

Resistance Definitions

The relationship between a plant and a pest is very complex. The ability of a pest to cause disease in a plant depends on environmental conditions, the properties of the organism itself and the capacity of the plant to defend itself. Varieties within a plant species can differ in their ability to defend themselves. Under different conditions, such as age of the plant, pest pressure and virulence or adverse environmental conditions, the interaction between the same plant and pest may have different outcomes. Pests are known to develop and form new biotypes, pathotypes, races or strains that can cause damage to plants that remain unaffected by the original form of the pest.

Immunity is when a plant is not subject to attack or infection by a specified pest.

Resistance is the ability of a plant variety to restrict the growth and development of a specified pest and/or the damage they cause when compared to susceptible plant varieties under similar environmental conditions and pest pressure. Resistant varieties may exhibit some disease symptoms or damage under heavy pest pressure.

Two levels of resistance are defined.

High resistance (HR):

Plant varieties that highly restrict the growth and development of the specified pest under normal pest pressure when compared to susceptible varieties. These plant varieties may, however, exhibit some symptoms or damage under heavy pest pressure.

Intermediate resistance (IR):

Plant varieties that highly restrict the growth and development of the specified pest but may exhibit a greater range of symptoms or damage compared to high resistant varieties. Intermediately resistant plant varieties will still show less severe symptoms or damage than susceptible plant varieties when grown under similar environmental conditions and/or pest pressure.

Susceptibility is the inability of a plant variety to restrict the growth and development of a specified pest.