

# New Project

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## FV 390

Outdoor herbs: epidemiology and control of downy mildew in sage, parsley, mint and basil under protection.

**Project Number:** FV 390

**Title:** Outdoor herbs: epidemiology and control of downy mildew in sage, parsley, mint and basil under protection.

**Start and end dates:** 4th April 2011 to 31st March 2013

**Project Leader:** Cathryn Lambourne, Stockbridge Technology Centre Ltd.

**Industry Representative:** Mr Tom Davies, Malvern View Herbs

**Location:** Main site: STC, Cawood, Selby, North Yorkshire, YO8 3TZ  
Additional sites: ADAS UK Ltd at Boxworth, Cambs CB23 4NN and Rosemaund, Hereford, HR1 3PG

**HDC Cost:** £51,050

### **Project Summary:**

Downy mildew has become an increasing problem over the last 2-3 years on a range of outdoor grown herbs, but especially on sage, mint and parsley and in 2010 an outbreak of downy mildew on protected Basil was reported at several sites in the UK. Some growers whose crops were severely affected by downy mildew on sage in 2009 reported up to 80% of the crop being lost to infection. On basil the pathogen is still notifiable and is on the list of statutory organisms. The aim of the proposed work is to provide information on the epidemiology of the three fungal pathogens causing downy mildew on sage and mint (*Peronospora lamii*) parsley (*Plasmopara umbelliferarum*) and basil (*Peronospora belbahrii*) as a basis for improved disease control.

### **Aims & Objectives:**

#### *(i) Project aim(s):*

To provide information on the epidemiology and control of downy mildew pathogens on sage, mint, parsley and basil, as a basis for developing improved management strategies.

#### *(ii) Project objective(s):*

##### *Phase 1*

1. To provide information on conditions conducive to infection and sources of inoculum of *Peronospora lamii*, *Plasmopara umbelliferarum* and *Peronospora belbahrii* through a literature search and experimental work.
2. To utilise information gathered in (1) along with epidemiology and environmental data to provide a simple risk-based control strategy.
3. To evaluate methods for reducing inoculum of downy mildew in soil and crop debris prior to planting or between crops.

4. To carry out small scale fungicide and biological control product efficacy trials for the control of downy mildew on basil.

*Phase 2*

5. To evaluate approved fungicides and novel products (biological control and non-approved products) for the control of downy mildew on parsley and sage.

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