

EVALUATION OF ACROBAT MZ FOR MANAGING PHYTOPHTHORA FRUIT ROT OF PUMPKIN, 1998: A field experiment was conducted at the Long Island Horticultural Research Laboratory in Riverhead, NY, in a field (Haven loam soil) where *Phytophthora* fruit rot of pumpkin had developed in 1992, 1995, and 1997. Fertilizer (1000 lb/A of 10-10-10) was broadcast and incorporated on 23 Jun. Pumpkin seeds were planted on 26 Jun at 24-in. within row plant spacing and 68-in. between row spacing. Herbicides were applied after planting on 29 Jun: Curbit (1 pt/treated A) + Command (4 pt/treated A) was applied in a 10-inch band over the planted rows; these were incorporated by irrigating. Plots were three 26-ft rows with 10 ft between plots. Cucumber beetles were managed by applying Asana XL (9.6 oz/A) on 30 Jul, 12 Aug and 21 Aug. Powdery mildew was managed by applying Bravo WeatherStik (2-4 pt/A) + Nova 40W (2.5-4 oz/A) on 12 Aug, 21 Aug and 11 Sep. Average monthly high and low temperatures (F) were 85/66 in Jul, 86/66 in Aug, 79/61 in Sep, and 65/51 in Oct. Rainfall (in.) was 3.16, 2.28, 3.03, and 2.35 for these months, respectively. The field was irrigated (approx. 1.0 in.) when soil was dry due to inadequate rainfall on 15-16 Jul, 22 Jul, 11 Aug and 25 Aug. 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 from infected fruit. Irrigation dates were 31 Aug, 1 Sep, 16 Sep, 24 Oct and 25 Oct. Plants were sidedressed with ammonium nitrate at a rate of 30 lb N/A on 5 Aug. Fungicide treatments were applied 11 times (23 and 30 Jul; 7, 15, 21, and 27 Aug; 5, 11, 19, and 25 Sep; and 4 Oct) with a tractor-mounted boom sprayer equipped with D3-45 hollow cone nozzles spaced 11 in. apart that delivered 100 gpa at 250 psi. The first application was made before vining. A randomized complete block design with five replications was used. Fruit were examined weekly for symptoms of *Phytophthora* fruit rot and other diseases through 4 Nov. Data was log transformed when needed before analysis of variance.

Disease pressure was low. Symptoms caused by *Phytophthora* were not observed until 13 Oct, despite the previous history of *Phytophthora* fruit rot in this field and attempts to provide favorable conditions. Damping-off of seedlings did not occur after rain in early Jul flooded plots in replications 1 and 2. *Phytophthora* fruit rot was observed earlier in other experiments: on 15 Sep on summer squash in another section of this field and on 25 Aug on pumpkin in an adjacent field. Incidence of *Phytophthora* fruit rot was significantly lower in Acrobat MZ-treated than nontreated plots. *Phytophthora* fruit rot developed with visible sporulation on fruit in four of five nontreated plots and one Acrobat MZ-treated plot; unconfirmed symptoms (water-soaked tissue with no sporangia seen) were found in the fifth nontreated plot and two Acrobat MZ-treated plots. *Phytophthora* fruit rot did not develop in two of five Acrobat MZ-treated plots.

Treatment and rate/A	Fruit with <i>Phytophthora</i> fruit rot (%) *		Healthy fruit (%)
	Sporulation visible	Total	4 Nov
Nontreated	4.5 a **	9.1 a	89.5
Acrobat MZ 2.25 lb	0.3 b	1.7 b	91.2
P-value	0.0431	0.0013	0.4684

* Total observed with definite symptoms of *Phytophthora* fruit rot (sporangia visible) and unconfirmed symptoms (sporangia not visible). Untransformed data.

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