

## Federal Import Quarantine Order:

Palm Pests *Rhynchophorus ferrugineus* Olivier (Red Palm Weevil), *R. palmarum* Linnaeus (Giant Palm Weevil), and *Bursaphelenchus cocophilus* Cobb (Red Ring Nematode)

January 25, 2010

This Federal Order prevents the introduction and dissemination of the harmful plant pests *Rhynchophorus ferrugineus* Olivier (Red Palm Weevil), *R. palmarum* Linnaeus (Giant Palm Weevil), and *Bursaphelenchus cocophilus* Cobb (Red Ring Nematode) from foreign countries into the United States. This Federal Order is issued pursuant to Section 412 (a) of the Plant Protection Act of June 20, 2000, as amended, 7 U.S.C. 7712(a), which authorizes the Secretary of Agriculture to prohibit or restrict the importation or entry of any plant, plant part, or article if the Secretary determines that the prohibition or restriction is necessary to prevent the entry of a plant pest or noxious weed into the United States.

*Rhynchophorus ferrugineus* is a polyphagous weevil with the potential to be a harmful pest in any area where palms are widely grown. *R. ferrugineus* originates from Southeast Asia where it causes major crop loss in coconut plantations. First sighted in the United Arab Emirates in the late 1980s, this pest quickly became a serious pest of date palms and soon spread throughout the Persian Gulf states. Red palm weevil has also been found in the European Union and more recently there have been reports in the Caribbean. *R. ferrugineus* is not known to occur in the United States. Gauging by the range of climates where the pest is currently found, the red palm weevil could establish in approximately 25% of the United States. The rapid spread of this insect has been linked to the nursery trade. This pest targets both the immature offshoots and adult palms.

*Rhynchophorus palmarum* is similar to *R. ferrugineus* in its biology and status as a serious economic pest of palms but its distribution is currently only in the Western Hemisphere. *R. palmarum* affects both palm plantations and ornamental palms throughout Central and South America and has the potential to extend its range into palm-growing areas of the U.S. Aside from the direct damage that this pest poses to palms it is also the main vector of another palm pest, *Bursaphelenchus cocophilus* (Red Ring Nematode). *B. cocophilus* is a plant-parasitic nematode that *R. palmarum* ingests as a larvae while feeding on a nematode-infested palm, and then transmits as an adult weevil during oviposition on its next palm host. The distributional range of red ring nematode mirrors that of its vector, the giant palm weevil, and the affected countries report palm crop loss of 10-15% or higher due to this nematode.

While the two palm weevils *R. ferrugineus* and *R. palmarum* are relatively large insects, usually >25 mm (~1 in) long, their larval stages as concealed stem borers means that early infestation is difficult to detect. Their life cycle ranges from 45-139 days, depending on the climate, which allows for several generations in a year. The female lays eggs in wounds or soft tissue of the plant and after hatching the larvae burrow into the stem creating large galleries that eventually weaken and destabilize the tree. The damage caused by the larvae is only visible long after infestation, and by the time the first symptoms of the attack appear, they are so serious that they generally result in the death of the tree.

*Bursaphelenchus cocophilus* is the cause of red ring and little leaf disease in palms. The first external symptoms of this nematode infestation do not occur until about 28 days post-inoculation and these symptoms vary widely depending on host species, age, cultivar and environmental

conditions making identification difficult. The most characteristic symptom is a reddish, concentric band of discolored tissue in the stem which is impossible to detect in a port of entry inspection without damaging the plant. Local movement of the nematode occurs by its weevil vector but wider dissemination can only occur by the transport of infested palms.

The difficulty of detection through port of entry inspection for all three of these palm pests constitutes a serious problem in the fight against these pests and in any attempt to guarantee pest-free status in imported trees. Currently the literature does not indicate seeds as a pathway for infestation.

Palm species are the primary hosts of *Rhynchophorus ferrugineus*, *R. palmarum*, and *Bursaphelenchus cocophilus* though the adult weevils may be found feeding on non-palm species. The introduction of these pests to so many countries through the trade of adult palms and offshoots indicates that the best method for preventing introduction of this pest in the United States is to prohibit importation of all host species. In order to prevent the entry of *Rhynchophorus ferrugineus*, *R. palmarum*, and *Bursaphelenchus cocophilus* the Administrator of the Animal and Plant Health Inspection Service (APHIS) has determined that it is necessary to no longer allow the importation of all plants for planting of the species listed below from all foreign countries, with the exception of seed, until a pest risk analysis has been completed and determined whether effective risk mitigation measures exist. This Federal Order will be implemented beginning February 10, 2010.

**Plant Genera Affected:**

Plants for planting, except seed, of:

*Acrocomia*, *Astrocaryum*, *Attalea*, *Bactris*, *Brahea*, *Butia*, *Calamus*, *Chamerops*, *Desmoncus*, *Euterpe*, *Manicaria*, *Mauritia*, *Metroxylon*, *Oncosperma*, *Roystonea*, *Sabal*, *Washingtonia*

**Countries Affected:**

All countries