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Susceptibility of Peaches and Nectarines, Plant Introductions, and Other *Prunus* Species to Bacterial Spot

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Abstract. **During the 1984 growing season, 156 peach and 40 nectarine cultivars, 49 plant introductions, and 33 *Prunus* species or species hybrids were evaluated for susceptibility to bacterial spot [*Xanthomonas campestris* pv. *pruni* (Smith 1903) Dye 1978] in North Carolina and South Carolina. Fruit and leaf infection and percentage of defoliation were evaluated in North Carolina, while only leaf infection data were evaluated in South Carolina. No cultivar was immune, but susceptibility varied greatly. Based on leaf infection in the 2 locations, it was concluded that disease pressure was greater in North Carolina. Correlation of fruit infection severity with leaf infection severity and percentage of defoliation in North Carolina was $r = 0.30$ ($P = 0.01$) and $r = 0.54$ ($P < 0.01$), respectively. Correlation between leaf infection severity and percent defoliation was $r = 0.51$ ($P < 0.01$) and $r = 0.00$ (NS) in North and South Carolina, respectively.**

Bacterial spot is a serious disease where peaches and nectarines [*Prunus persica* (L.) Batsch] are grown in warm, humid environments (3). Chemical control is costly and often ineffective, and use of resistant cultivars is suggested in areas where the disease is prevalent. The pathogen primarily infects fruit and foliage, but it can cause twig cankers. Infected fruit exhibit cracks and lesions, whereas leaf infection often results in defoliation. Keil and Fogle (4) evaluated numerous cultivars and breeding lines for severity of leaf infection under field conditions and found a wide range of susceptibility between lines. A severe epiphytotic of bacterial spot occurred at the Sandhills Research Stations in Jackson Springs, N.C. and Elgin, S.C. during the 1984 growing season, affording an opportunity to evaluate numerous peach and nectarine cultivars, plant introductions (PI's) and other *Prunus* species and species hybrids under test in the North Carolina and South Carolina breeding programs. Trees were grown using standard cultural practices and ranged in age from 2 to 9 years, although most trees were 3–5 years old and of bearing age. In most instances, a minimum of 2 trees was evaluated for each cultivar or PI.

The lines evaluated in this test represented a comprehensive collection of peach, nectarine, and other *Prunus* germplasm. Both fruit and leaf infection were evaluated on most lines in North Carolina. Fruit infection severity was determined on about 35 random fruit from each line sampled within 3 weeks of fruit maturity. Each fruit was classified using the following rating scale: 0 = no lesions; 1 = up to 1% of the fruit surface affected and lesions not more than skin deep; 2 = 1% to 10% of the surface affected and lesions not more than 3 mm deep; 3 = 11% to 30% of the surface affected and lesions not more than 3 mm deep; 4 = >30% of the surface affected with lesions not more than 3 mm deep; and 5 = >30% of the surface affected with the majority of the lesions more than 3 mm deep and 5 mm in diameter. An average fruit rating value was then calculated for each line. Each line was also evaluated for the percentage of defoliation and for leaf infection severity. Leaf infection severity was rated based on the following scale: 0 = no lesions observed on the foliage; 1 = trace (a few leaves with lesions observed); 2 = up to 5% of the foliage with lesions; 3 = 6% to 15% of the foliage with lesions; 4 = 16% to 40% of the foliage with lesions; and 5 = >40% of the foliage with lesions. Lines were evaluated for both leaf infection parameters on 14 Aug. 1984. In South Carolina, only leaf infection parameters were measured. Evaluations were conducted 21–22 Aug. 1984, using the same scale previously described for determining leaf infection severity.

A comparison of 84 peach and nectarine lines evaluated for leaf infection parameters in August at both locations suggested that disease pressure was greater in North Carolina. Average leaf infection severity ratings of 4.3 and 3.5 (19.0% difference) and average defoliation values of 35.3% and 16.7% (106% difference) were obtained for the North Carolina and South Carolina test locations, respectively. Differences in ratings between locations, particularly in the percentage of defoliation, may have been related to environmental and cultural differences, such as moisture and fertility levels or tree age. No peach or nectarine cultivar or PI was immune to bacterial spot; however, susceptibility varied greatly (Table 1). In North Carolina, considerable range existed for fruit infection rating and percentage of defoliation; however, most lines were rated 3 or greater for leaf infection severity. The frequency of lines rated 1 or 2 for leaf infection severity was greater in South Carolina than in North Carolina. Correlation of fruit infection rating with leaf infection severity and percentage of defoliation in North Carolina was $r = 0.30$ ($P = 0.01$) and $r = 0.54$ ($P < 0.01$), respectively.

Various factors could account for the relatively low correlation between fruit infection and leaf infection. Since fruit infection ratings were taken near fruit maturity, early maturing lines, although possibly genetically susceptible, were judged resistant because they matured prior to significant disease development and expression. Different genes may control disease reaction in fruit and leaf tissue. Previous work with apricots (5, 6) suggests that separate factors may control resistance to bacterial spot in fruit and leaves. Differential reaction in different plant parts to a bacterial pathogen has been documented in bean (1), where pod and leaf reaction to *Phaseolus phaseolicola* (Burkh.) Dows in common bean are controlled by different genes. Both fruit and leaf infection reaction are of practical importance in peach and nectarine because moderate to severely infected fruit are not marketable through normal commercial chanels. Defoliation early in the growing season may influence fruit size (3), and defoliation may affect hardiness through its negative influence on carbohydrate production and accumulation, as demonstrated in tart cherry (2). Peach breeders traditionally have evaluated leaf infection severity and the percentage of defoliation to characterize susceptibility to bacterial spot, but our results show that these measurements may not provide a valid estimate of fruit susceptibility.

Correlation between the percentage of defoliation and leaf severity rating was $r = 0.51$ ($P < 0.01$) and $r = 0.00$ (NS) in North Carolina and South Carolina, respectively. Severity of infection evidently is not highly related to degree of defoliation, and lines vary considerably in their leaf retention within any particular level of leaf infection severity rating. Layne (5) obtained a higher correlation between apricot fruit and leaf severity

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Table 1. Susceptibility of peach and nectarine cultivars and plant introductions to bacterial spot (*Xanthomonas campestris* pv. *pruni*) in North Carolina and South Carolina in 1984.

Cultivar or line	Origin[z]	N.C. rating: Fruit rating[y]	N.C. rating: Defoliation (%)	N.C. rating: Severity of leaf infection[x]	S.C. rating: Defoliation (%)	S.C. rating: Severity of leaf infection[x]
			Peach			
Amerellio Tardio	SP	—	—	—	10	4
Angelus	CA	3.1	60	5	70	5
Autumn Delight	CA	—	20	4	20	3
Autumn Lady	CA	—	60	5	30	4
Babcock	CA	—	—	—	10	4
Babygold 8	NJ	3.3	—	—	10	3
Bailey	CN-1	—	—	—	10	4
Belle of Georgia	US	4.4	20	4	15	4
Bicentennial	LA	—	—	—	15	3
Biscoe	NC	1.2	5	3	5	3
Blake	NJ	—	—	—	20	5
Boone County	US	—	—	—	5	3
Calred	CA	5.0	85	5	30	5
Camden	GA	2.6	—	—	40	5
Candor	NC	1.7	30	4	30	4
Carnival	CA	4.5	85	5	70	5
Carson	CA	2.1	—	—	—	—
Champion	US	—	—	—	10	3
Chinese Cling	CH	—	—	—	10	3
Clayton	NC	1.9	25	3	5	2
Comofort	MX	—	5	2	15	4
Compact Elberta	US	—	30	5	—	—
Compact Redhaven	US	—	5	1	—	—
Correll	NC	1.3	—	—	—	—
Cresthaven	MI	3.7	30	5	20	3
Cullinan	MD-1	3.0	40	5	20	5
Derby	NC	0.6	—	—	10	3
Dew Drop	US	2.9	85	5	60	5
Dixired	GA	1.7	—	—	1	2
EarliGlo	US	2.2	40	4	—	—
EarlRio	CA	—	—	—	40	5
Early Loring	US	—	20	4	5	3
Early White Giant	US	—	—	—	30	5
Eden	NY	—	—	—	10	4
Elberta	US	3.4	50	5	—	—
Elegant Lady	CA	3.4	60	5	30	5
Ellerbe	NC	2.4	—	—	—	—
Emery	NC	1.6	—	—	—	—
Encore	NJ	1.3	30	4	30	5
Fairtime	CA	4.5	30	5	60	5
Fayette	CA	—	—	—	30	4
Firered	CA	4.3	75	5	70	5
Flamecrest	CA	3.9	—	—	30	4
Flavorcrest	CA	—	—	—	30	5
Frank	US	—	—	—	5	1
Gabriella	IT	—	—	—	15	5
Gaucho	MX	—	—	—	15	2
Gemfree	CA	—	—	—	20	5
Golden Monarch	US	2.5	30	4	—	—
Greensboro	US	—	—	—	15	3
Hagan Sweet	US	2.7	30	5	15	3
Hal-Berta Giant	US	4.8	—	—	—	—
Hamlet	NC	1.5	—	—	—	—
Hangchow	CH	—	—	—	10	4
Harbinger	CN-1	—	—	—	30	2
Harrow Blood	CN-1	—	—	—	1	1
Harvester	LA	2.4	20	4	5	3
Havis	MD-1	3.5	30	5	—	—
Heath Cling	US	—	60	5	15	4
Higama	FR	—	—	—	15	3
Idlewild	LA	—	—	—	15	3
Indian Blood	US	—	2	4	1	3
Jayhaven	MI	—	—	—	5	4
Jefferson	VA	3.2	—	—	15	3
Jerseyglo	NJ	—	—	—	5	2
Jerseyqueen	NJ	4.2	30	4	—	—
Jim-Dan-Dee	US	4.3	40	5	10	3
Jim Wilson	US	2.2	30	3	20	5
Kakamas	SA	—	—	—	20	4
La Feliciana	LA	2.8	30	4	10	4
LaGold	LA	—	—	—	5	2
Loring	MO	2.2	20	4	10	4
Lovell	CA	4.3	75	5	—	—
Majestic	LA	2.8	20	5	—	—
Marglo	MD-2	—	80	5	—	—
Marhigh	MD-2	3.5	20	4	—	—
Marland	MD-2	4.4	40	5	—	—
Marpride	MD-2	3.3	40	5	—	—
Marqueen	MD-2	—	—	—	15	4
Marsun	MD-2	4.2	30	5	—	—
May Lady	CA	—	—	—	30	5
Maygold	CA	—	—	—	20	4
McNeely	MD-1	2.7	40	5	20	4
Merrill Gem	CA	1.7	—	—	—	—
Monroe	VA	4.7	80	5	15	4
Montclar	FR	—	—	—	1	1
Nectar	CA	3.7	40	5	—	—
Nemaguard	GA	—	30	3	—	—
Newhaven	MI	—	—	—	5	2
Norman	NC	2.5	30	4	—	—
Novelred		1.4	—	—	—	—
O'Henry	CA	4.6	85	5	60	5
Okinawa	FL	—	—	—	30	5
Ouachita Gold	LA	1.7	20	4	20	4
Pacifica	CA	—	—	—	50	5
Parade	CA	4.9	50	5	30	5
Pekin	NC	1.6	10	2	—	—
Polly	IA	—	—	—	5	2
Praire Dawn	IL	—	—	—	5	2
Prenda	CA	—	—	—	20	4
Ranger	MD-1	—	10	4	—	—
Raritan Rose	NJ	3.0	20	5	10	4
Redbrite	US	1.1	20	5	10	4
Redcap	GA	—	—	—	5	3
Redcrest	NJ	4.7	20	4		
Redglobe	MD-1	3.9	35	5	5	2
Redhaven	MI	3.5	35	4	15	3
Redskin	MD-2	4.8	20	3	20	4
Reliance	NH	3.5	20	3	1	2
Richaven	MI	3.3	30	5	—	—
Rio Oso Gem	CA	2.4	—	—	30	4
Royal May	CA	3.3	80	5	10	4
Rubira	FR	—	—	—	5	4
Rubired	NC	0.5	20	3	10	4
Ruston Red	LA	1.0	30	5	5	3
Rutgers Red Leaf	NJ	—	—	—	5	3
Salcaja	MX	—	15	4	5	1
Salwey	US	—	—	—	20	2
Sentinel	GA	0.9	20	4	—	—
Sentry	MD-1	1.6	40	5	1	2
Shiron Donak	IN	—	60	5	5	4
Siberian C	CN-1	2.5	50	5	20	4
Slappy	US	—	30	5	1	2
Somerset	MD-1	4.2	50	5	—	—
South Hero	NH	—	10	4	20	3
Southland	GA	3.2	—	—	—	—
Springbrite	GA	—	—	—	70	3
Springcrest	GA	2.5	—	—	20	3
Starking Delicious	US	3.1	—	—	—	—
Starlite	GA	1.5	60	5	30	5
Summerglo	NJ	—	—	—	20	5
Summergold	GA	—	—	—	10	3
Summer Pearl	NJ	4.8	80	5	15	4
Summerqueen	NY	—	—	—	5	4
Sunbrite	GA	2.7	50	5	—	—
Suncrest	CA	2.5	—	—	60	5
Sundar	CA	—	—	—	20	5
Sunhigh	NJ	4.6	40	5	—	—
Sunland	GA	2.5	—	—	10	4
Suprince	GA	0.9	—	—	20	5
Sunray	SA	2.9	60	5	—	—
Surecrop	LA	2.1	35	5	1	2
Sweethaven	MI	—	—	—	5	2
Sweet Sue	US	3.7	35	5	—	—
Tennessee Natural	US	—	—	—	25	5
Topaz	MO	2.3	50	5	10	3
Troy	NC	2.6	30	5	—	—
Tyler	VA	2.8	40	5	—	—
Tzim Pee Tao	CN	—	60	5	1	2
Velvet	CN-2	3.3	40	4	—	—
White English	US	2.3	20	5	1	2
White Hale	US	—	—	—	20	5
Whynot	NC	0.0	—	—	10	2
Winblo	NC	2.4	25	5	—	—
Yellow Indian	US	—	15	4	—	—
			Nectarine			
Armking	CA	—	—	—	30	4

Table 1. Continued.

Cultivar or line	Origin[z]	N.C. rating			S.C. rating	
		Fruit rating[y]	Defoliation (%)	Severity of leaf infection[x]	Defoliation (%)	Severity of leaf infection[x]
Carolina Red	NC	1.6	—	—	10	3
Cherokee	VA	4.2	40	4	—	—
Columbia	VA	—	—	—	15	4
Crimson Gold	CA	2.3	50	4	10	3
Durbin	GA	4.0	—	—	20	3
Dwarf Mandarin	CH	—	—	—	5	2
Earlibird	CA	2.2	45	4	10	2
EarliBlaze	CA	4.0	40	5	—	—
Early Sungrand	CA	4.3	10	3	5	3
Fairlane	CA	—	—	—	5	3
Fantasia	CA	3.4	—	—	10	4
Firebrite	CA	2.9	30	5	30	5
Flamekist	CA	—	30	5	10	3
Flavortop	CA	3.1	—	—	15	4
Hardired	CN-1	1.8	20	4	5	2
Harko	CN-1	—	—	—	10	2
Honey Gold	CA	—	—	—	10	2
Independence	CA	—	—	—	10	3
Lafayette	VA	—	—	—	10	4
Late Le Grand	CA	—	—	—	15	4
LateGold	CA	5.0	75	5	10	4
Le Grand	CA	0	0	0	10	3
Mericrest	NH	0.8	20	4	20	4
Nectared 3	NJ	—	—	—	5	2
Nectared 4	NJ	2.9	—	—	20	2
Nectared 5	NJ	—	—	—	20	2
Nectared 6	NJ	—	—	—	5	2
Nectared 7	NJ	4.5	—	—	30	5
Pocahontas	VA	1.7	30	5	—	—
RedGold	CA	4.8	—	—	20	5
Royal Kist	CA	—	—	—	20	3
Royal Giant	CA	—	—	—	10	4
Snow Queen	CA	5.0	75	5	30	5
Stark Delicious	CA	—	—	—	5	3
Summer Beaut	CA	3.0	—	—	5	4
Sun Grand	CA	—	—	—	60	5
Sunfre	CA	—	—	—	10	4
SunGlo	CA	—	—	—	15	4
Sweet Melody	CA	—	10	3	1	3
Plant Introductions						
PI 34601	CH	—	—	—	70	4
PI 36126	BL	—	—	—	15	4
PI 43289	CH	—	20	5	15	4
PI 43685	IN	—	—	—	20	4
PI 55776	CH	—	20	5	15	5
PI 62602	CH	—	40	5	15	3
PI 63850	IT	—	40	5	20	5
PI 65974	IT	—	—	—	1	2
PI 65977	IT	—	—	—	5	2
PI 65821	CH	—	25	2	20	4
PI 77876	CH	—	30	5	15	4
PI 78513	USSR	—	—	—	10	4
PI 78544	IT	—	5	3	5	2
PI 82413	PL	—	25	4	10	4
PI 93826	SA	—	—	—	30	4
PI 95501	CH	—	—	—	20	2
PI 101663	CH	—	30	5	10	4
PI 101664	CH	—	—	—	1	4
PI 101667	CH	—	50	5	20	5
PI 101668	CH	—	—	—	20	5
PI 101686	CH	—	—	—	10	5
PI 101823	MR	—	—	—	30	4
PI 101835	MR	—	30	4	5	2
PI 102521	IT	—	—	—	5	2
PI 104287	MR	—	10	3	5	2
PI 104488	IT	—	—	—	15	5
PI 105362	IT	—	25	5	20	5
PI 106062	SA	—	—	—	10	2
PI 112032	IN	—	—	—	5	4
PI 113452	USSR	—	—	—	30	4
PI 113650	IT	—	—	—	30	3
PI 117679	USSR	—	—	—	30	3
PI 119840	USSR	—	—	—	5	4
PI 119844	USSR	—	50	5	30	5
PI 119846	USSR	—	20	5	1	4
PI 125017	USSR	—	50	5	10	4
PI 125025	IN	—	—	—	5	2
PI 129675	SA	—	—	—	5	2
PI 129678	SA	—	—	—	20	5
PI 130980	GR	—	—	—	15	1
PI 131034	PO	—	—	—	5	2
PI 131075	EN	—	20	3	10	3
PI 131209	EN	—	—	—	1	1
PI 131430	EN	—	—	—	5	3
PI 132007	GR	—	—	—	30	3
PI 132739	GR	—	—	—	5	3
PI 133551	AS	—	—	—	30	4
PI 133741	AS	—	—	—	20	5
PI 133982	SA	—	—	—	5	2
PI 133984	SA	—	—	—	10	3
PI 133987	SA	—	15	4	20	2
PI 134150	SP	—	15	4	10	4
PI 134151	SA	—	30	5	—	—
PI 146137	USSR	—	—	—	10	4
PI 151158	AR	—	20	5	40	5
PI 240928	CH	—	—	—	5	4
PI 442378	MX	—	—	—	5	2
PI 442380	MX	—	—	—	10	2

[z]Origin code: AR = Argentina; AS = Australia; BL = Bolivia; CA = cultivar developed or originating in California; CH = China; CN-1 = Harrow Research Station, Ontario, Canada; CN-2 = Vineland Research Station, Ontario, Canada; EN = England; FL = Univ. of Florida, Gainesville; FR = France; GA = USDA, Bryon, GA; GR = Germany; IA = Iowa State Univ., Ames; IL = Univ. of Illinois, Urbana; IN = India; IT = Italy; LA = Louisiana State Univ., Baton Rouge; MD-1 = USDA, Beltsville, MD; MD-2 = Univ. of Maryland, College Park; MI = Michigan State Univ., E. Lansing; MO = Univ. of Missouri, Columbia; MR = Morocco; MX = Mexico; NC = North Carolina State Univ., Raleigh; NH = Univ. of New Hampshire, Durham; NJ = Rutgers Univ., New Brunswick, N.J.; NY = Cornell Univ., Ithaca, N.Y.; PL = Palistine; PO = Poland; SA = South Africa; SP = Spain; US = United States cultivar of unknown origin or cultivar not released from a specific breeding program; USSR = Union of Soviet Socialist Republics; VA = Virginia Polytechnic Institute and State Univ., Blacksburg.

[y]Rated on a 0 to 5 scale: 0 = no lesions; 1 = up to 1% of the fruit surface affected and lesions not more skin deep; 2 = 1% to 10% of the surface affected and lesions not more than 3 mm deep; 3 = 11% to 30% of the surface affected and lesions not more than 3 mm deep; 4 = >30% of the surface affected with lesions not more than 3 mm deep; and 5 = >30% of the surface affected with the majority of the lesions more than 3 mm deep and 5 mm in diameter. Infection severity and percentage of defoliation rated 21–22 Aug. 1984.

[x]Rated on a 0 to 5 scale: 0 = no lesions; 1 = trace; 2 = up to 5% with lesions; 3 = 6% to 15% with lesions; 4 = 16% to 40% with lesions; and 5 = >40% with lesions. Infection severity and percentage of defoliation rated 14 Aug. 1984.

ratings than shown in these peach data.

Cultivars developed in California, where bacterial spot is not prevalent, generally were extremely susceptible, particularly in North Carolina. California cultivars 'O'Henry', 'Fairtime', 'Calred', 'Carnival', and 'Firered' were rated extremely susceptible in both North and South Carolina. California nectarines 'LateGold', 'RedGold', and 'Snow Queen' were also extremely susceptible. Peach and nectarine cultivars developed in the eastern United States, where bacterial spot is a problem, generally showed more resistance than other cultivars in different regions; however, there were many exceptions. 'Monroe' peach was particularly noteworthy in this regard, exhibiting severe leaf and fruit lesions and 80% defoliation in North Carolina. On severely infected lines, fruit gumming was observed relatively early in the growing season, and some fruit dropped prior to maturation.

A major objective of eastern U.S. peach breeding programs is development of peach and nectarine cultivars with bacterial spot resistance. Screening of lines under field conditions is often used to identify resistant types. The significant number of susceptible cultivars released from eastern U.S. breeding programs underscores the need for a routine and reliable screening technique for bacterial spot, as previously proposed by Kail and Fogle (4).

Although resistance among PI's varied, none exceeded the level of resistance currently available in commercial cultivars. Thus, it does not appear necessary to use these PI's specifically as a source of bacterial spot resistance. Plant Introductions 78544 and 104287 showed high resistance in both test locations. Plant Introductions 131209 and 65974 were judged highly resistant in South Carolina, but were not evaluated in North Carolina.

Other *Prunus* species and species hybrids

Table 2. Susceptibility of various *Prunus* species and species hybrids to bacterial spot (*Xanthomonas campestris* pv. *pruni*) in South Carolina in 1984.

Prunus species or hybrid	Clone[z]	Defoliation (%)	Severity of leaf infection[y]
americana	Wolf	1	5
americana x simonii	Hanska	15	4
americana x simonii	Kaga	5	3
americana x simonii	Kahinta	10	5
americana x simonii	Toka	5	5
armeniaca	Harcot	30	5
armeniaca	Hargrand	80	5
armeniaca	Harogem	20	5
armeniaca	Stepynak	5	2
armeniaca	Sundrop	20	5
armeniaca x dulcis	(Fresno, Calif.)	10	2
besseyi	IR2 2-1	5	4
besseyi	IR2 3-24	5	4
besseyi	Sioux	10	5
besseyi x salicina	Dura	40	5
besseyi x salicina	Oka	15	5
besseyi x salicina	Opata	30	5
besseyi x salicina	Sapa	10	5
besseyi x salicina	Temptation	30	5
cerasifera	Myrabi	5	3
cerasifera x armeniaca	Tlor Ciran	30	5
cerasifera x persica	Myran	5	4
cerasifera x persica	S.2729	15	5
cerasifera x (cerasifera x persica)	Isthara	30	5
davidiana	(Bryon, Ga.)	20	5
davidiana	IR343-3	10	3
davidiana	J68-59	5	2
domestica	French Goose	5	5
domestica	St. Julian	20	4
domestica	Verity	80	5
domestica	Vision	90	5
domestica x spinosa	Damas 1869	10	5
dulcis	Carmel	50	5
dulcis	Harvey	60	5
dulcis	Mission	50	5
dulcis	Ruby	40	5
dulcis	P 114-8	40	4
dulcis x (armeniaca x dulcis)	1R8.5	70	5
dulcis x (armeniaca x dulcis)	5R8.5	40	4
dulcis x (armeniaca x dulcis)	6R8.5	60	4
dulcis x (armeniaca x dulcis)	R9.5	50	5
angustifolia	Florida 1-2	5	2
ferganensis	PI 113455	5	4
ferganensis	USSR	30	2
fenzliana	(Fresno, Calif.)	70	5
hortulana	P4-13	5	2
hortulana	P4-16	5	3
hortulana	IR330-3	5	0
kansuensis	01370	30	3
maritima	Cornell Clone 1	40	5
minutiflora (5 seedlings)	(Texas)	0	0
mume	(Ga.)	5	4
persica x dulcis	NCA10254	20	4
persica x dulcis	(SXR.185)6	20	4
pumila	Mando	20	4
pumila	IR2 333-2	15	5
pumila x cerasifera	Cistena	30	4
persica x davidiana	Arkansas PR-11	10	3
persica x davidiana	(N.J.)	60	5
salicina x americana	Monitor	5	4
salicina x americana	Pipestone	60	5
salicina x (americana x simoni)	Superior	5	4
tenella (nana)	R.H. (N.Y.)	80	5
texana	seedling (Texas)	80	5
texana	seedling (Texas)	10	1
texana x angustifolia	(FL)	10	1
triloba	IR2 74-1A	50	5

[z]Abbreviations in parentheses indicate state source of unnamed clone.

[y]Rated on a 0 to 5 scale: 0 = no lesions; 1 = up to 1% of the fruit surface affected and lesions not more than skin deep; 2 = 1% to 10% of the surface affected and lesions not more than 3 mm deep; 3 = 11% to 30% of the surface affected and lesions not more than 3 mm deep; 4 = > 30% of the surface affected with lesions not more than 3 mm deep; and 5 = > 30% of the surface affected with the majority of the lesions more than 3 mm deep and 5 mm in diameter.

were also rated in South Carolina (Table 2). Most species were as susceptible or more susceptible than most peach cultivars, and do not appear promising as a source of resistance. *Prunus hortulana* (Bailey) exhibited a high level of resistance. One seedling of *P. texana* (Dietr.) and an interspecific *P. texana* hybrid exhibited a high level of resistance, while a 2nd *P. texana* seedling was highly susceptible. Five seedlings of *P. minutiflora* (Engelm.) were examined closely and no lesions could be found. This species should be examined closely to determine if it may possess immunity to the disease.

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