

# Sustainable integrated control of foliar diseases in greenhouse vegetables

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## Aim of HAL Project VG05094 (3 years)

To develop control strategies based on IPM that minimise the use of pesticides without compromising the level of disease control



### Grower Surveys

- Surveys were conducted in 2006 to identify the main foliar diseases in cucumber, capsicum and eggplant crops, the current management strategies and how disease management could be made more sustainable
- Powdery mildew, downy mildew, *Botrytis* and *Sclerotinia* were the most common foliar diseases
- 50% of growers thought they could improve their disease management

### Diseases and Climate Monitoring

- Surveys were conducted in commercial greenhouses to see if climate manipulation reduced disease
- Reducing greenhouse humidity did not affect powdery mildew as it will grow at 0–100% humidity
- *Botrytis*, downy mildew and *Sclerotinia* need high humidity or free water so reducing humidity effective
- Heating greenhouses effective for *Botrytis* and *Sclerotinia* as they are favoured by cool–moderate temperatures

### Fungicide Screening

- Eighteen products screened against cucumber powdery mildew including 'soft' products
- Several promising products will not be supported for greenhouse use by chemical company
- Spray program trials showed that 'soft' options could be incorporated effectively into conventional spray schedules

### Cultivar Trials

- Cucumber cultivars tested for susceptibility to powdery mildew and effect of disease on yield
- Some cultivars had delayed disease onset compared to others
- Differences in yield were a combination of variety and disease

### Current and future work

- Cultivar trials with *Botrytis* and downy mildew
- Climate manipulation trials with *Botrytis* and downy mildew
- Trial spray programs and climate management strategies in commercial greenhouses

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