaper than in residential areas due to the ability to treat many trees at once with fewer inspectors required to supervise the treatment.

Q.31  I have heard that some sources in the U.S. think that only pesticide application is required to eradicate ALHB and tree removal is unnecessary. Why is the CFIA pursuing tree removal?

A.31  Given the extremely serious threat posed by ALHB to Canada's forests and tree, the CFIA must use the methods most likely to eradicate this infestation, in this case, removal of infested trees. The CFIA is working closely with both Plant Quarantine officials in the U.S. and with scientists in Canada to determine the best way to approach eradication of the ALHB.

Information from both U.S. and Canadian sources indicate that there is no magic bullet to eradicate this pest, but that an integrated approach to pest management is necessary. Any one tool may not be effective in the control and eventual eradication of ALHB, but a multi-pronged approach involving tree removal and chipping, pesticide application and other means is most likely to be successful. To this end, the CFIA is pursuing the emergency registration of imidicloprid. In the U.S., this pesticide has proven to be effective as a protectant for trees surrounding the infested areas. Research is on-going on its effectiveness in other situations as well. New uses may be identified as research continues.

Q.32  Why is the CFIA only pursuing emergency registration of this pesticide at this time?

A.32  The CFIA will continue work with researchers on both sides of the border, including experts working on the ALHB eradication in the U.S., to identify any new chemical tools
available to combat this pest. These tools require review and approval by the Pest Management and Regulatory Agency (PMRA) before their use in any setting in Canada.

Q.33 If the pesticide were registered for use in Canada now, or very soon, would homeowners be able to use it to protect their own trees?

A.33 The pesticide is not yet registered for use in Canada. If the pesticide is successfully registered, it must be applied by a licensed technician, who is granted a license for pesticide application by Health Canada.

Applying a pesticide at this time of year would not be an effective means of protection for the tree against the beetle. As the leaves have fallen from the trees, respiration is greatly decreased. It is the process of respiration that allows nutrients (and pesticide, if applied) to be drawn through the entire tree. Therefore, it is not practical to apply any pesticide in late autumn as the tree isn't moving it through its system and the larvae are inactive at this time of year, so they will not consume the pesticide.