



Bio-Protection

Bioprotection science for New Zealand

Dissecting the regulatory environment of secondary metabolite clusters

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Location of Project: Massey University, Palmerston North (Manawatu campus)

Abstract: This computational project will determine the biological factors that underpin the regulation of gene expression in secondary metabolite clusters. Fungal endophytes produce a range of secondary metabolites that protect their host plants from insects, mammalian grazers and even other fungi. However, the genetic factors controlling gene regulation in these secondary metabolite pathways are not well understood. Using recently sequenced genomes of two fungal species (*Epichloë festucae* and *Dothistroma septosporum*), as well as high throughput mRNA sequencing data, the successful candidate will explore how synteny, conserved promoter/enhancer regions and other regulatory processes control the production of selected secondary metabolite gene clusters.