



Direct DNA extraction method of an obligate parasitic fungus from infected plant tissue

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Genet. Mol. Res. 14 (4): 18546-18551 (2015)

Received September 18, 2015

Accepted November 10, 2015

Published December 28, 2015

DOI <http://dx.doi.org/10.4238/2015.December.28.1>

ABSTRACT. Powdery mildew and rust fungi are obligate parasites that cannot live without host organisms. They are difficult to culture in synthetic medium in the laboratory. Genomic DNA extraction is one of the basic molecular techniques used to study the genetic structure of populations. In this study, 2 different DNA extraction methods, Chelex-100 and cetyltrimethylammonium bromide (CTAB), were used to extract DNA from euonymus powdery mildew and *Puccinia striiformis* f. sp. Triticis. Polymerase chain reaction was carried out with a race-specific-marker rDNA-internal transcribed spacer sequence. Both DNA extraction methods were compared and analyzed. The results showed that both Chelex-100 and CTAB were effective for extracting genomic DNA from infected plant tissue. However, less DNA was required for the Chelex-100 method than for the CTAB method, and the Chelex-100 method involved fewer steps, was simpler and safer, and did not require organic solvents compared to the CTAB method. DNA quality was evaluated by polymerase chain reaction, and the results showed that genomic DNA extracted using the Chelex-100 method was better than that using CTAB method, and was sufficient for

studying the genetic structure of population.

Key words: Chelex-100 method; DNA extraction;
Puccinia striiformis f. sp tritici