



Performance of Tomatoes (all *Solanum lycopersicum* unless noted)
(Hybrids, Open Pollinated and Heirlooms) for Late Blight (LB) and Early Blight (EB).

T. A. Zitter, Department of Plant Pathology Cornell -Update Jan, 2011.

Tomato Cultivar	Specifics and Seed source	Ref. of LB/EB Rx (year)	Genetic resistance	Comments
Fresh Market Reds				
Legend OP	Det., rnd red, 14-16oz; Territorial (9)	Not tested locally; (dev. Dr. Baggett, OSU) (1)	Reportedly tolerant for US8 and US11; <i>Ph2</i> only; EB res.	<i>Ph2</i> resistance will not provide resistance for current isolates of LB like US-22.
New Yorker OP	Det., rnd red, 4-6 oz, early season; Online	Not tested locally; (dev. NYSAES, Geneva, NY)	Resistance <i>Ph1</i> gene	<i>Ph1</i> gene will not provide resistance for current races of LB.
West Virginia 63 OP	Indet., rnd red, 6.5oz; Online	Not tested locally; (dev. Dr Gallegly, WVU) (5)	Reported as <i>Ph2</i> gene	<i>Ph2</i> gene will not provide resistance for current races of LB.
Defiant PhR	Det., 6-8oz, Johnny's (20@\$5)	Resistant for EB and LB, including US22 (8)	Heterozygous for <i>Ph2</i> & <i>Ph3</i> ; Heterozygous for EBR	Should perform well in NE. Suited for vine-ripe production.
Mt. Merit	Det., rnd red, mid to late season; Bejo (Not available)	Resistance for EB and LB (8);	Heterozygous for LBR (<i>Ph2</i> & <i>Ph3</i>); Hetero EBR	Should perform well in NE; similar to other Mountain series
Heirlooms				
Aunt Ginny's Purple	Indet., pur/blk, <u>beefsteak</u> , 16oz; Online	Good resistance US17 (2002, 2006) (4)	None reported	Potato-leaf plant.
Aunt Ruby's German Green	Indet., gr. <u>beefsteak</u> , 8-18oz; Online	Moderate resistant US17 (2002, 2006) (4)	None reported	
Big Rainbow	Indet., bi-colored <u>beefsteak</u> >16oz; Online	Good observations US22 (2009) (10)	None reported	
Black Krim	Indet., maroon, <u>beefsteak</u> , 10-12oz; Online	Mod. res. US17 (2002, 2006); mixed performance US22 (2009), (4,10)	None reported	
Black Plum	Indet., mahogany <u>plum</u> , 2 in. elongated; Online	Highly resistance US17 (2002, 2006) (4)	None reported	
Brandywine	Indet., pink fruit, <u>oblate</u> 1-2 lb.; Johnny's; Online ,	Moderate resistance US17 (2002, 2006) (4)	None reported	Prolific potato-leaf plant.
Pruden's Purple	Indet., dk. pink, >16oz; Johnny's	Moderate resistance US17 (7)	None reported	Medium potato-leaf plant.
Slava	Indet., red, 2 in.; Online	Some resistance reported US17 (3)	None reported	Potato leaf variety, Eastern European
Stupice	Indet., red, 2-3 in.; Territorial (9)	Some resistance reported US17 (3)	None reported	Potato leaf variety, Eastern European.
Tigerella (AKA Mr. Stripty)	Indet., bi-color, 4-6oz; Online	Observed good tolerance US22, (2009) (10)	None reported	Productive small round fruits with reddish-orange skin and stripes.

Saladette (large cherry), Plum				
Juliet, Plum cluster F1	Indet., 1 ½ -2 oz; Johnny's , #707 (10@\$3)	Intermediate resistance for LB (US17) and EB (2009) (3,7,8)	South Asia, <i>Ph</i> gene(s) likely	Larger sister variety of 'Santa'.
Mountain Magic F1, Large Cherry	Indet. 2oz size; Bejo (2), Seedway (100@\$30); Johnny's (10@\$4); Nichols Garden Nursery (10@\$3.65)	Excellent with exposure to US22 (2009); multiple isolate resistance US11, US17 (6,10)	Heterozygous for <i>Ph2</i> and <i>Ph3</i> ; homozygous tolerant for EB	(dev. Dr Gardner, NCSU).
Plum Regal F1, Plum	Det.; Bejo ; Seedway (2) (1000@\$83)	Excellent with exposure to US22 (2009); multiple isolate resistance US11, US17 (6,10)	Homozygous resistant <i>Ph3</i> ; Homozygous tolerant for EB	(dev. Dr Gardner, NCSU).
Small-fruited Grape, Cherry, Pear (assorted colors)				
Red Currant, OP	Indet., 3/8-inch, sweet (but slightly tart); Online	Good resistance US 17 (2002, 2006) (4,7)	None reported	Vigorous growth and many fruit.
Red Pearl, Grape	Indet., 1oz; in clusters Johnny's 97G	Intermediate resistance for LB US22 (2009) (8)	None reported	Compare to 'Red Grape' F1, but larger fruit.
Matt's Wild Cherry Sm. Red Cherry He, S. lycopersicum var. cerasiforme	Indet., cherry, ½ in. borne in clusters; Johnny's , ID: 732	Excellent resistance US17 (2002, 2006); observed res. US22 (2009) (4,7,10)	None reported	Rampant vines; Probably <i>Ph3</i> ; origin is Hidalgo state in eastern Mexico.
Yellow Currant, S. pimpinellifolium	Indet., very small, 1/2-inch almost translucent yellow cherry; Online	Excellent tolerance US17(2002, 2006) (4,7)	None reported	Regular leaf; fruit borne in cluster of 6-8 tomatoes.
Yellow Pear, OP, He	Indet., cluster; ¾ - 1 oz; Johnny's ; 744	Excellent tolerance US17 (2002, 2006) (4)	None reported	Tall and vigorous vine with many fruit.

- 1.) Baggett, J. R. 2001. http://extension.oregonstate.edu/news/story.php?S_No=312&storyType=garden
- 2.) *Bejo Seed 2010*. 3.) Dillon, M. 2005. Public breeding for organic agriculture. Screening for horizontal resistance to late blight in tomato. http://ofrf.org/funded/reports/dillon_04s20.pdf. 4.) Fry, W. E. 2002, 2006 (http://www.plantpath.cornell.edu/Fry/LB_Tools.html#heirloom).
- 5.) Gallegly, M. E. 1960. Resistance to the late blight fungus in tomato. Proc. Plant Science Seminar. Campbell Soup Co., Camden, NJ. 6.) Gardner, R. G. 2008. <http://www.ces.ncsu.edu/fletcher/programs/tomato/releases/release-notices/release-Mountain-Magic.pdf>; <http://www.ces.ncsu.edu/fletcher/programs/tomato/releases/release-notices/release-Plum-Regal.pdf>.
- 7.) Inglis, D., Gundersen, B., and Derie, M. 2001. Evaluation of tomato germplasm for resistance to late blight, 2000. Biological and Cultural Tests for Control of Plant Diseases 16:PT77. <http://ipcm.wisc.edu/WCMNews/tabid/53/EntryId/875/Managing-Late-Blight-in-Tomatoes.aspx>
- 8.) Johnny's Selected Seeds. 2010. <http://www.johnnyseeds.com/c-1-vegetables.aspx>; personal communication.
- 9.) Territorial Seed Company. 2010. http://www.territorialseed.com/prod_detail_list/vegetable_seed.
- 10.) Zitter, T. A. 2009. Personal observations and correspondence.