

# New Project

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## BOF 74

In vitro screening of fungicides with potential to control basal rot of narcissus caused by *Fusarium oxysporum* f.sp. *narcissi*

**Project Number:** BOF 74

**Project Title:** In vitro screening of fungicides with potential to control basal rot of narcissus caused by *Fusarium oxysporum* f.sp. *narcissi*

**Project Leader:** John Clarkson

**Contractor:** University of Warwick & Gordon Hanks

**Industry Representative:** Mark Clark, Grampian Growers Ltd  
Mr Richard Evenden, H L Hutchinson Ltd

**Start Date:** 01 December 2011

**End Date:** 30 June 2012

**Project Cost:** £15,136

*SUBJECT TO CONTRACT*

**Project Summary:**

In response to the need to identify new actives against *Fusarium* basal rot of narcissus, this project will evaluate a range of compounds against *Fusarium oxysporum* f.sp. *narcissi* isolates in agar media tests. The list of fungicides provisionally selected is based on an extensive review of current knowledge and consultations with the agrochemicals industry (Appendix). The comprehensive methodology will involve isolation of the pathogen from this year's bulb stocks, pathogenicity testing and identification by morphology and DNA sequencing. This will ensure that the most appropriate isolates are used for the fungicide evaluation. Initially, three of the most common pathogenic *Fusarium* isolates will be tested against 12 fungicides including the current actives thiabendazole and chlorothalonil. The most active of the new fungicides will then be tested against a further five isolates. This will give a good indication of the relative sensitivity of different *Fusarium* isolates to the major fungicide classes identified as having potential activity.

**Aims & Objectives:**

- (i) Project aim: To screen fungicides against narcissus basal rot
- (ii) Project objective(s):
  1. Select candidate fungicides
  2. Collect *Fusarium oxysporum* isolates from a variety of bulb sources and locations

3. Confirm identity and pathogenicity of *F. oxysporum* f.sp. *narcissi* isolates
4. Test the fungicide sensitivity of isolates in vitro
5. Advise the HDC on the next steps for implementing the project findings

### **Benefits to industry**

Identifying new actives against *Fusarium* will expand the range of fungicide treatments available to growers and reduce dependence on the two actives and three products (chlorothalonil as 'Bravo 500' and thiabendazole as 'Storite Clear Liquid' or 'Tezate 220 SL') that are currently available

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