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Functional Plant Biology

Supplementary Material

Resistance mechanisms and expression of disease resistance-related genes in sugarcane (Saccharum officinarum) to Sporisorium scitamineum infection

Nurul Hidayah[A,B,*], *Meredith McNeil*[C], *Jingchuan Li*[C], *Shamsul Bhuiyan*[D], *Victor Galea*[B], *and Karen Aitken*[C]

[A]Indonesian Agency for Agricultural Research and Development, Jl Ragunan 29, Pasar Minggu, Jakarta Selatan 12540, Indonesia.

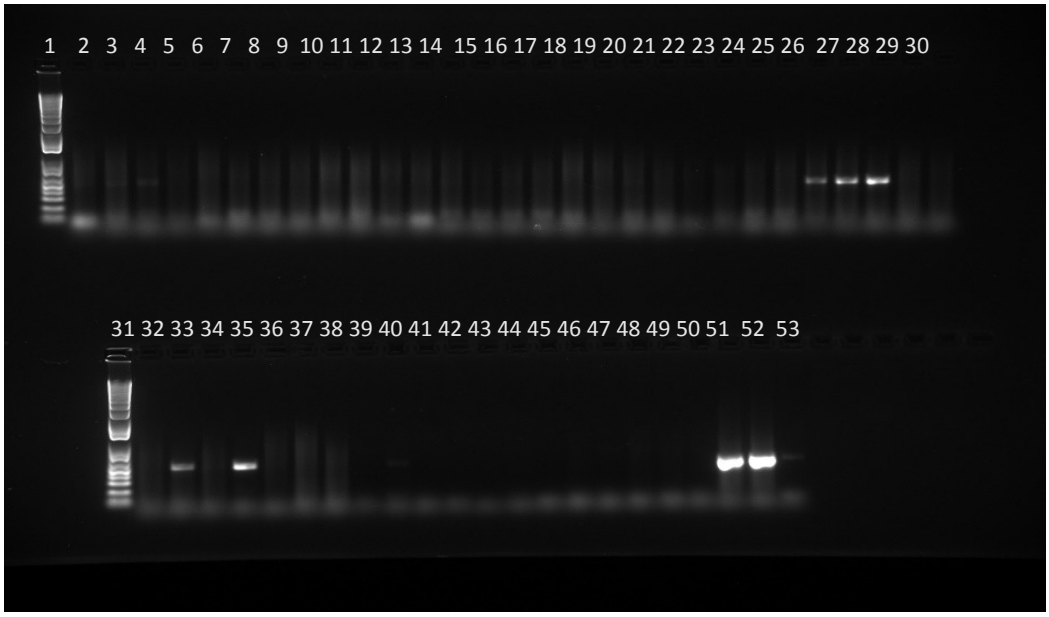
[B]School of Agriculture and Food Sciences, The University of Queensland, Gatton Campus, Qld 4343, Australia.

[C]CSIRO Agriculture and Food, Queensland Bioscience Precinct, 306 Carmody Rd, St Lucia, Qld 4067, Australia.

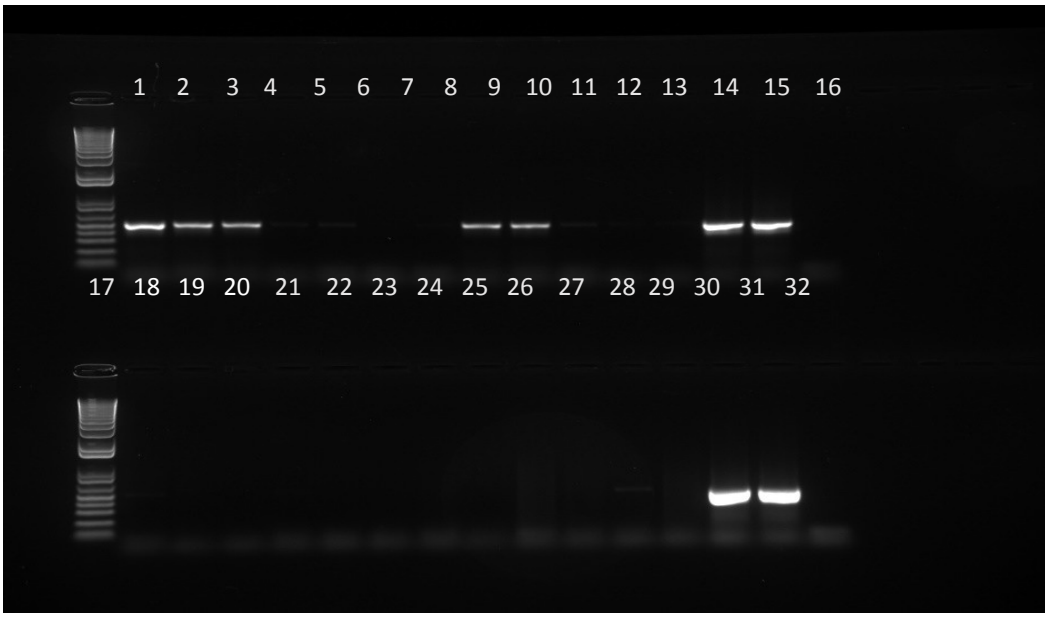
[D]Sugar Research Australia Woodford Station, 90 Old Cove Rd, Woodford, Qld 4514, Australia.

[*]Correspondence to: Nurul Hidayah School of Agriculture and Food Sciences, The University of Queensland, Gatton Campus, Qld 4343, Australia Email: nurul.hidayah@uqconnect.edu.au

a)



b)



Supplementary Fig. 1 Amplicons of primers ITS1F and ITSRev2 for genotypes QBYN04-26258 and QBYN04-26006 following dip and injection-inoculation at early, mid and late infection

a)

1 Ladder 1 kb
2 QBYN04-26258_2D_Inject_Rep 1
3 QBYN04-26258_2D_Inject_Rep 2
4 QBYN04-26258_2D_Inject_Rep 3
5 QBYN04-26258_2D_Mock-inject_Rep 1
6 QBYN04-26258_2D_Mock-inject_Rep 2
28 QBYN04-26258_2W_Inject_Rep 3
29 QBYN04-26258_2W_Mock-inject_Rep 1
30 QBYN04-26258_2W_Mock-inject_Rep 2
31 Ladder 1 kb
32 QBYN04-26258_2W_Mock-inject_Rep 3
33 QBYN04-26258_2W_Dip_Rep 1

7	QBYN04-26258_2D_Mock-inject_Rep 3	34	QBYN04-26258_2W_Dip_Rep 2
8	QBYN04-26258_2D_Dip_Rep 1	35	QBYN04-26258_2W_Dip_Rep 3
9	QBYN04-26258_2D_Dip_Rep 2	36	QBYN04-26258_2W_Mock-dip_Rep 1
10	QBYN04-26258_2D_Dip_Rep 3	37	QBYN04-26258_2W_Mock-dip_Rep 2
11	QBYN04-26258_2D_Mock-dip_Rep 1	38	QBYN04-26258_2W_Mock-dip_Rep 3
12	QBYN04-26258_2D_Mock-dip_Rep 2	39	QBYN04-26006_2W_Inject_Rep 1
13	QBYN04-26258_2D_Mock-dip_Rep 3	40	QBYN04-26006_2W_Inject_Rep 2
14	QBYN04-26006_2D_Inject_Rep 1	41	QBYN04-26006_2W_Inject_Rep 3
15	QBYN04-26006_2D_Inject_Rep 2	42	QBYN04-26006_2W_Mock-inject_Rep 1
16	QBYN04-26006_2D_Inject_Rep 3	43	QBYN04-26006_2W_Mock-inject_Rep 2
17	QBYN04-26006_2D_Mock-inject_Rep 1	44	QBYN04-26006_2W_Mock-inject_Rep 3
18	QBYN04-26006_2D_Mock-inject_Rep 2	45	QBYN04-26006_2W_Dip_Rep 1
19	QBYN04-26006_2D_Mock-inject_Rep 3	46	QBYN04-26006_2W_Dip_Rep 2
20	QBYN04-26006_2D_Dip_Rep 1	47	QBYN04-26006_2W_Dip_Rep 3
21	QBYN04-26006_2D_Dip_Rep 2	48	QBYN04-26006_2W_Mock-dip_Rep 1
22	QBYN04-26006_2D_Dip_Rep 3	49	QBYN04-26006_2W_Mock-dip_Rep 2
23	QBYN04-26006_2D_Mock-dip_Rep 1	50	QBYN04-26006_2W_Mock-dip_Rep 3
24	QBYN04-26006_2D_Mock-dip_Rep 2	51	Positive control, smut DNA (Isolate WDF)
25	QBYN04-26006_2D_Mock-dip_Rep 3	52	Positive control, smut DNA (Isolate NSW)
26	QBYN04-26258_2W_Inject_Rep 1	53	Negative control
27	QBYN04-26258_2W_Inject_Rep 2		

b

)

1	Ladder 1 kb	17	Ladder 1 kb
2	QBYN04-26258_8W_Inject_Rep 1	18	QBYN04-26006_8W_Inject_Rep 1
3	QBYN04-26258_8W_Inject_Rep 2	19	QBYN04-26006_8W_Inject_Rep 2
4	QBYN04-26258_8W_Inject_Rep 3	20	QBYN04-26006_8W_Inject_Rep 3
5	QBYN04-26258_8W_Mock-inject_Rep 1	21	QBYN04-26006_8W_Mock-inject_Rep 1
6	QBYN04-26258_8W_Mock-inject_Rep 2	22	QBYN04-26006_8W_Mock-inject_Rep 2
7	QBYN04-26258_8W_Mock-inject_Rep 3	23	QBYN04-26006_8W_Mock-inject_Rep 3
8	QBYN04-26258_8W_Dip_Rep 1	24	QBYN04-26006_8W_Dip_Rep 1
9	QBYN04-26258_8W_Dip_Rep 2	25	QBYN04-26006_8W_Dip_Rep 2
10	QBYN04-26258_8W_Dip_Rep 3	26	QBYN04-26006_8W_Dip_Rep 3
11	QBYN04-26258_8W_Mock-dip_Rep 1	27	QBYN04-26006_8W_Mock-dip_Rep 1
12	QBYN04-26258_8W_Mock-dip_Rep 2	28	QBYN04-26006_8W_Mock-dip_Rep 2
13	QBYN04-26258_8W_Mock-dip_Rep 3	29	QBYN04-26006_8W_Mock-dip_Rep 3
14	Positive control, smut DNA (Isolate WDF)	30	Positive control, smut DNA (Isolate WDF)
15	Positive control, smut DNA (Isolate NSW)	31	Positive control, smut DNA (Isolate NSW)
16	Negative control	32	Negative control

Supplementary Table 1. Analysis of variance of mycelial colonisation within sugarcane genotype meristematic tissue following dip and injection-inoculation after one-week incubation (a), four-week incubation (b) and eight-week incubation (c)

The asterisk sign (**) indicates significant difference (P<0.05), *** is very significant (P<0.05), ns is non-significantly different)

Source	df	Sum of square	Mean of square	F Value	Pr > F
a (one-week incubation)					
Genotype	3	8.7	2.9	8.6	0.0017**
Method	1	4.9	4.9	14.5	0.0019**
Rep	2	0.7	0.4	1.1	0.37^{ns}
Genotype*Method	3	8.7	2.9	8.6	0.0017**
b (four-week incubation)					
Genotype	3	990.4	330.1	31.6	<.0001***
Method	1	204	204	19.6	0.0006**
Rep	2	16.9	8.4	0.81	0.4658^{ns}
Genotype*Method	3	283.2	94.4	9.1	0.0014**
c (eight-week incubation)	3	1587.5	529.2	40.1	<.0001***
Genotype					
Method	1	523.04	523.04	39.6	<.0001***
Rep	2	10.6	5.3	0.40	0.6764^{ns}
Genotype*Method	3	326.1	108.7	8.2	0.0021**