

Plant health surveillance and incursion investigation report

The Ministry for Primary Industries (MPI) Incursion Investigation team and Plant Health and Environment Laboratory (PHEL) investigate and diagnose suspect exotic pests and diseases in the plant and environment sectors. Investigators and scientists are based in Auckland, Wellington, Rotorua and Christchurch. These teams provide field investigation, diagnostic testing and technical expertise to detect and report new pests and diseases affecting plants and the environment. They support surveillance and response functions, including carrying out research and development.

Incursion Investigators (IIs) received 309 plant and environment notifications (Figure 1) during the 3-month period from October to December 2018, a slight increase compared to the same quarter in 2017 (297). With a 32 percent increase in cases that required investigation (207) compared to the same quarter in 2017 (140), it was a particularly busy period. The investigators immediately stood down 80 cases where the presence of biological risk was able to be ruled out. The remaining 22 notifications were redirected to other agencies who were responsible for the management of the pest concerned.

Brown marmorated stink bug (BMSB)

This quarter the plant health team received 50 notifications (Figure 1) of suspected BMSB, almost double that received for the same period in 2017 (27). Notifications of suspected BMSB are given high priority as this pest is not present in New Zealand and is an Unwanted Organism under the Biosecurity Act 1993. *Halyomorpha halys* (Hemiptera: Pentatomidae) is an agricultural pest native to Asia, notably found in China, Japan and Korea. It has invaded the US and Europe and could successfully establish in New Zealand.

BMSB poses a major threat to New Zealand's primary industries, feeding on more than 300 host plants including citrus, pip fruit, stone fruit,

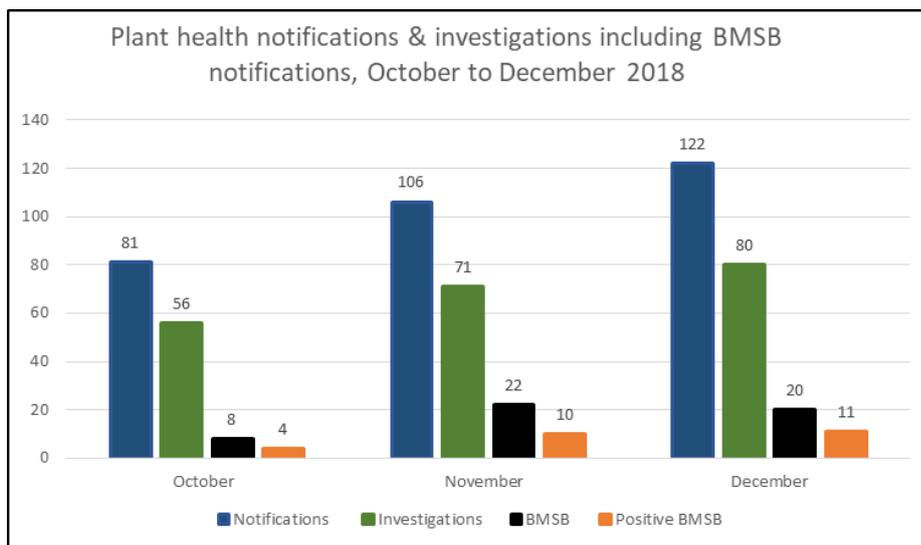


Figure 1: Plant health notifications and investigations and notifications of suspected and confirmed BMSB cases managed by incursion investigators, October to December 2018

TABLE 1: CONFIRMED BMSB FINDS, OCTOBER TO DECEMBER 2018		
	STATUS	CROSBY DISTRICT
In suitcase from Switzerland	Live	Auckland
In hotel room, occupants from US	Live	Auckland
In boxes of metal ware from China (live YSSB)	Dead	Auckland
On bedroom curtain, after resident visited the US	Live	Auckland
In garage, associated with pram from the US	Live	Auckland
On home appliances from Italy	Live	Auckland
In steamroller from Belgium	Dead	Auckland
On concert gear from the US	Dead	Auckland
Inside home, after visiting Austria	Live	Auckland
In luggage from Italy	Live	Auckland
On wine barrel from Italy	Live	Auckland
In flat-pack goods from Asia	Live	Auckland
In house, not associated with imported goods	Live	Bay of Plenty
In apartment occupied by visitors from US	Live	Bay of Plenty
In printing equipment from Italy	Live	Wairarapa
In imported goods from Italy	Live	Wellington
In clothing from Canada	Live	Wellington
In FedEx package from Michigan, US	Live	Central Otago
On new car imported from US	Live	Nelson
Associated with luggage from Switzerland	Live	Mid Canterbury
On "non-risk" goods from China	Live	Mid Canterbury
In hotel room occupied by visitor from US	Live	Mid Canterbury
In shoes purchased from US	Live	Dunedin
In a hotel room occupied by visitors from US	Live	Otago Lakes
On clothing from Japan	Live	Southland

berries, grapes, asparagus, soybeans, sweetcorn and ornamentals including honeysuckle, hibiscus, maple, cypress and roses. The adults generally feed on mature and immature fruit, while the nymphs feed on leaves, stems and fruit. Insect-feeding severely disfigures fruit crops, rendering them unmarketable, whereas the damage to woody ornamentals is reported as cosmetic only.

BMSB overwinter in large groups in dark, narrow spaces in a wide range of places and on inanimate objects such as used vehicles, containers, farm machinery and personal belongings of travellers, all of which provide potential pathways of entry. The risk season for BMSB interceptions at the border and post-border detections in New Zealand is from September to April inclusive, corresponding with the period in the northern hemisphere when daylength shortens, the weather cools and the insects find places to hibernate. New Zealand's multi-layered biosecurity system has a number of measures to reduce the risk of introducing exotic pests and since zero risk is not possible, the IIs are the first responders to post-border detections and reports of suspect exotic pests. Information on how to recognise and protect New Zealand is accessible on MPI's website and is provided to persons involved with BMSB detections by IIs, who also ask New Zealanders to remain vigilant when dealing with goods that originate from countries known to have BMSB. For more information see <https://www.biosecurity.govt.nz/protection-and-response/responding/alerts/brown-marmorated-stink-bug/>

Table 1 shows the 25 positive BMSB investigations for this quarter, based on the Crosby boundary definitions recording specimen localities (Crosby et al. 1976). A find of one yellow-spotted stink bug (YSSB, *Erthesina fullo*) incorrectly reported as BMSB is also included. These cases provide an insight into the work undertaken by Incursion Investigators when stink bugs are reported. They highlight the increasing risk associated with travel to New Zealand from countries known to have BMSB, and the importance of general public awareness. The first line of contact is via the exotic pest & disease hotline, 0800 80 99 66. MPI has

also implemented BMSB awareness campaigns at international airports, and feedback from notifier's suggests this is effective.

MPI implemented a pilot BMSB surveillance project in October, to run until April 2019, using lures and traps at Transitional Facilities (TFs) where three or more BMSB had been detected in the last 3 years, and in TFs that import high volumes of risk goods such as used cars and machinery from countries with known BMSB populations. Trials completed in the US and survey results from Chile have shown that the lures do not attract BMSB directly to the actual trap, but instead to vegetation nearby. The pilot surveillance provides an opportunity to test the efficacy of the traps and to obtain surveillance data to support the use of practical tools under New Zealand conditions to attempt to reduce the risk of BMSB establishing here undetected.

In some of the cases reported below, traps were deployed. The decision whether to deploy traps or not is unique to each investigation and is based on information gathered from the site inspection, such as possible residual risk and likely outcome related to that risk and, the location and environment of the find.

Following are some examples of BMSB investigations.

BMSB in hotel room of US visitor

MPI was notified via the public enquiry email service, of a suspect BMSB found in a Christchurch hotel room. Photos provided resulted in an immediate response by the Incursion Investigation team. The duty II and a Quarantine Officer (QO) visited the hotel to collect the specimen and completed an inspection of the room and surrounding garden. Another BMSB was found on a curtain inside the room, so an agitation spray was used to entice insect movement. No more BMSB were found in the room or on vegetation outside. MPI's Plant Health & Environment Laboratory (PHEL) entomologists confirmed both bugs were unmated, non-reproductive females. Surveillance traps were deployed in the area and monitored fortnightly for 12 weeks, with no BMSB trapped.

BMSB in goods imported from Italy

In Lower Hutt, staff at a traffic technology company found three live BMSB in two wooden crates from Italy that contained LED message boards. The specimens were subsequently confirmed by PHEL as two males and one unmated female. The staff had taken precautions to contain any other insects before calling the exotic pest and disease hotline. They shrinkwrapped the message boards and kept all the packaging material in a waste bin pending inspection by MPI staff, who found no more bugs. One of the crates had been damaged either in transit or during unpacking and the investigator thought that may have been how the bugs escaped. All goods associated with this detection were fumigated using methyl bromide at a nearby Transitional Facility (TF). After fumigation, a QO inspected the goods and found two dead BMSB and one dead exotic non-regulated spider. A BMSB detector dog and dog handler inspected the warehouse, vegetation in the vicinity and the Wellington freight depot; no further BMSB were found.

BMSB on clothing from Japan

Two suspect live BMSB were found in a rain jacket in the notifier's car at her Mossburn home. The notifier, who was aware of the biosecurity risk, thought she might have accidentally brought the bugs into New Zealand in the jacket after returning from a 5-month trip to Japan. The two bugs had actually been caught and killed 3 weeks before being reported, so no specimens were available for identification. However, she had taken very good photos from which the PHEL entomologists were confident the bugs were *Halyomorpha halys*. The II arranged an inspection of the notifier's personal belongings, house and home garden, and no BMSB were found. Further surveillance for 12 weeks was undertaken using strategically placed traps that were checked fortnightly. No BMSB were trapped and the investigator concluded the BMSB were hitchhikers.

BMSB in flat-pack goods from Asia

A live unmated BMSB was caught inside an Auckland house by the owner after she heard it fly into an internal door. On

the previous day she had purchased and unpacked wooden flat-pack furniture and soft furnishings that had originated in Malaysia, China and Vietnam. After she notified the II, a site inspection by a QO was immediately arranged, along with surveillance of the house, section and vegetation by the BMSB detector dog and handler. No bugs were found. The storage area of the shop where the furniture had been purchased was inspected and no BMSB were found. In the absence of any further finds, it was concluded that this was another single hitchhiker associated with items that came from China.

BMSB in shoes purchased from the US

AsureQuality notified MPI that an Oamaru resident had found many bugs in a pair of shoes purchased online from West Virginia in the US. On finding the insects the man sensibly took the package to the bathroom and shook the shoes over the bathtub. Insects fell out and he placed them in a bag and put them into his freezer until a QO collected them. The shoes were washed and inspected to ensure no insects were remaining. Photos provided to the II were initially identified by PHEL as likely to be of BMSB. When the specimens were received by PHEL it was confirmed that 17 were male and nine were female BMSB. In total 31 insects were found, of which 26 were thought to have been alive when the package was opened. The investigator determined there was no further risk and the investigation was closed.

Investigation positive; establishment prevented through urgent measures

These investigations found organisms not known to be present in New Zealand and in circumstances enabling treatments to be applied to mitigate the biosecurity risk. They typically involved imported goods and containers.

Seed imports

Seed imports are governed by Import Health Standards (IHS), documents issued under section 24A of the Biosecurity Act 1993 setting out requirements that must be met before importing risk goods. Every week the Plant Health team is notified by concerned citizens, Facebook posts and Trademe sales, of seeds being imported illegally via ecommerce. Naive customers

are often duped by online offers of weird and wonderful (and cheap) seeds; two recent cases involved “rainbow corn” and “blue strawberry” seeds from China. Unlikely to ever deliver on their promises, these seeds also did not comply with the IHS Seeds for Sowing 155.02.05 so they were destroyed.

There were 18 seed-related notifications this quarter, including:

- bamboo, maize, strawberry, basil and mint seeds purchased from the online shopping company Wish;
- Mexican sour gherkin seeds offered for sale on Trademe;
- packets of carrot seeds as a gift with equestrian jackets ordered from the US;
- cantaloupe, watermelon and radish seeds given to a New Zealand resident by an American traveller;
- lily, capsicum, blackberry and chilli seeds purchased from Aliexpress for a backyard business; and
- pumpkin seeds infested with live insects.

MPI receives excellent intelligence and co-operation from Trademe administrators when breaches of import standards like these are picked up. Trademe is upfront about how and when they share data with third parties. An annual transparency report is available on their website and it details requests they have received and their responses. Public awareness is essential to curtail breaches of IHS, and educational material is provided to offenders.

Seeds mislabelled to imply local origin

Thinking they were buying seeds from New Zealand, a home gardener purchased seeds online from a website with a New Zealand domain name, but the seeds were dispatched from Greece. Contact details on the website were for a business in Invercargill that turned out to have no association with the seller, or any knowledge that its contact details were being used. The seeds received were flame tree (*Delonix regia*) and sensitive plant (*Mimosa pudica*) (Fabales: Fabaceae), and Venus fly trap (*Dionaea muscipula*) (Caryophyllales: Droseraceae). These seeds are all listed as Basic on the MPI Plant Biosecurity Index and were posted to MPI, where they passed inspection and were returned. A search of the website revealed non-basic

seeds listed for sale, including species that require post-entry quarantine. The website administrators removed all non-basic listings and the fake contact details as requested by MPI. The domain name provider was also notified of the investigation to take action.

Imported flowers destroyed

The reluctance of a US exporter to provide the correct documentation for imported plant material did not end well for a Queenstown bride. A consignment of preserved roses was sent from the US to Queenstown for a wedding. The flowers were unusual in that they looked like fresh flowers but had been freeze-dried, bleached, dyed and then treated to make them look fresh. The consignment was stopped at the border and a declaration of treatment was requested from the exporter. Instead the exporter sent a second consignment, declared this time as “artificial flowers”, and this consignment was released. Later, Queenstown border-clearance staff made the connection between the two consignments and the Incursion Investigation team was notified. The falsely declared “artificial” flowers were seized, inspected and held pending documentation from the manufacturer. Considering the time constraints around the event, the investigator contacted the importer directly to facilitate clearance. However, the manufacturer declined to provide the necessary information, stating that this would require disclosing their proprietary process, so both flower consignments had to be destroyed.

Imported seeds breached IHS

An II was notified by the International Mail Centre (IMC) of a hobbyist gardener who had received 11 packets of incorrectly declared seeds that the IMC had intercepted for destruction. The importer had been flagged as a repeat offender and was visited by the investigator. The hobbyist voluntarily surrendered a number of other seeds that had been imported and were in breach of the IHS. The hobbyist’s willingness to comply meant legal action was not taken.

Money plants seized

A Trademe auction for seeds of the Chinese money plant, *Pilea peperomioides* (Rosales: Urticaceae), was reported to MPI. As there is no evidence of the plant being present in NZ prior to 29 July 1998, *P. peperomioides* is deemed a “new to New Zealand organism”

under the Hazardous Substances and New Organisms Act 1996 and therefore, cannot be traded. Trademe was contacted and withdrew the auction. An Incursion Investigator visited the seller at an Auckland property and seized three plants. Information obtained during the investigation resulted in the seizures of 41 plants from a Whangarei property. A third property was visited and in total the investigation resulted in the seizure of 49 plants, which were destroyed.

Banana spider hitchhikes on oil barrels

A suspect huntsman spider was found under a desk at a Christchurch TF that imports automotive oil in large barrels and plastic containers from the US, Australia and Spain. The spider was confirmed by a PHEL entomologist to be the banana spider, *Heteropoda venatoria* (Araneae: Sparassidae), native to tropical regions of the world and present in some subtropical areas as an introduced species, including Australia and the US. Inspection of the area yielded no further specimens and the investigator concluded it was a lone hitchhiker, most likely on goods from Australia or the US.

Irradiated mango seed weevil from Australia

Live insects described as brown and oval in shape were found inside a mango seed from Australia. The description was consistent with the mango seed weevil, *Sternochetus mangiferae* (Coleoptera: Curculionidae), which is a common interception in mangoes, including from Australia. The mango, purchased in Tauranga, had a sticker on it stating the fruit had been irradiated prior to export. Irradiation does not necessarily kill insects, but makes them sterile. Mango seed weevils require mango fruit to complete their life cycle, and since in New Zealand mangoes are not grown commercially, and the fruit had been irradiated, the biosecurity risk was considered to be low. As an added safeguard the notifier was asked to place the weevils in the freezer for 24 hours.

Investigation positive; urgent measures limit harm

These investigations resulted in detection of organisms that are not known to be present in New Zealand and in circumstances enabling treatments to be applied to all retrievable items, usually

recent imports. There may be some residual risk associated with items that cannot be retrieved.

Exotic ants from Singapore

During a routine vehicle compliance check at a vehicle testing facility in Nelson, a staff member noticed many small ants inside the rear boot rubber of a vehicle that had recently been imported from Singapore. The ants moved deeper into the vehicle when they were disturbed. Staff sprayed a ring of insecticide on the ground around the vehicle to deter the ants from escaping. That afternoon, a QO visited the site, collected the ants and submitted a sample to PHEL, who confirmed *Tapinoma minutum* (Hymenoptera: Formicidae), an exotic species not present in New Zealand. The entomologist found both larvae and workers in the sample, implying a colony was present. Although *T. minutum* is not on any pest alerts, a study by Nafus (1993) indicates that *T. minutum* preys on eggs and larvae of two butterfly species endemic to Micronesia, resulting in reduced populations. An MPI contractor inspected the facility, laid bait and ant traps and treated the exterior area with insecticide. The vehicle was fumigated to mitigate the risk of any undetected exotic ants.

Exotic ants in containers

In two other investigations involving exotic ants, PHEL confirmed that western carpenter ants, *Camponotus modoc* (Hymenoptera: Formicidae) were present in a container used to import western red cedar from Canada; and crazy ants, *Paratrechina longicornis* (Hymenoptera: Formicidae), were collected from debris and leaves in a container from Taiwan. In the latter case, PHEL identified one queen and many larvae and workers. Both containers were fumigated and the usual urgent measures carried out. On-going surveillance of the three sites detected no further ants, indicating that the urgent measures had mitigated the biosecurity risk.

Jumping spider in grapes

In December, supermarket staff in Kaiapoi found a single live spider inside a bag of green grapes imported from California. The staff checked all their grapes for spiders before putting them out for sale, and found no further spiders. The spider was identified by PHEL as

Phidippus audax (Araneae: Salticidae), one of the most common jumping spiders in North America. Although not present in New Zealand, it is not a significant biosecurity or human health concern. The Incursion Investigator informed the supermarkets head office staff of the detection and requested that they instruct staff to be watchful for spiders in any remaining grapes from the consignment. Head office staff advised that the grapes had been distributed to many stores throughout New Zealand and some almost a week prior. Five days after the initial detection a second *P. audax* was found in grapes at a Fielding store, suspected to be from the same consignment. Grapes are a rapid-turnover commodity so a product withdrawal was not considered practical. The II raised the issue with staff who deal with imported fresh produce, to raise their awareness.

Investigation positive; no action taken

These investigations revealed organisms that were not previously known to be present in New Zealand, and while they were investigated, no further action was taken. Reasons for taking no action vary according to each case: often a risk assessment indicates that an apparently “new” to New Zealand or newly described indigenous organism is actually well established or has a wide distribution and is unlikely to pose a new risk to economic, environmental, social and cultural values. In some cases the organism is an established and known pest managed under a pest-management programme by MPI and or regional and local authorities.

New to NZ rush fungus

A new to New Zealand fungus, *Stagonospora pseudoperfecta* (Pleosporales: Massarinaceae), was isolated from *Juncus* sp. (rush) collected during a High Risk Site Surveillance (HRSS) inspection in Takanini, Auckland. This species was originally found and described from dead leaves of *Typha latifolia* in Japan and little is known about its biology. While there are known plant pathogenic species in this genus, many other species are also endophytic and beneficial. This fungus was unlikely to be a biosecurity concern and the investigation was closed.

New to NZ peppermint tree fungus

Pseudosydowia eucalypti (Dothideales: Saccotheciaceae), a fungus previously not considered to be present in New Zealand, was found in *Agonis flexuosa* (peppermint tree) collected during an HRSS inspection in Tauranga. This fungus has been associated with leaf spots on *Eucalyptus* spp. in Australia, Portugal and South Africa. The little published information on its biology and impact suggests that it is unlikely to be a significant pathogen. Based on currently available literature, it is unlikely to be a biosecurity concern and the investigation was closed.

New to NZ grapevine virus

The Crown Research Institute, Plant and Food Research (PFR), reported an organism suspected to be a new sequence for Grapevine virus D (GVD; no GVD full-length sequence is currently available publicly) and a second, new-to-science vitivirus on grapevines. From a sample of a Chardonnay grapevine in the NZ Winegrowers grapevine collection at Lincoln, the virus GVD was previously detected for the first time in New Zealand by MPI. From the same plant, PFR detected what was suspected to be a second vitivirus. From Next Generation Sequencing (NGS) data, two contiguous sequences covering the same region of the genome were assembled. They were found to be only 50% identical to each other at the nucleotide sequence over 1300 bp. Both contigs have Grapevine virus E (GVE) as the closest relative on GeneBank; Contig 1 has 72 percent and Contig 2 has 41 percent amino-acid sequence identity across the N terminus of the movement protein. PFR believes that the Contig 1 was GVD but because there was no available sequence online for the movement protein of GVD it cannot yet confirm this theory. Contig 2 represents a putative novel virus of the same vitivirus genus.

Vitiviruses are common in grapevines, are most commonly represented in infected grapes by GVA, and can be responsible for graft union diseases. They are vectored by mealybugs when in the presence of a member of the Closteroviridae such as Grapevine leafroll-associated virus 3 (GLRaV-3). Two additional Chardonnay plants from the same location were found to have NGS continuing sequence of the

same novel virus. These grapevines are in a historic collection that existed in New Zealand before the HSNO Act came into force for new organisms on 29 July 1998, so these suspected viruses are unlikely to be new to New Zealand. Testing by PFR to confirm their findings is intended by undertaking PCR and sequencing of the contigs and to sequence the total genomes of the suspected GVD and the second vitivirus. The results of this work will be communicated to PHEL. New Zealand Winegrowers was informed of this work and will be advised of the results when available. This investigation will be updated when PFR advises additional information.

Australian organics on Trademe

MPI was notified that an Australian company was selling packets of seed and mushroom spawn on Trademe. The listings were removed and Trademe advised the spawn had not been sold previously by this trader. Working with Trademe, the II was able to contact the trader directly. An educational letter was sent to the trader requesting that these items not be listed on Trademe in future as this breaches the Biosecurity Act. The trader replied advising that since being made aware of the biosecurity issues involved in trading certain products, listings of an organic nature had been removed and guidelines had been put in place to ensure they would not be listed in the future.

Beetle larva in garlic

A single live larva was found inside a bulb of garlic imported from the US that had been purchased from a supermarket in Christchurch. The larva was identified by genetic sequencing as the dried fruit beetle, *Carpophilus obsoletus* (Coleoptera: Nitidulidae), an unwanted regulated organism. Tracing of the garlic revealed that all stock from the consignment had been sold. Since there was no stock left to treat and only one larva had been found, the investigation was closed. *Carpophilus* spp. are considered a minor pest of fresh produce and stored products and are found in the US, the Caribbean, Malaysia, Singapore, Taiwan, Japan and Indonesia.

Investigation for high impact pests: negative

These investigations resulted from reports of suspected high-impact pests or diseases that were proven to be “not present”.

Delphinium fungus ruled out

Seedling delphinium plants (*Delphinium elatum*) of five different named varieties were submitted to MPI by a specialist producer and breeder of delphinium plants, as they displayed unusual virus-like signs. Testing by PHEL using herbaceous indexing, transmission electron microscopy and molecular DNA techniques found evidence of a virus, but tests specific for all viruses known to infect delphiniums were negative. Although initial results suggested an undescribed Caulimovirus species was present, further testing concluded it not to be a virus but a DNA sequence (part of a Caulimovirus genome) contained within the delphinium genome. It is known that viral fragments (DNA sequences) are sometimes ancestrally integrated into plant-host DNA, and hence passed from one generation to the next. As no functional virus was found, it is likely one or a combination of abiotic factors were responsible for the signs seen. Information was provided on potential seedling trials the breeder might undertake to test abiotic variables (e.g. potting mix, nutrition, temperature), to identify the cause. An abiotic cause is more consistent with symptoms of leaf variegation or yellowing observed in the seedlings, than with leaf mosaic or vein-clearing signs that typically result from Caulimovirus infection. Regardless, the presence of an exotic species was ruled out, and no further action by MPI was warranted.

Tomato hybrid not new to NZ

MPI was notified that an imported hybrid tomato rootstock, *Solanum lycopersicum* x *S. habrochaites*, was a suspect new organism to New Zealand under the HSNO Act. An investigation was opened as one consignment had previously been released and planted and a second consignment had been stopped at the border by MPI because of incorrect import documentation. The rootstock, usually imported as pelleted seeds, is grown for grafting predominantly tomatoes and eggplants under controlled conditions in greenhouses, producing

high-value plants. A small number of importers distribute the rootstock to a small group of tomato growers across New Zealand. Biosecurity clearance of a hybrid species requires that both parents are listed on the PBI and meet IHS. In this case, *S. lycopersicum* was listed but *S. habrochaites* was not. *S. habrochaites* (syn. *Lycopersicon hirsutum* f. *typicum*, *L. agrimoniifolium*, *L. hirsutum* var. *agrimoniifolium*) or wild hairy tomato is a sprawling perennial vine that is cold-tolerant and very resistant to powdery mildews, early blight, bacterial speck, root-knot nematodes and two species of red spider mite.

Further tracing revealed that since at least 2008 the hybrid had unintentionally been imported into New Zealand with incorrect phytosanitary certificates. While preparing a determination application to the Environmental Protection Agency (EPA), historic evidence provided by a tomato exporter showed that the hybrid had been used for tomato breeding in New Zealand long before the HSNO Act came into force. Based on that evidence, and bearing in mind that *S. habrochaites* presented no additional pathogen risk, EPA determined that the hybrids were not new to New Zealand organisms. Hybrid *S. habrochaites* x *S. lycopersicon* was added to the PBI (Seeds for sowing 'see 155.02.05 under *Solanum lycopersicum*'), allowing its importation to New Zealand. The consignment was released and no further action warranted.

Local beetles in imported timber

Live beetles were reported emerging from imported timber during construction of a deck on a Christchurch residential property. Investigation revealed the timber had been grown in Peru and imported only 3 weeks prior. Specimens were identified by PHEL as *Hylurgus ligniperda* (Coleoptera: Scolytidae), an exotic bark beetle that has been present in New Zealand since the 1970s and is known to colonise recently dead *Pinus radiata*. The investigation concluded that the adult beetles had originated from a nearby recently-harvested stand of *P. radiata* and not the decking timber. Subsequent discussion with a Scion entomologist concluded that the relatively large number of adult beetles seen could be explained by proximity to

the recent harvest area, and also by high spring temperatures coinciding with the first seasonal flight of *H. ligniperda* adults. It was thought the adults may have been attracted to the timber stain being used on the deck.

Cocktail mixer with lemon from China

An MPI employee purchased a cocktail mixer containing citrus slices from a supermarket and suspected the product did not meet IHS requirements. Dried citrus products require either a phytosanitary certificate to confirm the country of origin is free of citrus canker prior to inspection by MPI, or a heat-treatment certificate. Neither of these documents could be immediately provided so the products were withdrawn from shelves and held by the supermarket until further investigation and risk assessment could be completed. Import documents correctly declared the cocktail mixers but failed to mention the citrus. Discussion with the exporter in Australia revealed that the dried citrus originated from China and had been heat treated prior to arrival in New Zealand. A conforming heat treatment was presented to MPI and the cocktail mixers were cleared for sale. The importer and customs agent involved were asked in future to check the components of the mixers to ensure accurate documentation was provided to MPI.

Negative and inconclusive investigations

There were 78 notifications involving organisms that posed no biological risk and all these investigations were closed. Common New Zealand organisms often fall into this category and in this quarter included spiders, stored product pests such as weevils; ladybirds, cockroaches, wasps and dragonflies. Reporting by the general public is appreciated and demonstrates their concern for our environment.

Ten investigations were inconclusive and stood down because the results or absence of results did not determine the presence or absence of a biological risk and further investigation was not warranted. Such investigations can result from confusion of the origin of a pest or risk good, or because there was no pest present in the first place. Examples include slugs found in "Shanghai" bok

choy that turned out to be locally grown, and spider webs in grapes from the US and Australia on which no spiders were present

References

Crosby TK, Dugdale JS, Watt JC (1976). Recording specimen localities in New Zealand: an arbitrary system of areas and codes defined. *New Zealand Journal of Zoology* 3, 69 + map.

Nafus D (1993). Movement of Introduced Biological Control Agents onto Nontarget Butterflies, *Hypolimnas* spp. (Lepidoptera: Nymphalidae). *Environmental Entomology* 22, 265–272. 10.1093/ee/22.2.265.

Carolyn Bleach

Manager

Surveillance & Incursion Investigation
Plant Health

Diagnostic & Surveillance Directorate
Biosecurity New Zealand – Tiakitanga
Pūtaiao Aotearoa

Carolyn.Bleach@mpi.govt.nz