

EVALUATION OF A RESISTANT PEPPER VARIETY FOR MANAGING PHYTOPHTHORA BLIGHT, 1998: The Phytophthora blight resistant pepper variety Paladin from Rogers was evaluated by growing it with susceptible Brigadier in a research field (Haven loam soil) at the Long Island Horticultural Research Laboratory in Riverhead, NY, where Phytophthora fruit rot of pumpkin had occurred in 1992, 1995, and 1997. Fertilizer (1000 lb/A of 10-10-10) was broadcast and incorporated on 23 Jun. Plants were started in a greenhouse, hardened outside, then transplanted on 26 Jun five weeks after seeding. Plots consisted of two single rows with 15 plants of each variety with a row of yellow summer squash in between. There were six replications. Average monthly high and low temperatures (F) were 86/66 in Aug, 79/61 in Sep, and 65/51 in Oct. Rainfall (in.) was 2.28, 3.03, and 2.35 for these months, respectively. The field was irrigated (approx. 1.0 in. water/irrigation) on 15-16 Jul, 22 Jul, 11 Aug and 25 Aug when soil was dry due to inadequate rainfall. The field was irrigated frequently and often excessively (0.5-1.75 in.) beginning in late Aug to create conditions favorable for Phytophthora fruit rot development by saturating the soil and providing opportunity for splash dispersal. Irrigation dates were 31 Aug, 1 Sep, 16 Sep, 24 Oct and 25 Oct. To increase *Phytophthora* inoculum adjacent to the pepper plots, summer squash fruit with Phytophthora fruit rot were placed next to summer squash plants in the spreader row on 15 Sep, then the field was irrigated.

Phytophthora foliar blight did not develop until late in the growing season, despite the previous history of Phytophthora fruit rot on cucurbits in this field and attempts to provide favorable conditions. Symptoms were first seen on one plant of the susceptible variety Brigadier on 22 Sep. After infected fruit were placed next to squash in the spreader row on 15 Sep, symptoms were first seen on squash after three days and on pepper after 13 days. Symptoms of Phytophthora blight were seen on Brigadier in all replications on 5 Oct. The primary symptom was stem canker; leaf spots and fruit rot also occurred. Most Brigadier plants developed cankers and died by 16 Oct whereas symptoms were not seen on stems or leaves of Paladin and these plants were still alive on 16 Oct. However, a few fruit of Paladin with Phytophthora fruit rot were seen. Fruit affected were not quantified due to the high proportion of fruit with soft rot due to insect feeding.

Variety	Phytophthora blight (%)
	16 Oct
Paladin .....	0 b *
Brigadier .....	96 a
P-value	0.0001

\* Numbers in a column with a letter in common are not significantly different according to Fisher's Protected LSD (P=0.05).