

Differential Sets

Potyvirus (*Potato virus Y (PVY)*, *Tobacco etch virus (TEV)*, *Pepper mottle virus (PepMoV)*) - **Pepper**

Potyvirus is the largest genus of plant viruses, causing significant losses in a wide range of crops. In pepper (*Capsicum annuum*) the commercially important *Potyvirus* are PVY, TEV and PepMoV.

Potyvirus are aphid transmitted in a non-persistent manner. Because the aphid vectors are difficult to control, resistance to these three *potyvirus* is a critical part of disease management.

Numerous races/strains of PVY and TEV have been described, but many are ephemeral or unstable in nature. Occasionally heterogeneous responses can occur, resulting in that both resistant and susceptible plants are observed. Under some environmental conditions, it is possible to observe a faint mosaic in a few plants of an otherwise resistant variety. The tables below describe host responses to PVY and TEV races found to occur consistently in nature. The *potyvirus* resistance gene sources listed in the tables below are those commonly used in the vegetable seed industry to develop and produce commercial pepper hybrids containing *potyvirus* resistance.

PVY differential table:

Differential Host	gene present	PVY: 0*	PVY: 1*	PVY: 1.2*
		Early Cal Wonder*, Yolo Wonder*	S	S
PI152225*	<i>pvr 1</i>	HR	HR	nt
Yolo Y*	<i>pvr 2</i> ¹	HR	S	S
Florida VR2*	<i>pvr 2</i> ²	HR	HR	S
Florida VR4*, Dell Rey Bell*, Agronomico 10*	<i>pvr 3</i>	HR	HR	HR
Serrano Criollo de Morelos 334*	<i>Pvr 4</i>	HR	HR	HR

S = Susceptible, HR = Highly Resistant

* = differential hosts and isolates used by the vegetable seed industry

nt = not tested

Note: In some scientific publications *pvr 2*¹ is referred to as *pvr 1*¹. Similarly, *pvr 2*² is referred to as *pvr 1*².

TEV differential table:

Differential Host	gene present	TEV: 1*	TEV: 2*	TEV: 3*	TEV: 4*	TEV: 5*	TEV: 6*	TEV: 7*	TEV: 8*
		Yolo Wonder*	S	S	S	S	S	S	S
Annum <i>pvr-1</i>	<i>pvr 1</i>	HR	HR	HR	HR	S	S	S	
Florida VR2*	<i>pvr 2</i> ²	HR	HR	S	S	HR	HR	S	
Serrano Vera Cruz	<i>pvr 2</i> ⁷	HR	S	S	S	HR	S	S	
Teopisca	<i>pvr 2</i> ¹⁴	HR	HR	HR	S	HR	HR	IR	

S = Susceptible, IR = Intermediate resistant, HR = Highly Resistant

* = differential hosts and isolates used by the vegetable seed industry

Note: In some scientific publications *pvr 2*¹ is referred to as *pvr 1*¹. Similarly, *pvr 2*² is referred to as *pvr 1*².

PepMoV differential table:

Currently, there are no races described in PepMoV.

A usable level of resistance is achieved by introgression of *pvr 1* or *Pvr 4*.

Differential Host	gene present	PepMoV*
Early Cal Wonder*		S
PI152225*	<i>pvr 1</i>	HR
Yolo Y*	<i>pvr 2</i> ¹	S
Florida VR2*	<i>pvr 2</i> ²	S
Florida VR4*, Dell Rey Bell*, Agronomico 10*	<i>pvr 3</i>	IR
King Edward*, Serrano Criollo de Morelos 334*	<i>Pvr 4</i>	HR

S = Susceptible, IR = Intermediate resistant, HR = Highly Resistant

* = differential hosts and isolates used by the vegetable seed industry

Note: In some scientific publications *pvr 2*¹ is referred to as *pvr 1*¹. Similarly, *pvr 2*² is referred to as *pvr 1*².

References:

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