

Avocado Diseases of Major Importance Worldwide and their Management

L. J. Marais

*Department of Plant Pathology, University of California Riverside,
Riverside CA 92521, USA.*

Abstract: Avocado fruit has become one of the most sought after food sources worldwide. It is a nutritious source of food and is part of the staple diet of many people in third world countries where it is cultivated and where it is native. Avocado is a specialty fruit, produced on a large scale in more than 30 countries around the world and because of its appeal, it is an industry that continues to grow. It is a very lucrative industry, and with over production growers have been forced to develop overseas markets, however, the competition on these markets is very intense and growers have to ensure that their fruit are of the highest quality, unblemished and disease-free. Production costs are very high owing to the cultural requirements of the avocado tree and the presence of diseases, which can be major limiting factors to production. *Phytophthora* root rot, caused by *Phytophthora cinnamomi*, is such a disease. During the developmental stages of the fruit in the orchard and at harvesting, the fruit is also exposed to diseases such as scab (*Sphaceloma persea*), anthracnose (*Colletotrichum gloeosporioides*) and *Cercospora* spot (*Pseudocercospora purpurea*), which result in unsightly blemishes or the development of post-harvest decay; both of which are unacceptable on the export market. The objective of this chapter is two-fold: firstly, to describe the most important diseases of avocado which may be encountered in different parts of the world, and secondly, to discuss current disease management strategies used to reduce the effects of these diseases, on tree health, longevity, fruit production and fruit quality.

1. Introduction

Documentation regarding the close relatives of avocado, all in the subgenus *Persea*, as well as the occurrence of some primitive avocados, supports the theory that the region, including central Mexico through Guatemala and into Central America is the center of the origin of the avocado. The commercial avocado (*Persea americana* Mill.), which can be classified into three subspecies or botanical varieties, belongs to the family Lauraceae, and is one of 50 genera in this family. Most members of this family have aromatic foliage, these include camphor, cinnamon, sweet bay and California bay. The three subspecies, sometimes referred to as ecological races, are: americana (West Indian), guatemalensis (Guatemalan) and drymifolia (Mexican). Mexican types are generally small and cold hardy and have anise-scented leaves. The fruit are thin skinned and take about six months to mature. The West Indian race thrives in tropical areas and is not cold hardy. It produces fruit that mature in 6-7 months that are variable in size and may be very large (> 1 kg), and have skin that is intermediate in thickness between Mexican and Guatemalan cultivars. Guatemalan cultivars have small to large, generally