S1 Appendix: MANOVA analysis statistics for the effect of SBA, SCN and BSR on fatty aphid composition of soybean leaves

Partial Correlation Coefficients from the Error SSCP Matrix / Prob > |r|					
DF = 24	PALMITIC	STEARIC	OLEIC	LINOLEIC	LINOLENIC
PALMITIC	1.000000	-0.474412 0.0166	0.021958 0.9170	-0.558795 0.0037	-0.891089 <.0001
STEARIC	-0.474412 0.0166	1.000000	0.026526 0.8998	0.564007 0.0033	0.198873 0.3406
OLEIC	0.021958 0.9170	0.026526 0.8998	1.000000	-0.099350 0.6366	-0.236337 0.2554
LINOLEIC	-0.558795 0.0037	0.564007 0.0033	-0.099350 0.6366	1.000000	0.196968 0.3453
LINOLENIC	-0.891089 <.0001	0.198873 0.3406	-0.236337 0.2554	0.196968 0.3453	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=9					
Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.09625237	37.56	5	20	<.0001
Pillai's Trace	0.90374763	37.56	5	20	<.0001
Hotelling-Lawley Trace	9.38935443	37.56	5	20	<.0001
Roy's Greatest Root	9.38935443	37.56	5	20	<.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=9					
Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.63551108	2.29	5	20	0.0841
Pillai's Trace	0.36448892	2.29	5	20	0.0841
Hotelling-Lawley Trace	0.57353668	2.29	5	20	0.0841
Roy's Greatest Root	0.57353668	2.29	5	20	0.0841

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=9

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.74195386	1.39	5	20	0.2698
Pillai's Trace	0.25804614	1.39	5	20	0.2698
Hotelling-Lawley Trace	0.34779271	1.39	5	20	0.2698
Roy's Greatest Root	0.34779271	1.39	5	20	0.2698

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=9

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.10134790	2.58	25	75.799	0.0008
Pillai's Trace	1.38364773	1.84	25	120	0.0161
Hotelling-Lawley Trace	4.90176236	3.71	25	40.48	0.0001
Roy's Greatest Root	4.17607494	20.05	5	24	<.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=9

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.23258822	1.46	25	75.799	0.1077
Pillai's Trace	1.10487724	1.36	25	120	0.1380
Hotelling-Lawley Trace	2.05204084	1.55	25	40.48	0.1036
Roy's Greatest Root	1.38181934	6.63	5	24	0.0005

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=9

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.50270750	0.62	25	75.799	0.9126
Pillai's Trace	0.60374412	0.66	25	120	0.8861
Hotelling-Lawley Trace	0.79084382	0.60	25	40.48	0.9116
Roy's Greatest Root	0.43172492	2.07	5	24	0.1043

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=9

Statistic	Value	F Value	Num DF	Den DF	Pr > F
Wilks' Lambda	0.40937009	0.82	25	75.799	0.7003
Pillai's Trace	0.75101839	0.85	25	120	0.6732
Hotelling-Lawley Trace	1.08003953	0.82	25	40.48	0.6987
Roy's Greatest Root	0.59368854	2.85	5	24	0.0370

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