

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 University, March 2010.

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.
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.
JTO-99197 F1	Det., large globe shape; Johnny's	Resistant for EB (8)		Suited for vine-ripe production.
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. Stripey)	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	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), Johnny's	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	Limited or not available in 2010; (dev. Dr Gardner, NCSU).
Plum Regal F1, Plum	Det.; Bejo (2)	Excellent with exposure to US22 (2009); multiple isolate resistance US11, US17 (6,10)	Homozygous resistant <i>Ph3</i> ; Homozygous tolerant for EB	Limited or not available in 2010; (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	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. <i>lycopersicum</i> var. <i>cerasiforme</i>	Indet., cherry, ½ in. borne in clusters; Johnny's, Online	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. <i>pimpinellifolium</i>	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; Online	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.

<http://www.bejoseeds.com/gba/upload/pdf/347/Bejo%20Tomatoes%20Eastern%20U.S.%202009.pdf>

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. From trials conducted by Dr. Hilary Mayton formerly with Dr. W. Fry's Lab Group (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.