

# RIND NECROSIS in Watermelon Cultivars

DEMETRIOS G. KONTAXIS

Rind necrosis is a perennial disorder of watermelon fruit in the Imperial Valley, California, which, on the average, causes about \$100,000 loss each year. The disorder has also been reported in Hawaii, Texas and Florida. Bacteria have often been implicated as causal agents for rind necrosis. In this study, all cultivars were susceptible to rind necrosis.

RIND NECROSIS INCIDENCE IN RIPE FRUIT OF WATERMELON CULTIVARS<sup>1</sup>

Cultivar	Number of fruit examined	Avg. % diseased <sup>2</sup>
Charleston Gray	37	59.5 <sup>a</sup>
Crimson Sweet	26	57.7 <sup>a</sup>
Peacock	21	52.4 <sup>a</sup>
Smokylee	31	48.4 <sup>a</sup>
Sweet Princess	25	36.0 <sup>ab</sup>
Jubilee	26	34.6 <sup>ab</sup>
Klondike Blue Ribbon	22	18.2 <sup>b</sup>

<sup>1</sup>Data statistically significant at the 5% level (Duncan's multiple range test).

<sup>2</sup>Average of six replications. Numbers with same letter are not significantly different at the given level.

Variable susceptibility to rind necrosis in watermelon has been reported in Florida. The test reported herein was conducted to evaluate several watermelon cultivars for resistance to rind necrosis in a desert environment. Seed of seven cultivars was planted in February 1975, four feet apart in 25-foot-long beds. After emergence of plants the plots were thinned to one plant per hill or about six plants per plot. The plots were randomized and replicated six times. Ripe fruit was harvested on June 25, 1975 and examined for rind necrosis. Each fruit was sliced crosswise into 2- to 3-inch wide slices and checked for rind necrosis. At harvesting time the temperature of the fruit side that was exposed to the sun at a depth of 1½ inch was 127°F (52.7°C).

As the table shows, all cultivars were very susceptible to rind necrosis. The locally grown commercial cultivar Peacock was one of the least resistant cultivars to the disorder.

Young fruit were practically free of necrosis, whereas ripe fruit had a high necrosis incidence. It is of interest to note that the necrosis was most frequently located in the half toward the blossom end of the fruit. The cause of this topical susceptibility was not determined.

All cultivars were severely infected with a mosaic virus disease — probably watermelon mosaic virus. Mosaic has been linked to rind necrosis by several researchers.

With one exception, the incidence of necrosis recorded in these tests was higher than that which has been reported in the same cultivars in Florida. Plants with severe infections of mosaic virus might have been more susceptible to rind necrosis.

*Demetrios G. Kontaxis is Farm Advisor (Plant Pathology), Imperial County.*

## CORRECTION

The Davis donation from Artichoke Industries, Inc., August 1975 *California Agriculture*, should read:

Artichoke Research Association

. . . \$9,429