

Project No.: S3/02

Project Title: Development of a DNA test for screening plants for resistance to Cereal Cyst Nematode

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Executive Summary

Experiments were conducted to compare the use of DNA quantification from either soil + roots or washed roots with traditional manual counts for identifying resistance of wheat, barley, oat and triticale varieties. DNA methods were assessed to determine if a faster, more reliable and/or efficient technique could be developed for high throughput screening of plant lines.

Assessment of CCN levels from DNA extraction from roots + soil was more useful than assessment from washed plant roots, providing comparable results to manual counts. This method is unlikely to be adopted however, due to limitations in the number of samples per day able to be prepared and processed in the assessment laboratory and the high cost per plant compared with manual counts. This DNA method may still prove useful for rapid assessment of plants from field trials, diagnostic samples, or where early results are required from the high-throughput POTS test.