

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/323609678>

Progress in understanding fungal diseases affecting sugarcane: red rot

Chapter · March 2018

DOI: 10.19103/AS.2017.0035.21

CITATIONS

15

READS

554

4 authors:



Rasappa Viswanathan

Sugarcane Breeding Institute

323 PUBLICATIONS 4,387 CITATIONS

SEE PROFILE



Rameshsundar Amalraj

Sugarcane Breeding Institute

94 PUBLICATIONS 992 CITATIONS

SEE PROFILE



Rajan Selvakumar

Indian Council of Agricultural Research

39 PUBLICATIONS 138 CITATIONS

SEE PROFILE



P. Malathi

Sugarcane Breeding Institute

113 PUBLICATIONS 1,139 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Draft Genome Sequence of Colletotrichum Falcatum - A Prelude on Screening of Red Rot Pathogen in Sugarcane [View project](#)



Characterization of red rot pathogen [View project](#)

Progress in understanding fungal diseases affecting sugarcane: red rot

R. Viswanathan, A. Ramesh Sundar, R. Selvakumar and P. Malathi, ICAR-Sugarcane Breeding Institute, India

- 1 Introduction
- 2 Symptoms and economic impact
- 3 Disease transmission
- 4 Diagnosis and disease management
- 5 Understanding host–pathogen interactions
- 6 Summary and future trends
- 7 Where to look for further information
- 8 Acknowledgements
- 9 References

1 Introduction

Red rot is a disease of sugarcane stalks caused by the fungal pathogen *Colletotrichum falcatum*. It is one of the oldest recorded sugarcane diseases. After its first description from Java (Went, 1893), the disease was reported in Australia, the West Indies, Hawaii and the mainland United States (Viswanathan, 2010). In India, Barber (1901) reported severe occurrence of the disease. Butler (1906) subsequently conducted detailed studies of the disease, especially on the pathogen and epidemiology, and named the disease ‘red rot’. Worldwide, the disease has been recorded in about 77 countries. However, it occurs most severely in South Asian countries, especially India, Nepal, Pakistan, Myanmar and Bangladesh, as well as in Thailand and Vietnam. The disease also causes limited damage to cane cultivation in the United States (mainly in Louisiana), Brazil and Nigeria (Singh and Singh, 1989; Viswanathan, 2010).

Epidemics of red rot have been very common since 1901, causing havoc on the cultivation of *Saccharum officinarum* and *S. barberi* clones before the era of mobilization to increase disease resistance. After the introduction of hybrid varieties, disease epidemics continued and caused significant damage to sugarcane cultivation in different countries, becoming responsible for the removal of many elite varieties in the field (Viswanathan, 2010). However, the disease was successfully managed by releasing disease-resistant varieties after each epidemic, and such efforts have reduced the threat of the disease in

<http://dx.doi.org/10.19103/AS.2017.0035.21>

© Burleigh Dodds Science Publishing Limited, 2018. All rights reserved.

Chapter taken from: Rott, P. (ed.), *Achieving sustainable cultivation of sugarcane Volume 2: Breeding, pests and diseases*, Burleigh Dodds Science Publishing, Cambridge, UK, 2018, (ISBN: 978 1 78676 148 4; www.bdspublishing.com)