protected ***(24)***, and the method has been applied in India ***(25)***, the Middle East ***(26)***, Florida ***(27)***, and South Africa ***(28)***.

3.4. Papaya Ringspot Virus

This virus is a limiting factor in the production of pawpaws in a number of areas of the world, and, at present, no resistant cultivars are available. Naturally occurring mild strains have not been readily selectable, but mutants have been produced after nitrous acid mutagenesis ***(29)***. Crossprotection by these mutants was not economically beneficial under high disease pressure from plants naturally infected with the severe strain; but regular rogueing of such sources of inoculum, combined with crossprotection, provided a 111% increase in income ***(30)***. Crossprotection has been introduced on a wide scale in Taiwan ***(31)***, and further trials are being conducted in Mexico, Florida, Hawaii, Thailand, and Israel ***(32)***. Further effort is being given to develop improved attenuated strains. A resistance gene, *Wmv* in *Cucumis metuliferus*, which is overcome by some nitrous acid-induced mild strains of papaya ringspot, but not by severe strains, has been used for further selection of attenuated cross-protecting isolates ***(33)***.

3.5. Tomato Mosaic Virus

This virus, recognized also as a strain of tobacco mosaic virus, has caused severe disease problems in tomato. However, most modern cultivars now contain the *Tm-2*^{2} gene for tomato mosaic resistance. This has proved highly effective and durable and resistance-breaking isolates of a virus are rare and do not readily become established. Crossprotection, especially with the nitrous acid-induced mutant MII-16 ***(34)***, and by naturally occurring mild strains ***(35)***, was previously quite widely used in Europe and North America, but is now mainly restricted to varieties grown for particular quality characteristics, such as flavor or size, which do not yet have the *Tm-2*^{2} resistance gene ***(36)***. Mild strain crossprotection of tomatoes caused a small depression of yield, normally around 5% ***(37)***, but this compares well with potential losses of 25–50% occurring with a severe strain infection of unprotected plants.

3.6. Zucchini Yellow Mosaic Virus

This is probably the most recent virus to be tackled by crossprotection methods. The virus causes severe yield losses in cucurbit crops (cucumber, melon, courgette, and marrows). The fruit of infected plants are severely distorted and discolored and quite unmarketable. The virus is present at a low level on the testa and inner chlorenchyma tissue of the seed coat ***(38)***. This probably leads to seedling infection, which is then transmitted rapidly by aphids. In recent years, courgette growers in the UK have suffered total crop loss from this virus.