The level of damage to kiwifruit plants depends on the severity, the type of frost, the length of time temperatures remain below freezing, and the time of year it occurs.

In spring even mild frosts can damage the young shoots, buds, and flowers. Foliage can burn and flowers may drop off.

In autumn, frosts can cause leaf drop and damage fruit.

In winter, severe frosts can cause considerable damage to trunks and shoots of dormant vines. This usually appears as splitting damage on trunks.

**Typical Symptoms of Plant Damage**

There are two types of frosts that can occur:

A) **Advection Frosts** occur when a cold air mass replaces a warm mass, these frosts occur when there is low humidity, moderate or greater wind speeds, and temperatures that stay below 0 degrees.

B) **Radiation Frosts** occur when skies are clear, humidity is low and winds are calm. Heat radiates into the sky, resulting in a chilling of air temperature.

Two forms of frost control are common in kiwifruit;

A) **Under and over-vine Sprinkler systems.** As temperatures approach zero degrees, frost protection sprinklers are turned on to warm the soil and canes below the vines. When used over-vines they can leave a thin sheet of ice which encases the young shoots and prevents them from dropping to lower temperatures and receiving frost burn.

B) **Wind machines and/or helicopters** can be used to mix the warm air through the cold air, thus raising the temperature in an orchard.

Windbreaks can also be beneficial as frost protection providing they aid in wind movement and do not trap cold air in the orchard.

Foliar nutrient sprays can be applied to help leaves recover from frost damage.

**Stages of Crop Growth Susceptible to Damage**

Bud break and young growth phases are most susceptible to damage from frosts.

Even a light frost can threaten new growth’s chance of survival.