(15,16). These types of apparent resistance are highly nonspecific; they can be induced by agents as diverse as fungal and bacterial pathogens, chemicals such as salicylic acid, and plant developmental processes such as senescence and flowering ***(17)***. Localized and systemic acquired resistance are accompanied by accumulation of the so-called pathogenesis-related (PR) proteins, which have chitinase, β-1-3 glucanase, and other activities, and which appear to be involved in defense responses to fungal and bacterial pathogens ***(18)***. However, the reality of the apparent induced resistance against a second virus infection has been questioned ***(19)***, and none of the PR proteins has yet been shown to have any antiviral activity. These types of resistance and the PR proteins are not considered further in this chapter.

3. Crossprotection Case Histories

3.1. Cocoa Swollen Shoot Virus

This virus causes a very serious disease of cocoa in West Africa and is endemic in most production areas. It was suggested as an early target for crossprotection ***(11)***, but, despite a considerable amount of research, the method was not introduced on any scale. This was largely because government policy was to attempt to eradicate the disease by removing infected plants. This policy has proved impossible to implement in practice and the disease position has, if anything, worsened. In a recent review, Hughes and Ollennu ***(20)*** recommend that crossprotection be re-evaluated as a strategy. They note the need for studies of the interaction between different mild strains and modern hybrid cultivars and the development of efficient methods of inoculation.

3.2. Passion Fruit Woodiness Virus

This disease, important in Australia, was another suggested early target for crossprotection ***(12,21)***. However, despite early promise, the method does not seem to have been widely adopted ***(13)***.

3.3. Citrus Tristeza Virus

This virus causes serious diseases in a number of types of citrus trees (sweet and sour orange, lime, and grapefruit), and is distributed worldwide. The initial experiments on crossprotection by mild strains were carried out in Brazil ***(22)***. Müller and Costa ***(23)*** isolated a number of mild strains from trees showing no or attenuated disease symptoms and checked each for mildness and cross-protecting ability in a number of different types of citrus trees and root stocks. An important finding—a general principle for approaches to crossprotection—was that it was necessary to match each host genetic background to the most effective mild strain. A strain that crossprotected in one host would not necessarily do so in a different one. In Brazil, tens of millions of orange trees are now