

APPENDIX A

Statistic analyze of colonization rate

Statistix 8.0
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Analysis of Variance Table for ISO

Source	DF	SS	MS	F	P
Rep	4	1.05735	0.26434		
Media	1	0.02626	0.02626	0.62	0.4370
Tis	4	0.04824	0.01206	0.28	0.8866
Media*Tis	4	0.19374	0.04843	1.14	0.3537
Error	36	1.53047	0.04251		
Total	49	2.85606			
Grand Mean		0.8928			
CV				23.09	

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APPENDIX B

Inhibition percentage and interaction type of endophytic fungi against 3 plant pathogens

Genus/ Morpho type	Pathogens		
	<i>Sclerotium</i> sp.	<i>Phytophthora</i> sp.	<i>Curvularia senegalensis</i>
1. <i>Chaetomium globosum</i> (2)			
- P77	L (33.33) ca1	Vh (85.41)b	Vh (82.92)a
- P55	H (66.25)b	H (73.33)b	Vh (81.25)b
2. <i>Colletotrichum</i> sPp. (42)			
- P7	L (33.33) ca1	H (70.00)a	H (73.33)a
- P8	M (58.74) ca1	H (72.50)b	H (69.58)b
- P9	L (50.00) ca1	H (71.66)a	H (67.50)a
- P10	L (33.33) ca1	H (64.58)a	H (65.84)ca2
- P14	L (33.33) ca2	Vh (88.33)ca2	Vh (78.34)ca2
- P16	H (63.74) ca1	M (51.66)a	H (73.75)a
- P21	L (33.33) ca2	H (69.16)a	Vh (80.83)a
- P32	M (52.91) ca1	L (40.41)a	L (35.00)a
- P36	L (34.16) ca2	Vh (75.83)a	H (71.67)a
- P41	M (52.08) ca1	L (50.83)a	M (51.67)c
- P42	L (33.33) ca2	Vh (79.16)a	Vh (79.16)a
- P44	L (42.50) ca2	L (47.50)a	H (66.67)a
- P46	M (55.83) ca2	M (54.16)a	H (65.83)a
- P50	L (50.00) ca2	H (71.25)a	H (64.59)a
- P53	L (36.25) ca2	Vh (76.25)a	M (53.75)a
- P58	M (53.33) ca2	M (54.16)a	H (47.09)a
- P66	L (33.33) ca2	H (69.58)a	H (69.16)a
- P67	L (31.24) ca2	H (66.66)a	H (64.16)a
- P72	L (35.00) ca2	Vh (77.91)a	Vh (75.00)a
- P76	M (53.33) ca2	L (48.33)a	L (40.84)a
- P81	L (33.33) ca2	H (71.25)a	H (71.67)a
- P98	L (31.67) ca2	H (61.24)a	H (63.33)a
- R7	L (33.33) ca2	Vh (88.74)ca2	H (68.75)ca2
- R8	H (67.91) ca2	H (67.50)a	H (72.50)a
- R10	L (45.83) ca1	L (50.83)a	M (59.58)b
- R14	Vh (78.75)b	Vh (83.74)ca1	Vh (82.08)a
- R17	Vh (85.41) ca1	Vh (88.33)a	H (72.50)ca1
- R24	L (44.58) ca2	L (46.66)a	L (50.41)a
- R25	L (34.16) ca2	L (45.00)a	L (50.41)a
- R27	L (35.00) ca2	H (66.25)a	H (67.08)a

- R29	L (34.16) ca2	Vh (75.41)b	H (66.67)a
- R33	L (41.25) ca1	M (60.41)a	M (60.41)a
- R38	L (37.50) ca2	L (47.08)a	H (65.83)cb1
- R46	L (34.16) ca2	Vh (75.41)a	H (77.92)a
- R49	L (33.33) ca2	H (71.25)a	H (72.08)a
- R60	L (35.41) ca2	H (70.00)a	H (74.16)a
- R69	L (31.66) ca2	H (69.16)a	H (65.84)a
- R82	L (35.41) ca2	H (73.75)a	Vh (77.92)a
- R83	L (33.33) ca2	M (54.16)a	H (61.66)a
- R84	L (40.41) ca1	H (71.66)a	H (71.66)a
- R90	L (33.33) ca2	Vh (77.08)a	H (71.67)a
- R91	L (32.49) ca2	M (54.58) a	H (65.42)a
3. <i>Diplodia</i> sp. (1)			
- P96	L (32.08) ca2	H (63.33)a	H (72.50)a
4. <i>Nigrospora</i> sp. (2)			
- P30	M (52.91) ca2	Vh (87.08)a	H (67.08)a
- R1	L (38.33) ca2	M (55.41) a	H (68.75)b
5. <i>Nodulisporium</i> sp. (5)			
I. <i>Nodulisporium</i> 1			
- P1	H (67.50)cb1	H (67.91)a	H (66.67)a
II. <i>Nodulisporium</i> 2			
- P2	L (49.99) ca2	M (57.50)a	H (65.84)a
- P86	Vh (82.50)ca1	Vh (84.16)a	H (70.24)a
III. <i>Nodulisporium</i> 3			
- R47	L (34.16)ca2	H (69.58)a	Eh (75.00)a
- R52	L (34.16)ca2	H (70.41)a	H (67.08)a
6. <i>Phaeoisaria</i> sp. (1)			
- P59	Vh (86.75)ca2	Vh (87.91)ca2	Vh (81.25)cb1
7. <i>Phoma</i> sp. (1)			
- R66	L (23.75) ca2	L (50.83)a	M (59.61)a
8. <i>Phomopsis</i> sp. (1)			
- R42	L (30.00) ca2	L (49.58)a	M (56.66)b
9. <i>Trichobotrys</i> sp. (1)			
- P70	L (44.16) a	L (49.16)a	M (60.84)a
10. <i>Coelomycetes</i> (3)			
- P75	M (55.41)ca1	H (66.66)a	H (66.25)a
- R58	L (47.98) ca2	H (72.08)a	H (71.67)a
- R64	L (34.16) ca1	L (10.41)a	L (30.42)a
11. Morpho type1 (3)			
- P5	L (33.33) ca1	Vh (80.83)a	Vh (85.42)ca2
- P38	L (33.74)ca2	Vh (81.25)a	L (35.41)a
- R22	L (36.24) ca2	Vh (92.08)ca2	Vh (83.75)c
12. Morpho type2 (1)			
- R2	L (34.16) ca2	Vh (78.74)a	H (63.75)ca2
13. Morpho type3 (1)			

- P3	L (37.50) ca2	Vh (79.16)ca1	Vh (82.50)a
14. Morpho type4 (5)			
- P85	L (47.91) ca1	H (71.66)a	H (68.34)cb1
- P91	M (52.49) ca1	L (48.75)a	H (63.75)a
- R51	L (34.99) ca2	Vh (76.66)a	Vh (78.33)ca1
- R65	L (33.33) ca1	M (54.16)a	H (66.67)a
- R87	L (32.19) ca2	M (58.75)a	H (66.25)ca1
15. Morpho type5 (4)			
- P19	L (47.08) ca2	H (72.08)a	H (63.75)a
- P62	L (49.16) ca2	M (53.33)b	H (64.16)a
- P89	L (39.58) ca2	L (40.41)a	M (52.08)a
- P95	L (33.33) ca2	H (69.16)a	H (70.42)a
16. Morpho type6 (1)			
- R34	L (35.41) ca2	H (70.41)a	H (72.92)a
17. Morpho type7 (15)			
- P26	L (33.33) ca2	M (59.58) a	M (60.84)a
- P64	L (33.33) ca2	H (70.00)a	M (60.00)a
- P78	L (46.66) ca2	L (46.66)a	L (37.08)a
- P99	M (52.50) ca1	L (45.00)a	H (62.91)ca2
- R6	L (34.99) ca2	H (72.91)a	Vh (75.83)a
- R16	L (33.33) ca2	L (51.25)b	M (56.25)cb1
- R35	L (41.25) ca2	M (53.75)a	M (58.33)a
- R36	M (52.08) ca2	H (70.00)a	Vh (76.25)a
- R44	H (73.33) ca2	Vh (75.41)a	H (72.92)a
- R50	L (35.00) ca2	M (60.83)a	H (65.00)a
- R63	L (34.16) ca2	H (62.50)a	L (25.41)a
- R68	M (55.41) ca1	H (69.58)a	H (64.59)a
- R73	L (37.50) ca2	H (64.16)a	H (65.42)a
- R74	L (40.41) ca1	H (62.91)a	L (49.59)a
- R86	H (61.66) ca2	H (73.74)a	H (67.92)a
18. Morpho type8 (16)			
- P13	L (33.33) ca2	H (63.33)a	H (67.50)ca1
- P15	L (34.16) ca1	H (63.74)a	H (65.84)ca1
- P28	L (31.83) ca1	H (69.16)a	H (66.67)c
- P39	L (42.08) ca2	M (56.24)a	H (65.00)c
- P51	L (33.33) ca2	L (39.99) c	M (60.42)a
- R3	L (33.75) ca2	M (55.83)a	H (64.58)a
- R11	L (34.99) ca1	H (72.91)a	H (70.41)ca2
- R15	M (58.33)ca1	H (67.50)a	H (66.25)c
- R30	L (24.16) ca1	M (60.83)a	H (61.67)ca2
- R32	L (32.92) ca2	M (55.00)a	M (58.75)a
- R40	L (33.74) ca2	H (72.08)b	H (74.58)b
- R41	L (36.66) ca2	M (55.41)a	H (63.88)ca1
- R48	L (37.91) ca2	M (52.91)cb1	H (62.08)b
- R55	M (57.50) ca1	H (74.16)a	H (74.16)cb2

- R56	L (35.00) ca2	M (52.08)a	M (56.66)ca2
- R78	M (59.99)b	M (53.74)a	M (55.41)a
19. Morpho type9 (7)			
- P25	M (57.91) ca1	H (72.08)a	H (64.58)a
- P34	L (31.25) a	L (47.50)a	H (74.58)cb1
- P35	M (51.25) ca1	L (47.91)a	L (37.92)a
- P37	L (33.33) ca2	M (60.41)a	H (65.84)ca2
- P63	L (37.08) ca1	L (49.16)a	L (31.25)a
- P101	M (51.66) ca1	L (48.33)a	H (63.17)a
- R61	L (35.41) ca1	Vh (84.99)b	H (68.75)a
20. Morpho type10 (17)			
- P22	L (26.25)ca2	L (32.49)a	H (63.33)a
- P23	L (33.33)ca2	H (64.58)a	H (67.50)a
- P27	L (50.00)ca2	Vh (78.33)a	H (66.25)b
- P48	M (52.08)ca2	L (42.91)a	H (68.34)a
- P68	L (50.41)ca1	L (48.75)a	L (39.17)a
- P69	M (56.25)ca2	H (73.33)a	L (34.58)a
- P71	L (33.33)ca2	H (67.50)a	Vh (76.66)a
- P74	M (59.61)ca2	M (57.08)a	H (66.67)a
- R20	L (45.83)ca2	H (96.16)a	M (54.16)a
- R67	L (32.49)ca2	Vh (76.66)a	H (72.08)a
- R70	L (33.33)ca2	H (62.50)a	L (50.00)a
- R71	L (39.58)ca2	H (71.66)a	H (69.16)a
- R72	M (55.41)ca2	M (51.25)a	L (49.17)a
- R75	L (32.91)ca2	M (55.83)a	H (66.67)a
- R79	L (32.08)ca2	M (59.58)a	H (63.75)a
- R88	L (32.49)ca2	L (45.41)a	M (58.75)a
- R89	L (34.99)ca2	Vh (77.08)a	H (67.92)a
21. Morpho type11 (8)			
- P80	L (33.33)ca2	H (68.74)a	H (73.75)a
- P88	L (39.58)ca2	H (72.91)a	M (53.33)a
- P93	L (36.24)a	L (49.16)ca1	M (53.75)a
- R23	L (33.33)ca2	H (66.66)a	H (67.92)a
- R76	L (45.83)ca1	Vh (76.25)a	L (47.50)a
- R77	L (45.41)ca2	Vh (78.75)a	H (73.75)a
- R81	L (33.33)ca2	Vh (75.83)b	H (76.92)ca2
- R85	L (33.33)ca2	H (69.58)a	H (67.08)a
22. Morpho type12 (3)			
- P73	L (47.08)ca2	Vh (51.25)a	L (48.75)a
- P83	L (22.08)ca2	L (46.66)a	M (55.42)a
- R31	L (34.16)ca2	M (57.08)a	M (52.08)a
23. Morpho type13 (9)			
- P29	L (50.00)ca2	H (72.08)a	H (63.33)a
- P60	L (6.25)ca2	H (66.67)a	H (71.25)ca2
- P97	L (42.91)ca1	H (69.16)b	H (68.75)a

- R4	L (34.99)ca2	H (72.91)a	Vh (75.83)a
- R39	L (50.00)ca2	H (73.33)a	Vh (77.92)cb1
- R43	L (41.25)ca2	H (71.66)a	H (73.75)cb1
- R45	L (44.16)ca2	Vh (89.58)a	H (70.83)a
- R53	L (42.92)ca1	H (61.25)a	M (60.00)ca1
- R62	L (42.50)ca2	Vh (78.33)a	H (70.42)a
24. Morpho type14 (1)			
- P4	L (33.33)ca2	Vh (80.83)a	Vh (77.08)b
25. Morpho type15 (1)			
- P12	L (33.33)ca2	L (45.83)a	H (62.50)c
- R13	L (33.33)ca2	H (66.66)a	H (74.58)a
26. Morpho type16 (14)			
- P6	L (49.58)ca1	L (53.75)a	H (71.25)ca1
- P11	L (33.33)ca2	L (50.83)a	M (53.75)b
- P40	L (46.66)ca2	L (42.08)a	H (62.08)a
- P57	M (50.83)ca2	L (49.58)a	L (45.42)a
- P65	L (37.50)ca2	L (48.74)a	M (60.00)c
- P82	H (69.58)cb2	L (47.08)a	M (58.34)b
- P87	L (22.08)ca2	L (30.00)a	M (54.48)a
- P90	M (50.83)ca1	L (40.41)a	M (58.33)a
- P93	L (36.24)ca1	L (49.16)a	M (53.75)a
- R9	L (34.16)ca2	L (46.66)a	M (56.25)a
- R18	L (35.83)ca2	H (64.58)a	H (65.00)ca2
- R19	L (33.33)ca2	H (60.41)a	H (62.08)b
- R21	L (35.41)ca2	L (48.33)a	M (57.91)a
- R80	L (33.33)ca2	M (52.91)a	M (57.92)a
27. Morpho type17 (1)			
- P17	L (33.33) ca2	M (51.66)a	M (60.84)a
28. Morpho type18 (2)			
- R12	Vh (81.66)b	Vh (84.58)a	Vh (77.50)ca2
- R28	M (56.25)a	L (43.75)a	L (54.59)a
29. Morpho type19 (2)			
- P18	L (39.99)ca1	H (62.50)a	H (63.75)cb1
- R54	L (34.16)ca2	H (65.41)b	M (58.75)b
30. Morpho type20 (1)			
- P20	L (33.33)ca2	H (61.25)a	H (66.25)c
31. Morpho type21 (2)			
- P24	L (33.33)ca2	H (62.50)a	H (69.17)a
- P33	L (48.33)ca2	L (49.58)a	M (60.00)a
32. Morpho type22 (2)			
- P45	L (47.91)ca2	Vh (86.66)a	Vh (87.50)a
- R37	L (33.33)ca2	M (58.33)a	H (61.67)a
33. Morpho type23 (1)			
- P47	L (37.50)ca2	M (55.41)a	L (15.00)a
34. Morpho type24 (2)			

- P52	L (32.08)ca2	L (33.33)a	H (65.00)a
- R51	L (34.99)ca2	Vh (76.66)a	Vh (78.33)a
35. Morpho type25 (1)			
- P54	L (43.75)ca2	L (48.33)a	H (68.75)a
36. Morpho type26 (4)			
- P56	L (25.41)ca2	L (47.91)a	M (60.00)ca2
- P92	L (27.50)ca2	L (31.25)a	H (67.08)a
- R57	L (47.08)ca2	H (62.91)a	L (49.59)a
- R59	L (40.00)ca2	H (71.66)a	H (67.50)a
37. Morpho type27 (1)			
- P61	L (33.33)ca2	M (58.33)a	H (61.25)a
38. Morpho type28 (2)			
- P79	L (37.49)ca2	L (51.25)a	H (65.00)a
- R26	L (34.99)ca2	M (61.25)a	H (62.91)b
39. Morpho type29 (1)			
- P100	L (34.16)ca2	H (70.00)a	H (74.17)a
40. Morpho type30 (2)			
- P49	L (34.58)ca2	L (46.66)a	L (42.50)a
- P94	M (55.00)ca1	Vh (78.75)a	L (29.58)a

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