Redbay ambrosia beetle (RAB), *Xyleborus glabratus* Eichhoff (Coleoptera: Curculionidae: Scolytinae), a native of Asia, was first discovered in the USA near Savannah, Georgia in 2002 (Haack 2001; Rabaglia et al. 2006). RAB is an effective vector of *Raffaelea lauricola* T.C. Harr., Fraedrich & Aghayeva (Harrington et al. 2008) that causes laurel wilt (LW), a lethal disease of several trees in the Lauraceae in the southeastern USA (Crane et al. 2008; Mayfield et al. 2008). Ambrosia beetle adults bore through the bark and into the xylem (wood) where they lay eggs, then adults and larvae cultivate and feed on symbiotic ambrosia fungi that grow in the galleries. Native *Persea* (Laurales: Lauraceae) species appear to be preferred hosts. LW is responsible for high mortality of redbay (*P. borbonia* (L.) Spreng.), swampbay (*P. palustris* ( Raf.) Sarg.), and sassafras (*Sassafras albidum* (Nuttall) Nees) in Alabama, Florida, Georgia, Mississippi, North Carolina and South Carolina (Fraedrich et al. 2008; Hanula et al. 2008; Gramling 2010). As LW encroaches upon the Lake Wales Ridge ecosystem in south-central Florida, silkbay (*P. humilis* Nash) is also showing susceptibility to LW and is dying. Additional species affected by LW include avocado (*P. americana* Mill.), spicebush (*Lindera benzoin* (L.) Blume), and other woody Lauraceae (Fraedrich et al. 2008) (Table 1).

The susceptibility of 5 avocado cultivars of Mexican, Guatemalan or West Indian origin to RAB and LW was demonstrated by Mayfield et al. (2008). However, with more than 23 West Indian cultivars grown in Florida, it is necessary to determine their susceptibility. Moreover, as an adventive species to the North American continent, RAB might affect other valuable New World species. Most *Persea* species are of Mexican, Central American, or South American origin. These *Persea* may have significant value in germplasm collections, some have been discovered recently, and some have resistance to diseases that afflict their commercial relative, the avocado (Skutch et al. 1992; Scora & Bergh 1992; Zentmyer & Schieber 1992). Thus, their susceptibility to RAB and LW warrants evaluation. Another member of the Lauraceae of much concern is the California bay laurel (*Umbellularia californica* (Hook. & Arn.) Nutt.), a dominant hardwood species of the U.S. Pacific Coast. Through inoculation experiments, Fraedrich (2008) demonstrated that *U. californica* is susceptible to LW. With continued westward spread of LW, the host status of *U. californica* needs to be confirmed.

The 3 studies presented here evaluate susceptibility to RAB and LW in: 1) 13 West Indian avocado cultivars; 2) 10 non-commercial *Persea* spp., 1 *Beilschmiedia* sp. (a genus related to *Persea*), and 3) *U. californica*. First, no-choice experiments were conducted to determine if RAB would bore into avocado cultivars not screened previously by Mayfield et al. (2008) and following similar methodology. Avocado cultivars ‘Bennacker’, ‘Beta’, ‘Brooks late’, ‘Choquette’, ‘Donnie’, ‘Dupuis’, ‘Hall’, ‘Loretta’, ‘Lula’, ‘Monroe’, ‘Simmonds’, ‘Tower 2’ and ‘Waldin’ (4 plants each) were planted in 10-gallon pots in a greenhouse at the Plant Sciences Research and Education Unit, University of Florida (UF), Citra, Florida in VI-2008. Two plants of each cultivar were infested by enclosing 4 newly emerged ♀ RAB (UF colony-reared) within a mesh sleeve on the lower trunk. Two plants per cultivar were uninfested controls. Entrance holes and perseitol (white exudate from wounds) were monitored for 4 wk. Severity of wilt symptoms was scored using the following LW index: 0 = no wilt; 1 = wilt, no leaf necrosis; 2 = wilt, 10% necrosis or defoliation; 3 = wilt, 30% necrosis/defoliation; 4 = 50% necrosis/defoliation; 5 = 75% necrosis/defoliation; 6 = 100% necrosis/defoliation.