

APPENDIX

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Table 1:

Analysis of variance for effect of some dominant antagonistic flora on radial growth of *Fusarium udum* in dual culture (Ref. Table 4)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Between	10	4741.477	474.1477	22.33934
Within groups	22	466.9453	21.22479	
Total	32	5208.422		

CD at 5% level = 7.80162.

CD at 1% level = 10.60403.

Table 2:

Analysis of variance for effect of metabolites of some dominant antagonistic fungi on radial growth of *Fusarium udum* (Ref. Table 4)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Between	11	95.85004	8.713639	550.1513
Within groups	24	0.380127	1.583862E-02	
Total	35	96.23016		

CD at 5% level = 0.2120913.

CD at 1% level = 0.2874124.

Table 3:

Analysis of variance for effect of some bacteria on radial growth of *Fusarium udum* in dual culture (Ref. Table 5)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Between	4	7532.639	1883.16	224.0815
Within groups	10	84.03906	8.403906	
Total	14	7616.678		

CD at 5% level = 5.273636.

CD at 1% level = 7.500966.

Table 4:

Analysis of variance for effect of metabolites produced by some bacteria on radial growth of *Fusarium udum* (Ref. Table 5)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Between	5	73.18506	14.63701	418.1566
Within groups	12	0.420044	3.500366E-02	
Total	17	73.6051		

CD at 5% level = 0.3328652.

CD at 1% level = 0.4666834.

Table 5:

Analysis of variance for effect of oil-cakes on radial growth of *Fusarium udum* (Ref. Table 6)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Replication	2	9.521484E-03	4.760742E-03	0.3248067
Conc	2	10.52417	5.262085	359.0113
Oil-cake	4	29.64795	7.411988	505.6907
Conc X Oil cake	8	7.636231	0.9545288	65.12373
Error	28	0.4104004	1.465716E-02	
Total	44	48.22827		

CD at 5% level for conc. = 0.0905366.

for oil cake = 0.1168823.

for conc X oil cake = 0.020446.

CD at 1% level for conc = 0.1221448.

for oil cake = 0.1576883.

for conc X oil cake = 0.2731242.

Table 6:

Analysis of variance for effect of essential oils on radial growth of *Fusarium udum* (Ref. Table 7)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Replication	2	1.018433	0.5092163	2.618405
Conc	4	153.9392	38.4848	197.8899
E.oil	4	381.9605	95.49011	491.0128
Conc X E.oil	16	73.09009	4.568131	23.48945
Error	48	9.334839	0.1944758	
Total	74	619.343		

CD at 5% level for conc. = 0.3236669

for E.oil = 0.3236669

for conc X E.oil = 0.7237411

CD at 1% level for conc = 0.4315558

for E. oil = 0.431558

for conc X E. oil = 0.9649882

Table 7:

Analysis of variance for effect of some antagonists on percent mortality and percent disease management of wilt of pigeonpea, in natural soil (Ref. Table 8)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Replication	2	69.4375	34.71875	1.143017
Conc.	3	40633.33	13544.44	445.9126
Anta.	5	3744.438	748.8875	24.65501
Conc X Anta.	15	3066.672	204.4448	6.730768
Error	46	1397.234	30.37466	
Total	71	48911.11		

CD at 5% level for conc. = 3.692585.

for Anta. = 4.522475.

for conc X Anta. = 9.044949.

CD at 1% level for conc = 4.923447.

for Anta. = 6.029967.

for conc X Anta. = 12.05993.

Table 8:

Analysis of variance for effect of some antagonists on percent mortality and percent disease management of wilt of pigeonpea, in potted sterilized soil (Ref. Table 9).

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Replication	2	100.00	50.00	1.604657
Conc.	3	65100.00	21700.00	696.4211
Anta.	5	2666.664	533.3328	17.11633
Conc X Anta.	15	1700.008	113.3339	3.637239
Error	46	1433.328	31.15931	
Total	71	71000.00		

CD at 5% level for conc. = 3.692585.

for Anta. = 4.522475.

for conc X Anta. = 9.044949.

CD at 1% level for conc = 4.923447.

for Anta. = 6.029967.

for conc X Anta. = 12.05993.

Table 9:

Analysis of variance for effect of essential oils on percent mortality and percent disease management of wilt of pigeonpea in potted natural soil (seed treatment) (Ref. Table 10).

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Replication	2	75.00	37.50	1.145458
Conc.	3	14645.83	4881.944	149.1216
E.oil	1	204.168	204.168	6.236421
Conc X E.oil.	3	79.16797	26.38932	0.8060761
Error	14	458.3321	32.738	
Total	23	15462.50		

CD at 5% level for conc. = 7.085863.

for E.oil. = 5.010462.

for conc X E.oil. = 10.02092.

CD at 1% level for conc = 9.834319.

for E.oil = 6.953914.

for conc X E.oil. = 13.90783.

Table 10:

Analysis of variance for the effect of essential oils on percent mortality and disease management of wilt of pigeonpea in potted sterilized soil (seed treatment) (Ref. Table 11).

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Replication	2	8.332031	4.166016	0.1489124
Conc.	3	21345.83	7115.278	254.3325
E.oil	1	104.1641	104.1641	3.723299
Conc X E.oil.	3	45.83594	15.27865	0.5461285
Error	14	391.668	27.97629	
Total	23	21895.83		

CD at 5% level for conc. = 6.550308.

for E.oil. = 4.631767.

for conc X E.oil. = 9.263534.

CD at 1% level for conc = 9.091033.

for E.oil = 6.428331.

for conc X E.oil. = 12.85666.

Table 16:

Analysis of variance for effect of soil amendments on population dynamics of *Fusarium udum* and the rhizosphere mycoflora for pigeonpea in natural soil (Ref. Table 14 RFP).

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Sampling	1	3.00	3.00	2.769127
Conc.	2	61.16675	30.58338	28.22975
E.oil.	1	225.3335	225.3335	207.9923
Sampling X Conc.	2	0.5	0.25	0.2307606
Sampling X E.oil	1	65.33325	65.33325	60.30535
Conc X E.oil	2	0.1665039	8.325196E-02	7.6848508E-02
Error	2	2.166748	1.083374	
Total	11	357.6668		

CD at 5% level for Sampling. = 2.58583
 for Conc. = 3.166982
 for E.Oil = 2.58583
 for Sampling X Conc = 4.478789
 for Sampling X E.oil = 3.656916
 for Conc X E.oil = 4.478789

CD at 1% level for Sampling = 5.964295
 for Conc. = 7.30474
 for E.oil = 5.964295
 for Sampling X Conc = 10.33046
 for Sampling X E.oil = 8.434787
 for conc X E.oil = 10.33046

Table 19:

Analysis of variance for integrated effects of antagonists and essential oil on radial growth of *Fusarium udum* (Ref. Table 16)

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Between	4	80.24399	20.061	2508.046
Within groups	10	7.99658E-02	7.998658E-03	
Total	14	80.32398		

CD at 5% level = 0.1626965

CD at 1% level = 0.2314116

Table 20:

Analysis of variance for integrated effect of antagonists, oil-cake of *A. indica* and Bavistin on wilt of pigeonpea under potted conditions (Ref. Table 18).

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Between	4	12066.67	3016.668	34.80781
Within groups	10	866.6641	86.66641	
Total	14	12933.33		

CD at 5% level = 16.93538

CD at 1% level = 24.08807

Table 21:

Analysis of variance for integrated effect of antagonists, oil-cake of *A. indica* and Bavistin on wilt of pigeonpea (in field) (Ref. Table 20).

Source of Variation	Degree of Freedom	Sum of Square	Mean Square	F-Values
Between	4	3750	937.50	46.875
Within groups	10	200	20.00	
Total	14	3950		

CD at 5% level = 8.135506

CD at 1% level = 11.57155