STRAWBERRY GROWERS NZ

Powdery mildew

Podosphaera aphanis, syn *Sphaerotheca macularis*

Damage:

Leaf edges curl upwards, often with a pink or reddish tinge. Leaf curl is often the first noticeable symptom. Patches of white fungal growth can be seen on the under sides of leaves. Severe infections can infect flowers, causing them to deform or die, as well as fruit.

Identification:

Use a hand lens to look for white myceclium and spores under the upturned leaves. Certain herbicides (hormone disruptors) can also cause leaf curl, but no fungal growth will be present.

Spread:

Powdery mildew can only survive in living plant tissue (not dead plant residues). The species that attacks strawberries is specific to strawberry, both cultivated and wild species; it is not the same as the species that infect raspberries, brassicas, pansies, etc. Spores are air borne, and infection is favoured by high humidity and warm temperatures (15–30°C); leaf wetness is not required, but relative humidities >90%

Control:

Plant production	Start with high health strawberry transplants. Annual production systems will have less pressure from overwintering inoculum. Powdery mildew should be well managed in the runner production, whether outdoors or indoors.
Pre-flower	In NZ, powdery mildew is mostly seen in covered cropping situations, so vent carefully to manage both humidity and heat. Scout often, and if mildew is present, use fungicides to prevent spread. There are more effective (and systemic) fungicide options pre-flower than during the harvest, but the disease is most often seen in late summer.
Flowering and fruiting	Manage ventilation in covered structures to avoid high humidity and high temperatures. Apply fungicides if necessary (refer to the industry spray list).