



Horticultural  
Development  
Company

# New Project

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## PC 287

An investigation into the effects  
of flue gas quality on the  
performance of greenhouse  
crops

**Project Number:** PC 287

**Title:** An investigation into the effects of flue gas quality on the performance of greenhouse crops

**Start and end dates:** 1 July 2008 to 31 December 2009 (1 year, 6 months)

**Project Leader:** Mr Chris Plackett, FEC Services Ltd

**Project Co-ordinator:** To be agreed

**Location:** FEC Services Ltd, Warwick HRI, Hayman Consulting and 5 test sites to be confirmed in West Sussex, Evesham & Cheshire.

## **Background and project objectives**

This project will investigate the link between the quality of CO<sub>2</sub> enrichment gases and the yield and quality of greenhouse crops. This will be done by investigating the levels of potentially harmful pollutant gases (e.g. NO<sub>x</sub>, CO and Ethylene) in the aerial environment of 5 commercial tomato production greenhouses. The 5 sites used for the study will be selected to represent the range of CO<sub>2</sub> supply systems commonly used in the UK. Tomatoes have been chosen for this work because the response of this crop to CO<sub>2</sub> is well understood.

Crop performance data (yield, fruit size & average fruit weight) and average environmental conditions (CO<sub>2</sub> concentration, temperature etc) at the test sites will also be recorded. This data will allow the link between CO<sub>2</sub> quality and crop performance to be explored so that better recommendations can be given to growers about the selection and operation of CO<sub>2</sub> enrichment systems.

This work builds on the results of previous work investigating the effects of noxious gases in the greenhouse environment (i.e. HDC projects PC25 & PC228) and replaces PC228a which was unable to be completed.

If successfully completed the project will allow growers to:

- better understand the effects on plant health & thereby improve crop performance
- Make better use of the CO<sub>2</sub> that is available to them
- Make energy savings and reduce environmental pollution

Further information

Email the HDC office ([hdc@hdc.org.uk](mailto:hdc@hdc.org.uk)), quoting your HDC number, alternatively contact the HDC at the address below.

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