

in any of the tests because it was not available at that time, but it is probable that it would be as effective as the regular borax and be less difficult to use.

### SUMMARY

Phoma rot has been known to occur in tomatoes shipped from the lower East Coast of Florida since 1915. Since that time it has been reported to be the most important single cause of spoilage in tomato fruits shipped from Florida, and second in importance as a single cause of decay in winter-grown tomatoes in transit from certain other Southern states.

Previous investigators have found that Phoma rot develops most rapidly in ripe fruits at about 70° F. It does not spread from diseased to healthy adjacent fruits in containers. It was also found that stem scars, growth cracks, or mechanical injuries are necessary for the fungus to gain entrance and that the source of the spores causing infection was the field. Inoculation experiments showed that the fungus would attack the foliage and stems of tomato plants but little was known about the extent of its occurrence and resulting damage caused in the field.

Experiments conducted during five years at Homestead have shown that Phoma spot occurs extensively on the foliage of the winter crop of tomatoes in that section during seasons of moderate temperatures and high relative humidities. During warm, dry seasons the disease is less prevalent and may cause little or no damage.

Phoma spot of the foliage is not readily distinguished from early blight, except by microscopic examination. Prevalence of Phoma rot was determined by placing mature-green fruits from experimental plots in storage until they ripened.

Spraying experiments showed that 4-4-50 bordeaux increased the yields of marketable fruit and prevented a high percentage of Phoma rot in stored fruits during seasons favorable for development of the disease. During warm, dry seasons bordeaux reduced the yields of marketable fruit.

The percentage of Phoma rot was further reduced by washing the fruits immediately after picking with 5 percent borax solution, 1 percent sodium hypochlorite solution, or 1-150 sodium polysulfide solution, each containing  $\frac{1}{2}$  of 1 percent liquid tar soap as a wetting agent. The borax solution proved slightly more satisfactory than the other two for all tests. The most