

**IDENTIFICATION AND  
CHARACTERISATION OF MARKERS  
LINKED TO THE LEAF RUST  
RESISTANCE GENE *LR37***

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Submitted in partial fulfillment of the degree

**Magister Scientiae**

Forestry and Agricultural Biotechnology Institute and Department of Genetics  
at the University of Pretoria, Pretoria, South Africa.

2000

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## PREFACE

The results represented in this thesis follow from the study, which was carried out at the Forestry and Agricultural Biotechnology Institute and Department of Genetics at the University of Pretoria under the supervision of Prof A-M. Oberholster and the co-supervision of Dr. F.J. Kloppers.

The results represented here are original and have not been submitted in any form to another University.



Christiaan Troskie

## Acknowledgements

I would like to thank the following people, organizations and institutions for their contribution towards the successful completion of this thesis:

Prof. A-M Oberholster for excellent supervision, enthusiasm and numerous opportunities.

Dr. F.J. Kloppers for his excellent (co) supervision, continued interests and practical inputs.

Prof. Z.A. Pretorius for providing plant material from the University of the Orange Free State.

Dr. H van Niekerk for providing plant material from the Small Grain Institute Bethlem, SA.

Magriet van der Nest for assistance with AFLP and sequencing software.

Shilo Loots for assistance with SSRs in Chapter 3.

Juanita, Janine, Jackie and Lieschen for proofreading.

The FABI family for assistance, research advice and friendship.

Colleagues from the Department of Genetics for supportive discussions.

My parents and brother for continued support.

The Forestry and Agricultural Biotechnology Institute and Department of Genetics for excellent research facilities.

The NRF for financial support.

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## LIST OF ABBREVIATIONS

<b>AFLP</b>	Amplified fragment length polymorphism
<b>2AS</b>	Chromosome 2A, short arm
<b>BSA</b>	Bulk segregant analysis
<b>c</b>	Recombination fraction
<b>cn</b>	Chlorotic/ Necrotic
<b>cM</b>	Centimorgan
<b>D</b>	Genetic distance between any two individuals
<b><i>Dn</i></b>	Russian wheat aphid resistance gene
<b>DNA</b>	Deoxyribonucleic acid
<b>JNTP</b>	Deoxyribonucleotides
<b>DTT</b>	Dithioerythritol
<b>EDTA</b>	Ethylenediaminetetraacetic acid
<b><i>et al.</i></b>	<i>Et alii</i> (and others)
<b>F</b>	Index of genetic similarity
<b>IPTG</b>	Isopropylthio-β-D-galactoside
<b>kb</b>	Kilobases
<b>LB</b>	Luria Bertani
<b><i>Lr</i></b>	Leaf rust resistance gene
<b>M</b>	Molar
<b>m/v</b>	Mass/volume
<b>MAS</b>	Marker-assisted selection
<b>Mb</b>	Megabases
<b>ng</b>	Nanogram
<b>NILs</b>	Near isogenic lines
<b>PCR</b>	Polymerase chain reaction
<b>PEG</b>	Polyethylene glycol
<b><i>Pm</i></b>	Powdery mildew resistance gene
<b>pM</b>	Picomolar
<b>PPi</b>	Difosphate
<b>RAPD</b>	Random amplified polymorphic DNA
<b>RFLP</b>	Restriction fragment length polymorphism
<b>Rpm</b>	Revolutions per minute
<b>s</b>	Similarity coefficient

<b>SCAR</b>	Sequence characterized amplified region
<b>SDS</b>	Sodium dodecyl sulphate
<b><i>Sr</i></b>	Stem rust resistance gene
<b>SSRs</b>	Small sequence repeats
<b>STS</b>	Sequence-tagged site
<b><i>Taq</i></b>	<i>Thermus aquaticus</i>
<b>TBE</b>	Tris-borate/EDTA
<b>TEN</b>	Tris-EDTA-sodium chloride
<b>Tris</b>	Tris (hydroxymethyl)- aminomethane
<b>U</b>	One unit of enzyme
<b>UHQ</b>	Distilled and UV treated water
<b>UPGMA</b>	Unweighted pair-group mean arithmetic
<b>UV</b>	Ultraviolet
<b>V</b>	Volts
<b>X</b>	Distance of marker to the gene
<b>X-Gal</b>	5-bromo-4-chloro-3-indolyl- $\beta$ -D-galactoside
<b><i>Yr</i></b>	Yellow rust resistance gene
<b><math>\mu</math>g</b>	Microgram
<b><math>\mu</math>L</b>	Microliter