

Resistance definitions

The relationship between a plant and plant pathogen is very complex. The ability of a plant pest or pathogen 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 climatic conditions the interaction between the same plant and plant pathogen may have different outcomes. Plant pathogens are known to develop and form new races or strains that can cause damage to plants that remain unaffected by the original form of the pathogen.

Immunity: Not subject to attack or infection by a specified pest or pathogen.

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

Two levels of resistance are defined.

High resistance (HR):

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

Moderate/intermediate resistance (IR):

Plant varieties that restrict the growth and development of the specified pest or pathogen, but may exhibit a greater range of symptoms or damage compared to high/standard resistant varieties. Moderately/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 or pathogen pressure.

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