



INTRODUCTION:

Threats to U.S. agricultural resources are often thought of as invasive pests and diseases that are introduced via imported “host” commodities. However, conveyances are pathways for invasive pests and diseases as well.

This presentation will introduce the viewer to how several types of contaminants might be introduced by conveyances, the reasons for concern, U.S. Customs and Border Protection's efforts to prevent invasive species introduction, and best practices for industry to prevent conveyance contamination.

By engaging trade entities and providing methods and techniques that will minimize contaminants in conveyances, U.S. Customs and Border Protection (CBP) aims to effect fewer delays, re-exportations, and treatments.

Any inquiries regarding this information should be directed to CBP, Office of Field Operations (OFO) Agriculture Programs and Trade Liaison (APTL) or to a local CBP office staffed with an Agriculture Specialist.

Let's get started.

Overview

- What is carrier conveyance contamination?
- Why are contaminants a concern?
- Examples of carrier conveyance contamination.
- CBP efforts to prevent carrier conveyance contamination.
- Best practices for preventing carrier conveyance contamination.



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OVERVIEW:

During this presentation, the following topics will be discussed:

- What is carrier conveyance contamination?
- Why are contaminants a concern?
- Examples of carrier conveyance contamination.
- CBP efforts to prevent carrier conveyance contamination.
- Best practices for preventing carrier conveyance contamination.

What is Carrier Conveyance Contamination?



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OVERVIEW:

- Carrier conveyances, such as ocean containers, aircraft, rail cars, and commercial trucks, are pathways by which invasive plant and animal pests and diseases might be introduced into the United States.
- The economic and environmental impact of such unintentional introductions can be significant.
- Invasive species are expensive to control and can reduce agricultural production, property values, and water availability.
- There are approximately 1,050 invasive plant species reported in the United States.

Photos

Left: Soil contamination on military vehicle.

Right: Animal blood leaking from a reefer arriving from foreign. (Seattle FO, 10/24/2013)

Contaminants Defined

- Contaminants are the presence of an unwanted substance(s) or foreign material in a physical body or in the natural environment that can cause serious harm to United States agriculture and natural resources.



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OVERVIEW:

- Contaminants are the presence of an unwanted substance(s) in a physical body or in the natural environment.
- In biological sciences, accidental introduction of "foreign material" (contamination) can cause serious harm to United States agriculture and natural resources.
- In the world of CBP agriculture specialists, these contaminants are viewed as agriculture and environmental threats, just as terrorists are security threats.
- Conveyance contamination is found in all pathways: sea, air, land and rail. Conveyance contamination is found on regulated agricultural commodities and general cargo of all types, not just perishable agricultural commodities.

**OVERVIEW:**

- In today's global economy, the volume of international trade brings increased potential for invasive ("non-native") species to enter the United States.
- Past introductions of non-native pests and diseases have seriously harmed urban and rural landscapes. The cumulative costs in lost revenue and cleanup expenditures have reached into the billions of dollars.
- There are estimates that the economic impacts from invasive species exceed \$1 billion annually in the United States.
 - This cost is in addition to the damage the invasive species cause to hundreds of millions of acres of native ecosystems and associated native plants and animals.
- Both photos are of damage to trees caused by the emerald ash borer, a destructive wood-boring beetle of ash trees that is native to China and eastern Asia.
 - **This insect is believed to have been introduced into the United States in contaminated WPM carried in cargo ships or airplanes originating in its native Asia.**
 - Since its first detection in the United States in 2002, emerald ash borer infestations have been found in 22 states.
 - The emerald ash borer females deposit eggs on the surface of ash bark, in its crevices and cracks, or just under the outer bark of ash trees.
 - After hatching, the larvae immediately begin chewing through the outer bark to the tissue layer that spreads nutrients throughout the tree.
 - Larvae feed in S-shaped tunnels, called galleries, in the phloem. As the larvae feed and grow, the galleries get larger. The galleries disrupt the transport of nutrients within the tree.
 - The tunneling larva not only kill the trees, but lessen the value of the wood for its structural integrity.
 - The larva emerge from the WPM as adults and attack trees in the area where the pallet/WPM is.
 - Taking pallets and wood into the forest for camping expeditions, and moving wood around the U.S., only serves to increase the habitat for the destructive pest.
 - Tens of millions of ash trees have been cut down due to the introduction of emerald ash borer.
 - The costs due to the introduction of the emerald ash borer for municipalities, property owners, nursery operators and forest products industries is in the tens of millions of dollars.

Photos

Left: Daniel Herms, The Ohio State University, Bugwood.org - See more at:
<http://www.invasive.org/browse/detail.cfm?imgnum=1523078#sthash.NhyccoFV.dpuf>

Right: Daniel Herms, The Ohio State University, Bugwood.org - See more at:
<http://www.invasive.org/browse/detail.cfm?imgnum=1523071#sthash.5zPQ4cpC.dpuf>

Why are contaminants a concern?



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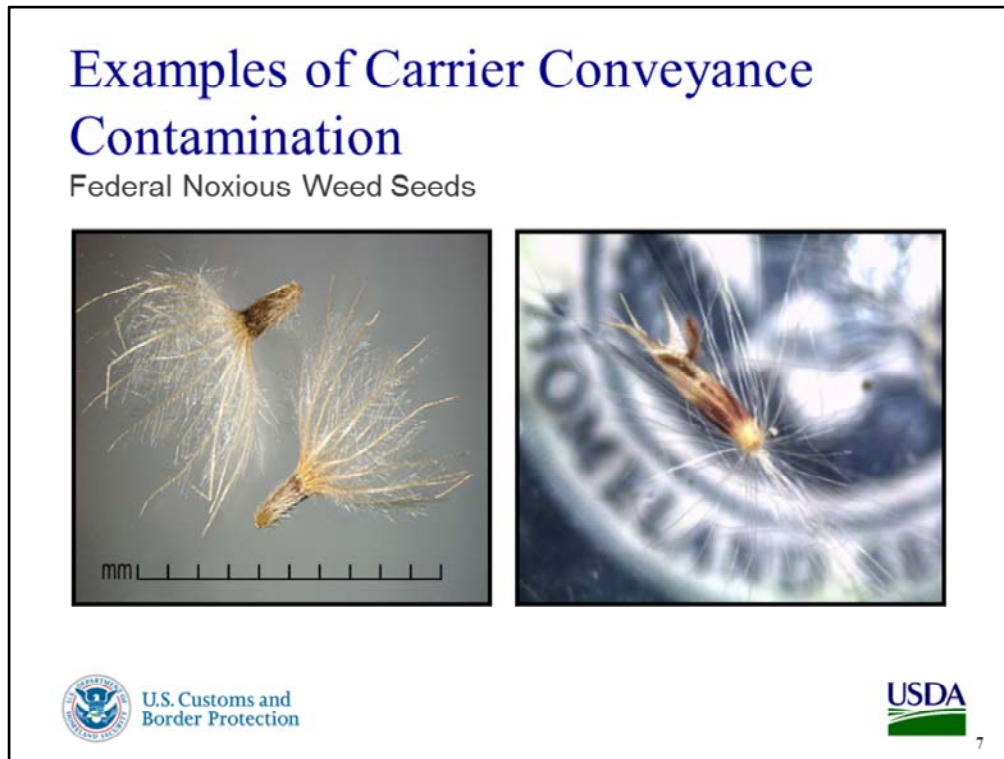
OVERVIEW:

- The impact of invasive species introduction is not limited to the effects on plants.
- Foreign animal diseases are capable of being transmitted by contamination.
- **Foot-and-mouth disease (FMD)** is a highly contagious diseases caused by a very stable virus.
 - Only a few viral particles can be carried through manure stuck to farm boots and equipment and spread the disease. An animal can become infected after contact with as few as 10 virus particles.
 - It can be carried airborne for 170 miles in an aerosolized form.
 - The virus can also persist in the soil for more than a month.
 - The 2001 outbreak of FMD in the United Kingdom is estimated to have caused about \$5 billion in losses to the food and agriculture sector. Up to 10 million sheep, pigs, and cows were slaughtered, and for several months, the nation was banned from exporting livestock and animal products that could potentially transmit the virus.
- Highly virulent strains of the **Newcastle disease (ND)** virus are fatal for birds.
 - The virus is readily transmitted on fomites, such as shoes and equipment used by vaccination and debeaking crews.
 - The 2002-03 ND outbreak in Southern California spread to commercial poultry operations in California and backyard poultry in Arizona, Nevada and Texas.
 - Trade restrictions resulting from the disease had negative impacts on California and U.S. poultry and egg producers.
 - The outbreak response led to the depopulation of 3.16 million birds at a cost of \$161 million.

Photos

Left: Photo of cattle being incinerated in response to FMD outbreak. Photo from article published by Lawrence Livermore National Laboratory: "Protecting Our Nation's Livestock", dated May 10, 2006. Accessed on <https://www.llnl.gov/str/May06/Lenhoff.html> on 04/11/2014.

Right: Photo of humanely euthanized chickens being disposed during ND outbreak in Southern California. Photo from CDFA website, http://www.cdffa.ca.gov/ahfss/Animal_Health/avian_health/av_health_tutorial_by_4.htm, accessed on 04/11/2014.



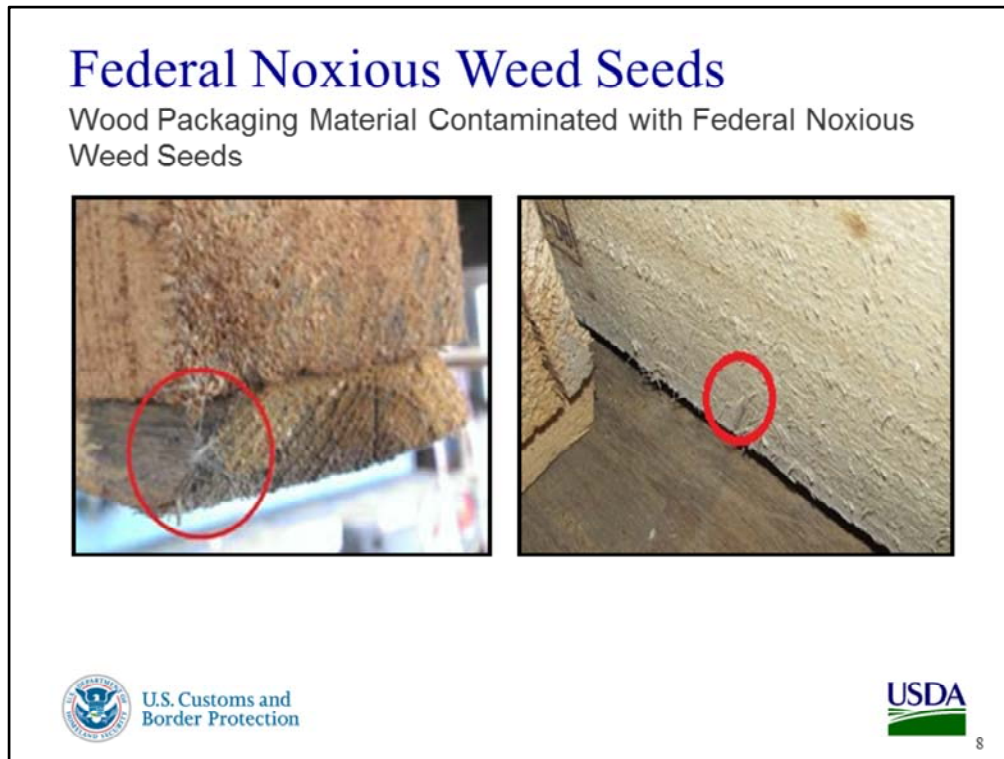
OVERVIEW:

- A Federal Noxious Weed (FNW) is an invasive plant species introduced into a non-native ecosystem.
- Since FNW lack co-evolved competitors and natural enemies to control their populations, they are likely to cause harm.
- Impacts of invasive weed introduction:
 - Invasive weeds are a leading cause of crop yield loss, causing billions of dollars each year.
 - They decrease biodiversity within an ecosystem; invasive species are the second leading cause of animal population decline and extinction worldwide.
 - They displace native plants that wildlife and fish depend on for food.
 - They increase soil erosion and can cause major damage to streams and other wetland areas that provide habitat for native fish, plants, and animals.
 - They increase the frequency and risk of wildfires
 - They reduce agricultural production and property values.
- There are an estimated 2,000 invasive and noxious weed species already established in the United States.
- In the United States, it is estimated that invasive weeds occur on more than 17 million acres, with similar infestations occurring in Canada and Mexico.

Photos

Left: *Tridax procumbens* Linnaeus found in an ocean container of tubing that arrived by rail. (Seattle FO, 09/30/2013)

Right: *Saccharum spontaneum* Linnaeus (Poaceae). (Detroit FO)



OVERVIEW:

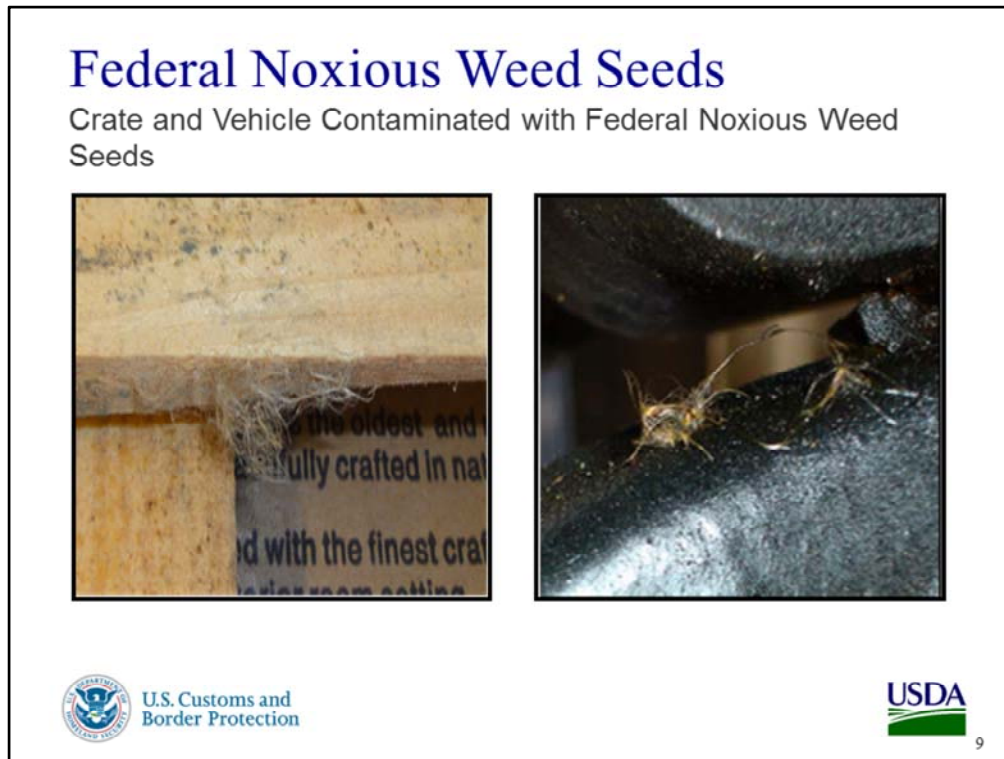
Information on cogongrass from <http://www.invasivespeciesinfo.gov/plants/cogongrass.shtml>:

- Date of U.S. Introduction: First arrived accidentally in Louisiana in 1912. (Bryson and Carter 1993)
- Means of Introduction: Used as packing material for imported goods (Tabor 1949).
- Impact: Forms dense stands that crowd out native species (Lippincott 1997).

Photos

Left: *Imperata cylindrica* found on wood packaging material (WPM) in an ocean container of ceramic pottery. (SFO, 08/17/2013)

Right: *Imperata cylindrica* found on WPM in an ocean container of ceramic tiles. (Baltimore FO, 12/06/2013)

**OVERVIEW:**

- *Saccharum spontaneum*, or wild sugarcane, is native to India, and is now distributed widely in tropical and subtropical regions of Asia.
- Wild sugarcane is not established in the United States, but has been introduced to Hawaii and Puerto Rico.
- Wild sugarcane can establish rapidly because it produces copious amounts of seeds which are wind-dispersed and lay dormant waiting for proper conditions for germination.
- Wild sugarcane is a serious weed of cotton, pearl millet, sorghum, sugarcane, rice, forage crops, and plantation crops such as tea and coffee. Establishment on cultivated land can result in the abandonment of the infested area.
- During FY13, introduction into the U.S. primarily occurred via maritime shipments, and on non-agricultural commodities such as wood packaging material and carriers.

Photos

Left: *Imperata cylindrica* (Linnaeus) found on crates of slate imported via rail. (Seattle FO, 07/01/2013)

Right: *Saccharum spontaneum* Linnaeus found on the undercarriage of military vehicle. (SFO, 09/11/2013)

**OVERVIEW:**

- *Tridax procumbens*, or coat buttons, is native to the tropical Americas, but has been introduced to tropical, subtropical, and mild temperate regions worldwide.
- It occurs throughout Mexico, the West Indies, Guatemala to South America, and India.
- Coat buttons has been found in Hawaii, Florida, Puerto Rico Texas, and the U.S. Virgin Islands.
- Producing large numbers of dry, one-seeded fruits known as achenes (500-1500 per plant), distribution via wind can be extensive.
- Coat buttons competes with and reduces yield of crops and pastures making it a serious weed in cotton, and a principal weed in corn, sugarcane, sorghum, soybeans, and wheat. In addition, it can also harbor several crop pests, such as nematodes, red spider mites, and insects.
- Introduction into the U.S. primarily occurs via land border pathways on non-agricultural commodities such as wood packaging material and carriers.

Photos

Left: Grill of commercial truck entering a land border port of entry. (Tucson FO, 04/02/2014)

Right: *Tridax procumbens* Linnaeus found on the grill of a truck. (Tucson FO, 04/02/2014)

**OVERVIEW:**

- Hitchhiking pests are those pests that are found associated with commodities not generally known to be hosts for the pest; i.e. the pest does not feed on the commodity.
- Similarly, hitchhiking pests may be found on carrier conveyances where no hosts exist.
- Pests may simply “hitch” a ride on the carrier conveyance because at some point in the supply chain, the carrier conveyance was near or on a host.
- Plant debris might contaminate a carrier conveyance as residual matter remaining from previous shipments.
- Hitchhiking pests and plant debris pose agricultural risks because they are pathways for the introduction of the invasive species.

Photos

Left: Photo of snail on the exterior of a container. (Chicago FO)

Right: Photo of hay contamination on floor of a container. (From APTL photo archive.)

**OVERVIEW:**

Information obtained from USDA APHIS PPQ's NPRG: Temperate Terrestrial Gastropods

- Temperate terrestrial gastropods, such as snails and slugs can:
 - Cause damage by feeding on agricultural and horticultural crops as well as native plants, thereby lowering crop yields and crop quality;
 - Transmit pathogens to humans indirectly when humans consume vegetables and fruits contaminated by snails and slugs;
 - Transmit pathogens of both plants and livestock in their feces; and
 - Displace native species of snails and slugs.
- Additionally, snails can disrupt agricultural operations when they mass together in a behavior known as massing.
- Helicid, hygromiid and cochlicellid snails are known for climbing on vegetation, fence posts, and other upright objects, in response to temperature extremes.
- Given their propensity to climb on upright objects in temperature extremes, carrier conveyances remaining in and around vegetation provide opportunities for snail and slug contamination.

Photos

Left: Far view of a container with a snail. (From APTL photo archive.)

Right: Close-up view of the snail on the same container. (From APTL photo archive.)



OVERVIEW:

Information obtained from USDA APHIS PPQ's NPRG: Temperate Terrestrial Gastropods

- Members of the family Hygromiidae are pests of fodder crops and are considered serious pests in Europe.
- For example, white snails - at times intercepted by CBP - are considered by many agricultural authorities as among the more serious molluscan pests.
 - In southern Australia the species have produced populations so great as to interfere with grain production. The snails climb on to heads and stalks of the crops close to harvest, clogging harvesting machinery as well as contamination of the grain.
 - White snails are also pests on seedling crops such as wheat, barley, oil seeds, seed carrots, and legume-based pastures (e.g. annual medics, lucerne, clovers, peas, beans) causing severe damage and occasionally total destruction.
 - Ornamental crops are also affected.
 - Livestock will refuse to feed on pasture and hay that are heavily contaminated by the slime trails (Baker, 1986; 1996; 2002).

Photos

Left: A slug in the interior of the container near the base of a pallet of ceramic tile. (Baltimore FO, 03/19/2014)

Right: A snail on the undercarriage of a container of steel coils. (Baltimore FO, 04/25/2014)

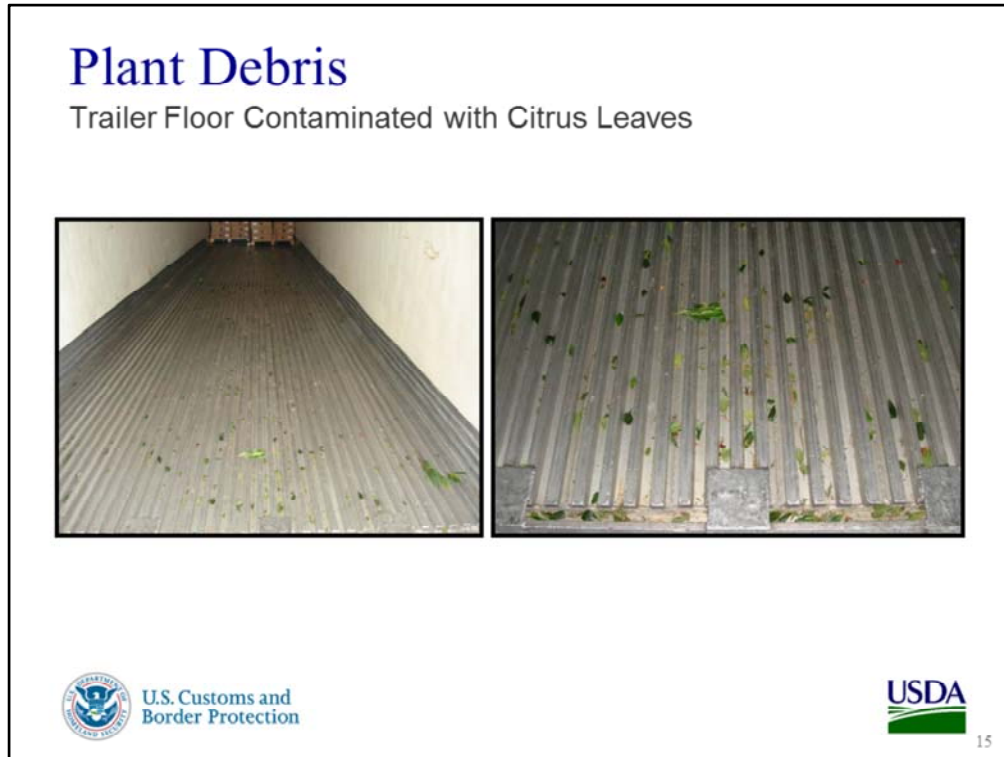
**OVERVIEW:**

Information from USDA APHIS PPQ Release No. 0309.10, dated June 7, 2010.

- Beekeeping is an essential component of modern U.S. agriculture, providing pollination services for more than 90 commercial crops and adding \$15 billion in value.
- Since the 1980s, however, a number of factors have contributed to the declining health of U.S. honey bee colonies.
- These include the introduction of several honey bee pests into the United States, such as the small hive beetle, which can damage honey comb, stored honey and pollen, as well as deadly bee parasites such as the Varroa mite, tracheal mite, and single-celled gut parasite *Nosema ceranae*.
- Honey bees also face a number of newly introduced diseases caused by viruses, bacteria and fungi.
- Thus, a swarm of bees hitchhiking on an aircraft or a vessel superstructure may be a pathway for these parasites to be introduced into local honey bee colonies.

Photo

Swarm of bees on exterior of aircraft. (From APTL photo archive.)

**OVERVIEW:**

- Plant debris on the floor of a container might harbor plant pests of concern.
- In this situation, citrus leaf contamination was discovered on the floor of a container being used to transport cut roses from Mexico.
- Citrus leaf contamination is still a pathway for pests and plant diseases.
- The Asian citrus psyllid exists in Mexico, and is known to be found on citrus leaves.
- The Asian citrus psyllid is a vector for bacteria that cause a devastating disease known as “huanglongbing.”
 - When citrus trees are infected with huanglongbing, there is no cure.
 - The psyllids are capable of transmitting the bacteria to multiple trees, causing the loss of an entire orchard.
- While no psyllids were found in this situation, the citrus leaf contamination was still a pathway by which the psyllids might have “hitchhiked” into the United States.

Photos

Left: View of container floor with cargo and citrus leaf contamination; from a land border cargo inspection. (San Diego FO, 11/15/2010)

Right: Closer view of citrus leaf contamination. (San Diego FO, 11/15/2010)

**OVERVIEW:**

Information obtained from USDA APHIS PPQ website and Karnal Bunt Program Manual:

- Karnal bunt, caused by the fungus *Tilletia indica* Mitra, is a disease of wheat.
- Karnal bunt is thought to have been inadvertently introduced into the United States, decades ago, on contaminated seed.
- Karnal bunt has significance as an export challenge because it is considered by some U.S. trading partners to be a quarantine pest, while the U.S. considers it to be a quality pest that seldom results in significant yield losses.
- Many U.S. trading partners will not accept U.S.-origin wheat unless the wheat is certified to be from areas of the U.S. where Karnal bunt is not known to occur.
- Contaminated seeds are considered to be the major source of spread.

Photos

Wheat seed contamination on the undercarriage of a container. (From APTL Policy image library.)

Examples of Carrier Conveyance Contamination

Soil Contamination



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OVERVIEW:

- APHIS regulations protect the health and value of American agriculture and natural resources from the introduction of destructive plant and animal diseases and pests.
- Soil is **always** prohibited as a contaminant

Photos

Left: Soil contamination on used forage harvester imported from Argentina. (LAFO 7/24/2013)

Right: Soil contamination on steel coils. (From APTL photo archive.)

**OVERVIEW:**

- Contamination from soil can be an unintentional pathway for:
 - Animal and plant viruses
 - Bacteria
 - Fungi
 - Nematodes
 - Noxious weed seeds
 - Various life stages of destructive insects
 - And other contaminants, like plant debris (pictured on the right).

Photos

Left: Soil in a container. (APTL photo archive.)

Right: Soil contamination on a container floor. (El Paso FO, 04/14/2014)

Soil Contamination

Military Vehicle and Farm Equipment Contaminated with Soil



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OVERVIEW:

- As mentioned in an earlier slide, foot-and-mouth disease (FMD) is a highly contagious diseases caused by a very stable virus.
- An animal can become infected after contact with as few as 10 virus particles.
- The virus can persist in the soil for more than a month.
- Thus, soil contamination on farm equipment from a country with FMD is a viable pathway for the introduction of the virus to a farm where the virus does not exist.

Photos

Left: Soil contamination on military vehicles. (Houston FO)

Right: Soil contamination on farm equipment. (El Paso FO, 07/26/2011)

**OVERVIEW:**

Conveyances contaminated with animal feed such as hay, or by-products of livestock such as manure, blood, or urine, risk introducing foreign animal diseases into the United States.

Information obtained from presentation developed by the Center for Food Security and Public Health at Iowa State University College of Veterinary Medicine, through funding from the US Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services:

- Fomites are inanimate objects capable of transferring disease agents through either direct contact or oral transmission.
- Fomites can include: boots, clothing, vehicles, shovels, tools, bowls or buckets, tack, etc.
- Vehicles and trailers with contaminated tires, wheel wells, and undercarriages can serve as fomites.
- Humans with contaminated clothing, shoes, or boots are also considered fomites with the potential for moving disease agents within the facility or from one facility to another.
- Examples of diseases spread by fomites include African swine fever, classical swine fever (CSF), foot-and-mouth disease, or influenza.

Photos

Left: Animal manure contamination on a maritime vessel. (Baltimore FO)

Right: Blood contamination on the floor of a container. (San Diego FO, 10/19/2012)



Other animal diseases of concern include:

- Virulent Newcastle disease
- Bovine spongiform encephalopathy

Information developed by staff veterinarians at the CFSPH and approved by APHIS for use as training materials for the USDA APHIS National Veterinary Accreditation Program:

- Infected birds shed Newcastle disease virus in feces and respiratory secretions.
- As mentioned in a previous slide, the virus is transmitted readily on fomites, such as shoes and equipment used by vaccination and debeaking crews.

Information from OIE:

- Bovine spongiform encephalopathy (BSE) is a disease in cattle caused by feeding rendered material from infected cattle or sheep back to other cattle.
- An effective strategy for preventing the introduction or dealing with occurrences of BSE includes: removal of specified risk material (e.g. brain, spinal column) during slaughter and processing of carcasses; and prohibiting the inclusion of specified risk material in animal feeds, thus removing potentially contaminated material from the food chain.

Photos

Animal manure contamination on empty horse trailer. (El Paso FO, 06/30/2011)



- Vehicles are a pathway for more than soil contamination and plant debris.
- A bird nest was found on a military vehicle shipped to the United States from Afghanistan.
- Afghanistan is recognized by the U.S. Department of Agriculture as being affected with Newcastle disease and highly pathogenic avian influenza (HPAI).

Information obtained from OIE on (HPAI):

- With a highly pathogenic strain of avian influenza (including H5N1 strain): a few poultry deaths may occur over several days, followed by rapid spread and a mortality rate that can then approach 100% within 48 hours.
- Avian influenza viruses can be spread through direct contact with secretions from infected birds, especially feces or through contaminated feed, water, equipment and clothing.
- Apart from being highly contagious among poultry, avian influenza viruses are readily transmitted from farm to farm by the movement of domestic live birds, people (especially when shoes and other clothing are contaminated), and contaminated vehicles, equipment, feed, and cages.
- Highly pathogenic viruses can survive for long periods in the environment, especially when temperatures are low. For example, at a much higher temperature (37°C), H5N1 viruses have been shown to survive in fecal samples for six days.

Photos

Bird nest found on a military vehicle. (Houston FO, 02/24/2014)

**OVERVIEW:**

- Cleaning carrier conveyances after cargo has been offloaded, and before more cargo is loaded, ensures that contaminated fomites are not disseminated into the environment.

Photos

Animal manure, used straw and feed on the top deck on cattle loading ramps and other stored equipment.
(Baltimore FO, 05/12/2014)

**OVERVIEW:**

Information obtained from AGM training resources:

- AGM females lay egg masses that can yield hundreds of caterpillars that have the potential to defoliate over 600 species of trees and shrubs.
- Egg masses are yellowish or whitish fuzz and average about 1 ½ inches long and ¾ inch wide, but can be as small as a dime.
- Spread and establishment of AGM is enhanced by the AGM female ability fly up to 25 miles, a large host range, adaptation to colder climates, and the ability of egg masses to tolerate extreme temperatures and moisture.
- AGM egg masses are also found on the exterior of shipping containers, and on bulk or loose cargo, such as steel pipes.

Photos

Left: AGM egg masses on vessel moorings. (LAFO)

Right: AGM egg masses on vessel superstructure.

**OVERVIEW:**

- Aside from the unintentional introduction of pests via contaminants and as hitchhikers, some commodities are shipped with wood packaging material that is infested with wood-boring pests.
- As mentioned in a previous slide, emerald ash borer was believed to have been unintentionally brought into the U.S. by ash wood that was used to stabilize crates during shipping in the 1990's.
- Introduction of the emerald ash borer has resulted in the following:
 - Death of tens of millions of ash trees in the northeast.
 - Cost to municipalities, property owners, nursery operators, and forest products industries has totaled in the tens of millions of dollars.
- Wood-boring insects cause more than \$3.5 billion annually in losses.
- Of all invasive insect species detected from 1980-2006, 56% were wood-borers.

Photo

CBPAS intercepting a wood-boring pest in a wooden pallet. (Laredo FO)

CBP Inspection and Safeguarding Efforts

CBP Inspection for Federal Noxious Weed Seeds





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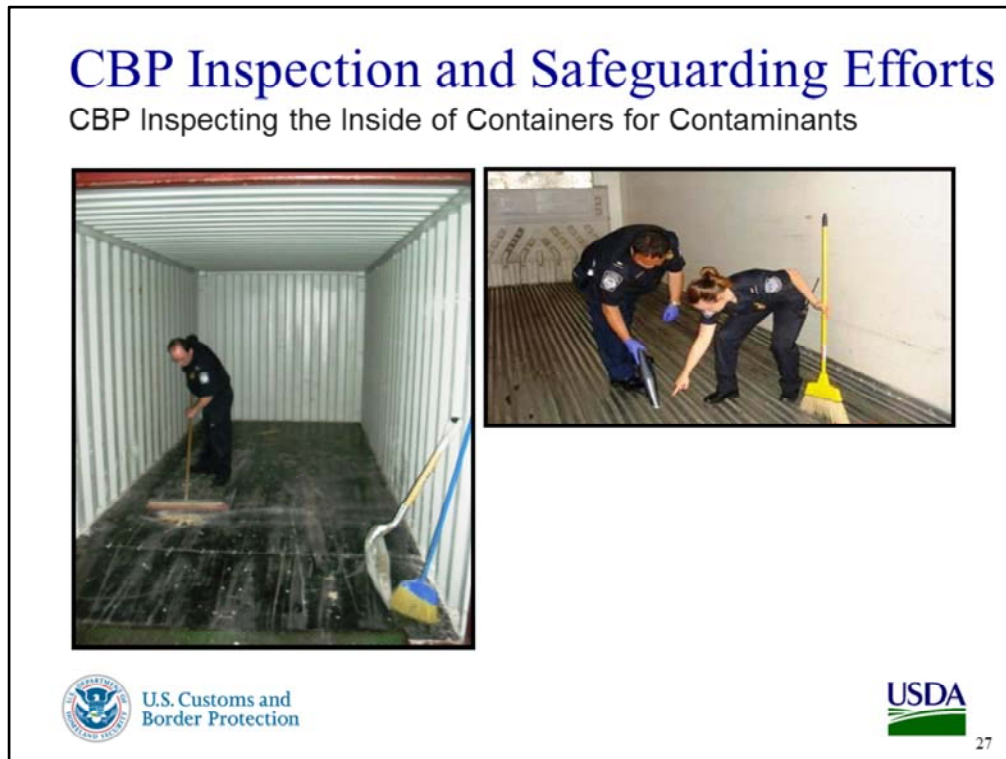
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OVERVIEW:

- CBP personnel are trained to recognize all types of contaminants through inspection of carrier conveyances and the cargo being transported.
- Sometimes, novel inspection methods are developed and utilized to ensure thorough inspection.

Photos

CBP agriculture specialists utilize a yard stick with tape attached at the end to inspect for noxious weeds seeds. (Detroit FO)

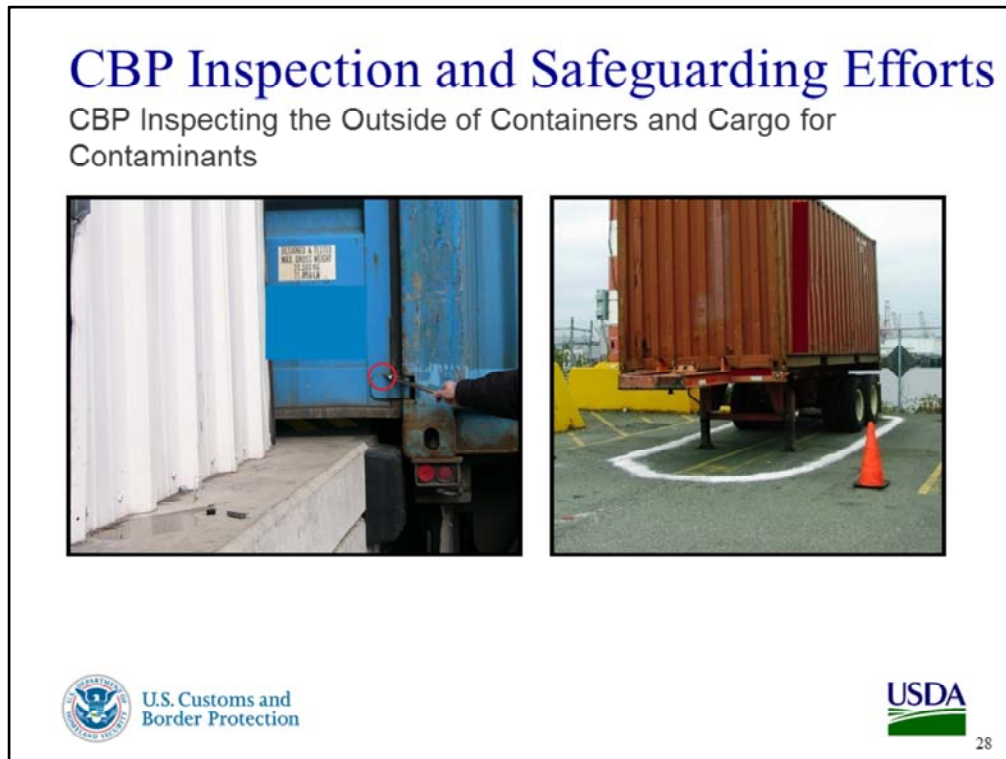
**OVERVIEW:**

- At times, the inspection of carrier conveyances for contamination requires creative use of ordinary tools, like a vacuum.
- Grooved container floors may shelter hitchhiking insects and noxious weed seeds. A vacuum allows for the removal of insects and weed seeds while minimizing possible dissemination.

Photos

Left: CBPAS sweeping container floor to inspect for and prevent the entry of contaminants. (Detroit FO, 08/18/2011)

Right: CBPAS vacuuming and sweeping container floors to inspect for and prevent the entry of contaminants. (San Diego FO, 07/18/2013)

**OVERVIEW:**

- Like Asian gypsy moth, snails may attach to containers and bulk or loose cargo.
- CBP personnel thus inspect the exterior of containers for hitchhiking pests- not just the interior.
- If hitchhiking snails are found, salt barriers are used to prevent the movement of the snails.

Photos

Left: CBPAS pointing at a snail on the exterior of a shipping container. (San Francisco FO)

Right: Salt barrier surrounding a container found to be contaminated with snails. (Seattle FO)

CBP Inspection and Safeguarding Efforts

CBP Inspecting Vessels for Contaminants





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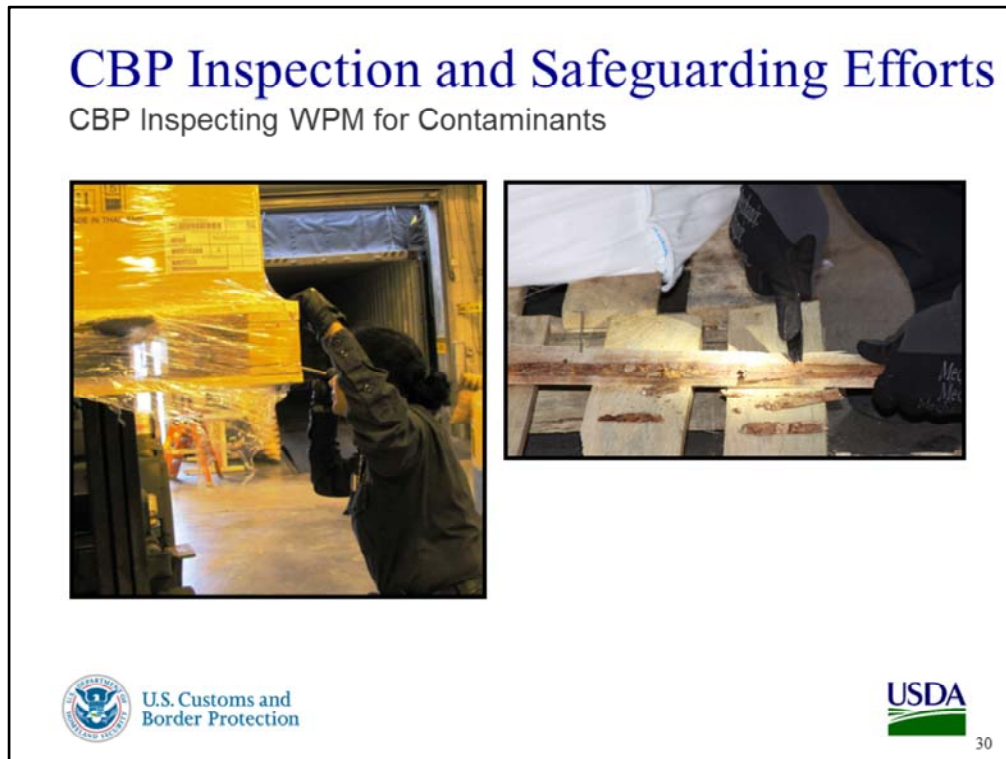
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OVERVIEW:

- CBP personnel inspect vessels for Asian gypsy moth (AGM) egg masses.
- Hand mirrors are used to inspect in certain areas, such as behind light fixtures, where the moths may be attracted and seek shelter from the elements.

Photos

CBP agriculture specialists conducting AGM vessel inspections.

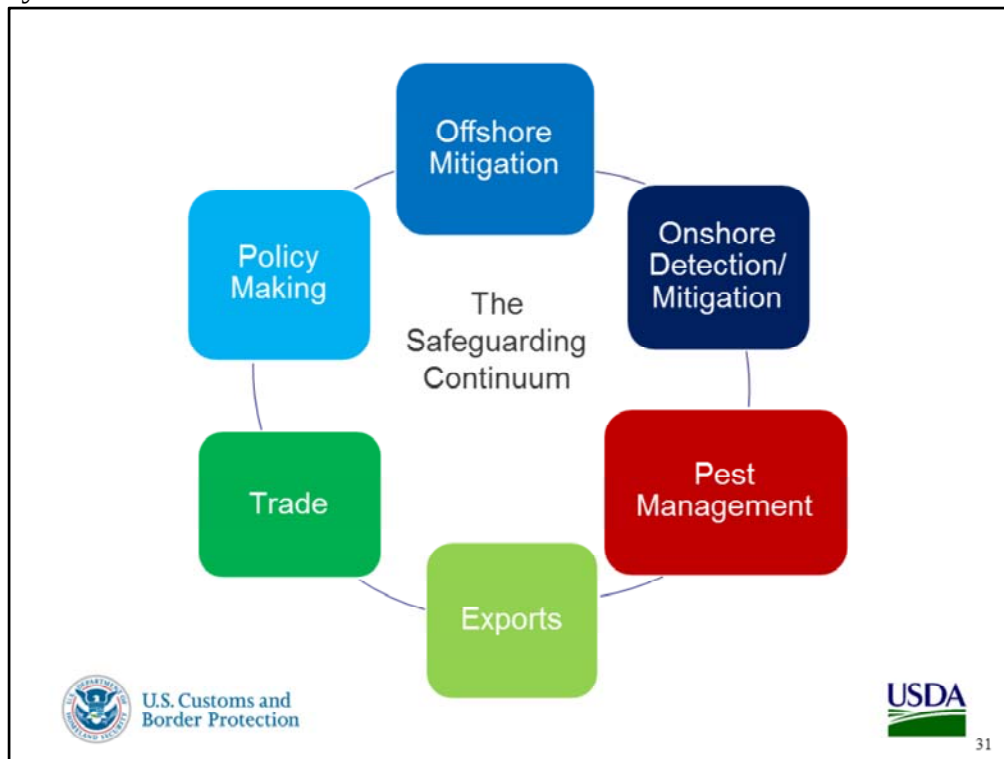
**OVERVIEW:**

- CBP personnel inspect wood packaging material for contaminants, such as pests, and compliance with the wood packaging material regulation (7CFR319.40).
- Flashlights are a useful tool when examining a wood pallet for federal noxious weed seeds.
- If CBP personnel find bark, and/or indications of insect presence, a wood pallet may be broken down for further inspection.

Photos

Left: CBP agriculture specialist inspects a wood pallet for federal noxious weed seeds. (Detroit FO)

Right: CBP agriculture specialist peels the bark from a wood pallet to inspect for bark beetles. (Laredo FO)

**OVERVIEW:**

- Protecting U.S. agricultural resources against the introduction of invasive pests and diseases is a continual process that involves the cooperation and diligence of multiple entities.
- This is a responsibility shared by CBP and our partners in the U.S. Department of Agriculture and the trade community.
- CBP also partners with the trade community to make international trade more efficient, cost-effective and secure.

Impact to Trade Resulting from Contamination: All Types

- Carrier conveyances found with contaminants will remain on hold.
- If the contaminants require action to mitigate the risk of introduction, an Emergency Action Notification (EAN) will be issued.
- The EAN specifies the type of action required treatment, re-exportation, destruction or other remedial measure, such as steam cleaning.



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OVERVIEW:

- There is a very real impact to trade when carrier conveyances are found contaminated.
 - delays for cargo release
 - demurrage charges due to cargo holds
 - expense of having your container quarantined, tarped, and treated or cleaned
- This initiative aims to increase outreach to trade entities, teach methods and techniques that will minimize contaminants in conveyances, and ultimately result in less holds, delays, and commodity re-exportations or treatments.

Impact to Trade Resulting from Contamination: WPM

- WPM found infested with wood-boring pests will remain on hold.
- If United States Department of Agriculture determines that action is required to mitigate the risk of introduction, an EAN will be issued.
- The EAN will specify that the shipment must be re-exported, as per 7CFR319.40.



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OVERVIEW:

Impact to trade when carrier conveyances are found contamination - WPM.

- delays for cargo release
- demurrage charges due to cargo holds
- expense of having your container quarantined and re-exported

Best Practices for Industry

To ensure carrier conveyances are free of Federal Noxious Weed seed and soil contaminants:

- Visually inspect the exterior and interior of conveyances for contamination prior to arrival in the United States.
- Sweep, vacuum, or wash conveyances prior to loading and be cognizant that environmental factors, such as heavy rains, may increase the likelihood of soil contamination.



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OVERVIEW:

- The first step to preventing carrier conveyance contamination is to visually inspect the exterior and interior of conveyances.
- Simple steps may be taken to ensure that when the conveyance arrives in the United States, the conveyance and cargo contained therein do not present a threat to U.S. agricultural resources.
- The following slides outline “best practices” that may be adopted by trade to prevent carrier conveyance contamination.

Best Practices for Industry

To ensure carrier conveyances are free of hitchhiking pests, including AGM, and plant debris contaminants:

- Ensure loaded cargo is clean and free of contaminants.
- Monitor the cargo staging area to ensure the area is free from plants and plant pests.

For example, snails might attach to cargo staged in a grassy area.



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Best Practices for Industry

To ensure carrier conveyances are free of hitchhiking pests, including AGM, and plant debris contaminants, continued:

- Monitor the cargo staging area to ensure the cargo is not under lighting that might attract insects and increase the probability of infestation.
- Utilize baits, traps, or barriers to prevent infestations from occurring in the cargo staging area. For example, salt barriers may be used to protect against snail infestations.



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Best Practices for Industry

To ensure carrier conveyances are free of foreign animal disease fomite contaminants:

- Avoid driving through manure or wastewater.
- Park conveyances on paved areas away from livestock pens and pastures.
- Sweep, vacuum or wash conveyances to remove fomites. This is very important between visits to animal production facilities.



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Best Practices for Industry

To ensure carrier conveyances are free of WPM with wood-boring insects:

- Require compliant WPM in the exporter's contract.
- Educate your supply chain on the regulatory requirements.
- Explore alternatives to WPM.
- Conduct a cost-benefit analysis when exploring alternatives.



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OVERVIEW:

- Non-compliant wood packaging material (WPM) can be a significant obstacle for freight export or import.
- Ask the WPM provider if they are ISPM 15 compliant.
- Provide information on the ISPM 15 standard.
- Give them contact information regarding how to become compliant (websites, contact numbers)
- Explore alternatives to WPM:
 - Plastic or metal pallets.
 - Pallets and crating manufactured from manufactured wood products (OSB, plywood, cardboard).
- Do a cost benefit analysis if considering alternatives to WPM.
- Realize there is financial cost to the supply chain and potential ecological cost to the natural resources of the United States.

Best Practices for Industry

- Educate all levels of your supply chain on practices for preventing carrier conveyance contamination.
- Provide personnel with training materials to detect contaminants.
- Implement recommendations to minimize risk of contamination.
- Support frequent visual inspections of cargo and carrier conveyances before arrival into the United States.



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Benefits of Compliance

- Importers will have increased business certainty because a system of internal control helps to ensure compliant transactions.
- Fewer delays for cargo release.
- Less demurrage charges due to cargo holds.
- Avoid the expense of having your container quarantined, tarped, and treated or cleaned.



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OVERVIEW:

When trade entities implement best practices, they assist CBP in their efforts to protect American agriculture.

Benefits to Industry :

- By implementing self-inspection practices for contaminants, importers demonstrate to CBP that they are committed to a trusted partnership with CBP to protect American agriculture. In turn, this may result in:
 - a reduction in CBP inspections for contaminants
 - fewer delays for cargo release
 - fewer demurrage charges due to cargo holds
 - avoidance of the expense of having your container quarantined, tarped, and treated or cleaned
- This translates into substantial monetary savings
- Importers will have increased business certainty because a system of internal control helps to ensure compliant transactions.

Final Thoughts

- Carrier conveyance contamination can be very costly for your business.
- These costs may be in the form of delays and additional costs for treatment, storage and/or the loss of revenue from re-exportation of the entire shipment.
- Ensure all cargo and carrier conveyances are free from all types of contamination.



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IN CLOSING:

- Outreach and education are the most important proactive measures that the trade community can use against Carrier Conveyance Contamination.
- Learning what to look for and the actions to take when contamination is detected will result in less hold overs, less treatments, and less cause for re-exportation of commodities.

For More Information Contact:

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