



Agriculture & Horticulture  
DEVELOPMENT BOARD



# New Project

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## **BOF 70a**

Narcissus: Chlorine dioxide –  
assessing crop safety in daffodils  
treated in hot-water treatment (BOF  
70 project extension)

**Project Number:** BOF 70a

**Title:** Narcissus: Chlorine dioxide – assessing crop safety in daffodils treated in hot-water treatment (BOF 70 project extension)

**Start and end dates:** 1st January 2011 to 31st December 2012

**Project Leader:** Gordon Hanks

**Industry Representative:** Adrian Jansen, Lingarden Bulbs Ltd

**Location:** Bulb growing facilities at: TH Charlton & Son Ltd

**HDC Cost:** £ 4,148

### **Project Summary:**

Chlorine dioxide is a biocide (disinfectant) used a great deal in the food, water and many other industries. In research in the USA, it has been shown to have potentially wide application for the control of plant pathogens (including the base rot pathogen) in addition to its general biocidal activity. Chlorine dioxide has many advantages, including on-site monitoring, generation and dosing as required, tolerance of organic contamination, human safety and lack of harmful waste.

Chlorine dioxide therefore appears to be a good candidate for use in daffodil growing as a replacement for formalin (formaldehyde), both as a general-purpose biocide and in bulb dipping (including hot-water treatment (HWT) and cold dipping). HDC Project BOF 70 was a feasibility study of using chlorine dioxide in HWT on-farm, and the findings confirmed that it appeared practical for use in this way. The next step of the project is, therefore, now proposed.

In this project extension the growth and development of the chlorine dioxide-treated bulbs from BOF 70 (treated and planted in summer 2010) would be followed and assessed over the usual two-year-down growing cycle. Their performance will be compared with that of comparable bulbs treated with the iodophore biocide 'FAM 30' in the same project. At present, besides chlorine dioxide, 'FAM 30' is the only viable replacement for formalin being investigated; from studies conducted so far (BOF 61, 61a, 61b), 'FAM 30' appears to be safe to use on daffodils, though not without some disadvantages.

In this document product names are used for the sake of accurate reporting. The mention of a product does not imply an endorsement of it nor a recommendation to use it; nor does omission of the mention of a product imply criticism of it.

### **Aims & Objectives:**

Project aim(s):

To determine the suitability of chlorine dioxide as a biocide for use in daffodil bulb dip treatments

Project objective(s):

To assess the crop safety or phytotoxicity of chlorine dioxide to daffodils, using bulbs that had been treated experimentally with chlorine dioxide in hot-water treatment

## **Further information**

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

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