Analysis of populations of fungi on avocado leaves and their relationship with avocado fruit rots at harvest

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Avocado leaves were harvested from eight avocado orchards from four growing districts in New Zealand during 2006, 2007, 2008. A further 12 orchards were sampled in 2009. The number of isolations of fungi from sterilised leaf discs was compared with postharvest fruit rots. There was a strong relationship between time period over which leaf discs were collected and the strength of the relationship between isolations and final fruit rots. There was a weak, but significant, relationship between isolations from leaf discs and the mean daily temperature when the samples were collected, DNA was extracted from sampled leaves and analysed using two methods; surface plasmon resonance (SPR) and real-time polymerase chain reaction (RT-PCR). RT-PCR was more sensitive than SPR. The relationship between final fruit rots and crossing threshold (CT) values was significant if the data was analysed by district.

Keywords: fungi, leaves, fruit, rots, qPCR, SPR

Análisis de las poblaciones micológicas en hojas de aguacate y su relación con podredumbre el aguacate al cosechar

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Las hojas de aguacate se colectaron en ocho huertos localizados en distintos distritos en Nueva Zelandia durante 2006-2008. Doce huertos mas fueron muestreados en 2009. El numero de cepas micológicas aisladas de pequeños círculos obtenidas de las hojas en comparación con frutos podridos previamente cosechados. Existe una fuerte correlacion entre el periodo durante el cual los círculos fueron colectaods correlacion entre micológicas y aguacate al cosechar. Existe una débil pero significante correlación entre las cepas aisladas de los círculos y la temperatura promedio durante la colecta de las muestras. ADN fue extraído de las hojas colectadas y analizado por resonancia de plasma (SPR) y reacción en cadena de la polimerasa en tiempo real (RT-PCR). RT-PCR es mas sensible que SPR. La relación entre la podredumbre la fruta 'crossing threshold' (CT) números es significante si los datos se analizan por distrito.

Palabras clave: hongos, hoja, fruta, pudricion, qPCR, SPR