S3 Appendix: MANOVA analysis statistics for the effect of SBA, SCN and BSR on fatty aphid composition of soybean seeds

Partial Correlation Coefficients from the Error SSCP Matrix / Prob > |r|					
DF = 96	PAL	STE	OLE	LLE	LLN
PAL	1.000000	-0.051791 0.6144	-0.304347 0.0024	-0.083798 0.4145	0.110073 0.2831
STE	-0.051791 0.6144	1.000000	0.609382 <.0001	-0.790142 <.0001	-0.343054 0.0006
OLE	-0.304347 0.0024	0.609382 <.0001	1.000000	-0.809471 <.0001	-0.599459 <.0001
LLE	-0.083798 0.4145	-0.790142 <.0001	-0.809471 <.0001	1.000000	0.218646 0.0314
LLN	0.110073 0.2831	-0.343054 0.0006	-0.599459 <.0001	0.218646 0.0314	1.000000

MANOVA Test Criteria and Exact F Statistics for the Hypothesis of No Overall Year Effect H = Type III SSCP Matrix for Year E = Error SSCP Matrix S=1 M=1.5 N=45					
Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.16467160	93.34	5	92	<.0001
Pillai's Trace	0.83532840	93.34	5	92	<.0001
Hotelling-Lawley Trace	5.07269255	93.34	5	92	<.0001
Roy's Greatest Root	5.07269255	93.34	5	92	<.0001

MANOVA Test Criteria and Exact F Statistics for the Hypothesis of No Overall Variety Effect H = Type III SSCP Matrix for Variety E = Error SSCP Matrix S=1 M=1.5 N=45					
Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.14206375	111.12	5	92	<.0001
Pillai's Trace	0.85793625	111.12	5	92	<.0001
Hotelling-Lawley Trace	6.03909355	111.12	5	92	<.0001
Roy's Greatest Root	6.03909355	111.12	5	92	<.0001

MANOVA Test Criteria and Exact F Statistics for the Hypothesis of No Overall Year*Variety Effect
H = Type III SSCP Matrix for Year*Variety
E = Error SSCP Matrix

S=1 M=1.5 N=45

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.82355970	3.94	5	92	0.0028
Pillai's Trace	0.17644030	3.94	5	92	0.0028
Hotelling-Lawley Trace	0.21424106	3.94	5	92	0.0028
Roy's Greatest Root	0.21424106	3.94	5	92	0.0028

MANOVA Test Criteria and F Approximations for the Hypothesis of No Overall Treatment Effect
H = Type III SSCP Matrix for Treatment
E = Error SSCP Matrix

S=5 M=-0.5 N=45

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.35026604	4.48	25	343.27	<.0001
Pillai's Trace	0.75862736	3.43	25	480	<.0001
Hotelling-Lawley Trace	1.55410139	5.65	25	216.6	<.0001
Roy's Greatest Root	1.34285198	25.78	5	96	<.0001

NOTE: F Statistic for Roy's Greatest Root is an upper bound.

MANOVA Test Criteria and F Approximations for the Hypothesis of No Overall Year*Treatment Effect
H = Type III SSCP Matrix for Year*Treatment
E = Error SSCP Matrix

S=5 M=-0.5 N=45

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.55010596	2.40	25	343.27	0.0003
Pillai's Trace	0.51254923	2.19	25	480	0.0009
Hotelling-Lawley Trace	0.70748291	2.57	25	216.6	0.0001
Roy's Greatest Root	0.51217609	9.83	5	96	<.0001

NOTE: F Statistic for Roy's Greatest Root is an upper bound.

MANOVA Test Criteria and F Approximations for the Hypothesis of No Overall Variety*Treatment Effect
H = Type III SSCP Matrix for Variety*Treatment
E = Error SSCP Matrix

S=5 M=-0.5 N=45

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.70028576	1.38	25	343.27	0.1077
Pillai's Trace	0.33169150	1.36	25	480	0.1138
Hotelling-Lawley Trace	0.38405019	1.40	25	216.6	0.1074
Roy's Greatest Root	0.23080725	4.43	5	96	0.0011

NOTE: F Statistic for Roy's Greatest Root is an upper bound.

MANOVA Test Criteria and F Approximations for the Hypothesis of No Overall Year*Variety*Treatme Effect
H = Type III SSCP Matrix for Year*Variety*Treatme
E = Error SSCP Matrix

S=5 M=-0.5 N=45

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.65161516	1.68	25	343.27	0.0236
Pillai's Trace	0.37865918	1.57	25	480	0.0395
Hotelling-Lawley Trace	0.48938988	1.78	25	216.6	0.0158
Roy's Greatest Root	0.38200831	7.33	5	96	<.0001

NOTE: F Statistic for Roy's Greatest Root is an upper bound.