Supplementary Materials

A. Oriental type varieties

Supplementary Table S1: The mean yield (kg/ha) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and variety.

Area	Variety	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	DOXATO	1372.767	1173.171	1572.363
	K53	1285.667	1086.071	1485.263
	N34	1283.267	1083.671	1482.863
	X2A	1118.533	918.937	1318.129
	X81	1337.567	1137.971	1537.163
KARDITSA	DOXATO	1284.000	1084.404	1483.596
	K53	1672.100	1472.504	1871.696
	N34	1078.267	878.671	1277.863
	X2A	1280.433	1080.837	1480.029
	X81	1274.200	1074.604	1473.796
KATERINI	DOXATO	1300.700	1101.104	1500.296
	K53	1979.633	1780.037	2179.229
	N34	1323.267	1123.671	1522.863
	X2A	1264.467	1064.871	1464.063
	X81	1347.867	1148.271	1547.463
SERRES	DOXATO	1433.967	1234.371	1633.563
	K53	1815.767	1616.171	2015.363
	N34	1443.033	1243.437	1642.629
	X2A	1481.133	1281.537	1680.729
	X81	1520.200	1320.604	1719.796
XANTHI	DOXATO	1350.000	1150.404	1549.596
	K53	1508.667	1309.071	1708.263
	N34	1310.667	1111.071	1510.263
	X2A	1550.000	1350.404	1749.596
	X81	1631.667	1432.071	1831.263

Supplementary Table S2: The mean yield (kg/ha) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and cultivation year.

Area	Cultivation year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	2014	1543.540	1388.934	1698.146
	2015	1130.000	975.394	1284.606
	2016	1165.140	1010.534	1319.746
KARDITSA	2014	1708.600	1553.994	1863.206
	2015	1163.780	1009.174	1318.386
	2016	1081.020	926.414	1235.626
KATERINI	2014	1492.140	1337.534	1646.746
	2015	1435.760	1281.154	1590.366
	2016	1401.660	1247.054	1556.266
SERRES	2014	1373.860	1219.254	1528.466
	2015	1784.100	1629.494	1938.706
	2016	1458.500	1303.894	1613.106
XANTHI	2014	1568.600	1413.994	1723.206
	2015	1392.800	1238.194	1547.406
	2016	1449.200	1294.594	1603.806

Supplementary Table S3: The mean yield (kg/ha) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors variety and cultivation year.

Variety	Cultivation year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
DOXATO	2014	1514.500	1359.894	1669.106
	2015	1261.300	1106.694	1415.906
	2016	1269.060	1114.454	1423.666
K53	2014	1802.640	1648.034	1957.246
	2015	1582.060	1427.454	1736.666
	2016	1572.400	1417.794	1727.006
N34	2014	1359.040	1204.434	1513.646
	2015	1360.760	1206.154	1515.366
	2016	1143.300	988.694	1297.906
X2A	2014	1436.800	1282.194	1591.406
	2015	1344.060	1189.454	1498.666
	2016	1235.880	1081.274	1390.486
X81	2014	1573.760	1419.154	1728.366
	2015	1358.260	1203.654	1512.866
	2016	1334.880	1180.274	1489.486

Supplementary Table S4: (A) Post hoc analysis (Tukey HSD) for the factor cultivation year (dependent Variable: Yield) for the Oriental type varieties. (B) The groups of cultivation year are displayed within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Cultivation year	(J) Cultivation year	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
2014	2015	156.060*	0.007	38.095	274.024
	2016	226.244*	0.000	108.279	344.208
2015	2014	-156.060*	0.007	-274.024	-38.095
	2016	70.184	0.322	-47.780	188.148
2016	2014	-226.244*	0.000	-344.208	-108.279
	2015	-70.184	0.322	-188.148	47.780

*. The mean difference is significant at the 0.05 level.

(B)

Cultivation year	N	Subset	
		1	2
2016	25	1311.104	
2015	25	1381.288	
2014	25		1537.348
p-value		0.322	1.000

Supplementary Table S5: (A) Post hoc analysis (Tukey HSD) for the factor area (dependent Variable: Yield) for the Oriental type varieties. (B) The groups of area are displayed within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Area	(J) Area	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
AITOLOAKARNANIA	KARDITSA	-38.2400	0.971	-217.305	140.825
	KATERINI	-163.6267	0.087	-342.692	15.438
	SERRES	-259.2600*	0.002	-438.325	-80.194
	XANTHI	-190.6400*	0.032	-369.705	-11.574
KARDITSA	AITOLOAKARNANIA	38.2400	0.971	-140.825	217.305
	KATERINI	-125.3867	0.278	-304.452	53.678
	SERRES	-221.0200*	0.010	-400.085	-41.954
	XANTHI	-152.4000	0.126	-331.465	26.665
KATERINI	AITOLOAKARNANIA	163.6267	0.087	-15.438	342.692
	KARDITSA	125.3867	0.278	-53.678	304.452
	SERRES	-95.6333	0.543	-274.698	83.432
	XANTHI	-27.0133	0.992	-206.078	152.052
SERRES	AITOLOAKARNANIA	259.2600*	0.002	80.194	438.325
	KARDITSA	221.0200*	0.010	41.954	400.085
	KATERINI	95.6333	0.543	-83.432	274.698
	XANTHI	68.6200	0.801	-110.445	247.685
XANTHI	AITOLOAKARNANIA	190.6400*	0.032	11.574	369.705
	KARDITSA	152.4000	0.126	-26.665	331.465
	KATERINI	27.0133	0.992	-152.052	206.078
	SERRES	-68.6200	0.801	-247.685	110.445

*. The mean difference is significant at the 0.05 level.

(B)

Area	N	Subset		
		1	2	3
AITOLOAKARNANIA	15	1279.560		
KARDITSA	15	1317.800	1317.800	
KATERINI	15	1443.186	1443.186	1443.186
XANTHI	15		1470.200	1470.200
SERRES	15			1538.820
p-value		0.087	0.126	0.543

Supplementary Table S6: (A) Post hoc analysis (Tukey HSD) for the factor variety (dependent Variable: Yield) for the Oriental type varieties. (B) The groups of variety are displayed within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Variety	(J) Variety	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
DOXATO	K53	-304.080*	0.000	-483.145	-125.014
	N34	60.586	0.863	-118.478	239.652
	X2A	9.373	1.000	-169.692	188.438
	X81	-74.013	0.755	-253.078	105.052
K53	DOXATO	304.080*	0.000	125.014	483.145
	N34	364.666*	0.000	185.601	543.732
	X2A	313.453*	0.000	134.387	492.518
	X81	230.066*	0.007	51.001	409.132
N34	DOXATO	-60.586	0.863	-239.652	118.478
	K53	-364.666*	0.000	-543.732	-185.601
	X2A	-51.213	0.920	-230.278	127.852
	X81	-134.600	0.216	-313.665	44.465
X2A	DOXATO	-9.373	1.000	-188.438	169.692
	K53	-313.453*	0.000	-492.518	-134.387
	N34	51.213	0.920	-127.852	230.278
	X81	-83.386	0.666	-262.452	95.678
X81	DOXATO	74.013	0.755	-105.052	253.078
	K53	-230.066*	0.007	-409.132	-51.001
	N34	134.600	0.216	-44.465	313.665
	X2A	83.386	0.666	-95.678	262.452

*. The mean difference is significant at the 0.05 level.

(B)

Variety	N	Subset	
		1	2
N34	15	1287.700	
X2A	15	1338.913	
DOXATO	15	1348.286	
X81	15	1422.300	
K53	15		1652.366
p-value		0.216	1.000

Supplementary Table S7: The mean nicotine (%) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and variety.

Area	Variety	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	DOXATO	1.773	1.011	2.535
	K53	1.230	0.468	1.992
	N34	1.483	0.721	2.245
	X2A	2.190	1.428	2.952
	X81	1.947	1.185	2.709
KARDITSA	DOXATO	1.943	1.181	2.705
	K53	1.557	0.795	2.319
	N34	1.817	1.055	2.579
	X2A	2.403	1.641	3.165
	X81	2.073	1.311	2.835
KATERINI	DOXATO	1.940	1.178	2.702
	K53	1.807	1.045	2.569
	N34	1.920	1.158	2.682
	X2A	2.727	1.965	3.489
	X81	2.210	1.448	2.972
XANTHI	DOXATO	2.833	2.071	3.595
	K53	2.143	1.381	2.905
	N34	1.680	0.918	2.442
	X2A	2.543	1.781	3.305
	X81	2.370	1.608	3.132

Supplementary Table S8: The mean nicotine (%) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and cultivation year.

Area	Cultivation Year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	2014	1.820	1.230	2.410
	2015	1.896	1.306	2.486
	2016	1.458	0.868	2.048
KARDITSA	2014	2.334	1.744	2.924
	2015	1.530	0.940	2.120
	2016	2.012	1.422	2.602
KATERINI	2014	2.138	1.548	2.728
	2015	1.252	0.662	1.842
	2016	2.972	2.382	3.562
XANTHI	2014	2.060	1.470	2.650
	2015	2.014	1.424	2.604
	2016	2.868	2.278	3.458

Supplementary Table S9: The mean nicotine (%) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors variety and cultivation year.

Variety	Cultivation Year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
DOXATO	2014	2.435	1.775	3.095
	2015	1.740	1.080	2.400
	2016	2.193	1.533	2.852
K53	2014	2.040	1.380	2.700
	2015	1.373	0.713	2.032
	2016	1.640	0.980	2.300
N34	2014	1.693	1.033	2.352
	2015	1.333	0.673	1.992
	2016	2.150	1.490	2.810
X2A	2014	2.190	1.530	2.850
	2015	2.155	1.495	2.815
	2016	3.052	2.393	3.712
X81	2014	2.083	1.423	2.742
	2015	1.765	1.105	2.425
	2016	2.602	1.943	3.262

Supplementary Table S10: (A) Post hoc analysis (Tukey HSD) for the factor cultivation year (dependent Variable: Nicotine) for the Oriental type varieties. (B) The groups of cultivation year within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Cultivation Year	(J) Cultivation Year	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
2014	2015	0.415	0.121	-0.090	0.920
	2016	-0.239	0.474	-0.744	0.265
2015	2014	-0.415	0.121	-0.920	0.090
	2016	-0.654*	0.009	-1.159	-0.149
2016	2014	0.239	0.474	-0.265	0.744
	2015	0.654*	0.009	0.149	1.159

*. The mean difference is significant at the 0.05 level.

(B)

Cultivation Year	N	Subset	
		1	2
2015	20	1.673	
2014	20	2.088	2.088
2016	20		2.327
p-value		0.121	0.474

Supplementary Table S11: (A) Post hoc analysis (Tukey HSD) for the factor area (dependent Variable: Nicotine) for the Oriental type varieties. (B) The groups of area within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Area	(J) Area	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
AITOLOAKARNANIA	KARDITSA	-0.234	0.750	-0.878	0.410
	KATERINI	-0.396	0.348	-1.040	0.248
	XANTHI	-0.589	0.081	-1.233	0.054
KARDITSA	AITOLOAKARNANIA	0.234	0.750	-0.410	0.878
	KATERINI	-0.162	0.898	-0.806	0.482
	XANTHI	-0.355	0.441	-0.999	0.288
KATERINI	AITOLOAKARNANIA	0.396	0.348	-0.248	1.040
	KARDITSA	0.162	0.898	-0.482	0.806
	XANTHI	-0.193	0.841	-0.837	0.450
XANTHI	AITOLOAKARNANIA	0.589	0.081	-0.054	1.233
	KARDITSA	0.355	0.441	-0.288	0.999
	KATERINI	0.193	0.841	-0.450	0.837

(B)

Area	N	Subset 1
AITOLOAKARNANIA	15	1.724
KARDITSA	15	1.958
KATERINI	15	2.120
XANTHI	15	2.314
p-value		0.081

Supplementary Table S12: (A) Post hoc analysis (Tukey HSD) for the factor variety (dependent Variable: Nicotine) for the Oriental type varieties. (B) The groups of variety within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Variety	(J) Variety	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
DOXATO	K53	0.438	0.465	-0.330	1.207
	N34	0.397	0.558	-0.371	1.166
	X2A	-0.343	0.685	-1.112	0.425
	X81	-0.027	1.000	-0.796	0.741
K53	DOXATO	-0.438	0.465	-1.207	0.330
	N34	-0.040	1.000	-0.809	0.728
	X2A	-0.781*	0.045	-1.550	-0.012
	X81	-0.465	0.405	-1.234	0.303
N34	DOXATO	-0.397	0.558	-1.166	0.371
	K53	0.040	1.000	-0.728	0.809
	X2A	-0.740	0.063	-1.509	0.028
	X81	-0.425	0.495	-1.194	0.344
X2A	DOXATO	0.343	0.685	-0.425	1.112
	K53	0.781*	0.045	0.012	1.550
	N34	0.740	0.063	-0.028	1.509
	X81	0.315	0.746	-0.453	1.084
X81	DOXATO	0.027	1.000	-0.741	0.796
	K53	0.465	0.405	-0.303	1.234
	N34	0.425	0.495	-0.344	1.194
	X2A	-0.315	0.746	-1.084	0.453

*. The mean difference is significant at the 0.05 level.

(B)

Variety	N	Subset 1	Subset 2
K53	12	1.684	
N34	12	1.725	1.725
DOXATO	12	2.122	2.122
X81	12	2.150	2.150
X2A	12		2.465
p-value		0.405	0.063

Supplementary Table S13: The mean sugars content (%) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and variety.

Area	Variety	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	DOXATO	5.173	3.439	6.908
	K53	6.220	4.486	7.954
	N34	9.143	7.409	10.878
	X2A	5.050	3.316	6.784
	X81	6.663	4.929	8.398
KARDITSA	DOXATO	4.623	2.889	6.358
	K53	4.960	3.226	6.694
	N34	4.587	2.852	6.321
	X2A	2.613	0.879	4.348
	X81	3.853	2.119	5.588
KATERINI	DOXATO	4.287	2.552	6.021
	K53	4.433	2.699	6.168
	N34	7.473	5.739	9.208
	X2A	4.053	2.319	5.788
	X81	5.820	4.086	7.554
XANTHI	DOXATO	3.843	2.109	5.578
	K53	2.087	0.352	3.821
	N34	3.503	1.769	5.238
	X2A	2.833	1.099	4.568
	X81	3.067	1.332	4.801

Supplementary Table S14: The mean sugars content (%) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and cultivation year.

Area	Cultivation Year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	2014	4.732	3.389	6.075
	2015	7.730	6.387	9.073
	2016	6.888	5.545	8.231
KARDITSA	2014	1.210	-0.133	2.553
	2015	4.630	3.287	5.973
	2016	6.542	5.199	7.885
KATERINI	2014	3.666	2.323	5.009
	2015	9.292	7.949	10.635
	2016	2.682	1.339	4.025
XANTHI	2014	4.034	2.691	5.377
	2015	4.656	3.313	5.999
	2016	0.510	-0.833	1.853

Supplementary Table S15: The mean sugars content (%) for the Oriental type varieties, along with the 95% confidence interval, for all categories' combinations of the factors variety and cultivation years.

Variety	Cultivation Year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
DOXATO	2014	3.325	1.823	4.827
	2015	4.970	3.468	6.472
	2016	5.150	3.648	6.652
K53	2014	2.827	1.326	4.329
	2015	6.680	5.178	8.182
	2016	3.767	2.266	5.269
N34	2014	4.940	3.438	6.442
	2015	9.778	8.276	11.279
	2016	3.812	2.311	5.314
X2A	2014	2.712	1.211	4.214
	2015	4.605	3.103	6.107
	2016	3.595	2.093	5.097
X81	2014	3.248	1.746	4.749
	2015	6.853	5.351	8.354
	2016	4.452	2.951	5.954

Supplementary Table S16: (A) Post hoc analysis (Tukey HSD) for the factor cultivation year (dependent Variable: Sugars) for the Oriental type varieties. (B) The groups of cultivation year are displayed within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Cultivation Year	(J) Cultivation Year	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
2014	2015	-3.1665*	0.000	-4.3159	-2.0171
	2016	-0.7450	0.257	-1.8944	0.4044
2015	2014	3.1665*	0.000	2.0171	4.3159
	2016	2.4215*	0.000	1.2721	3.5709
2016	2014	0.7450	0.257	-0.4044	1.8944
	2015	-2.4215*	0.000	-3.5709	-1.2721

*. The mean difference is significant at the 0.05 level.

(B)

Cultivation Year	N	Subset	
		1	2
2014	20	3.410	
2016	20	4.155	
2015	20		6.577
p-value		0.257	1.000

Supplementary Table S17: (A) Post hoc analysis (Tukey HSD) for the factor area (dependent Variable: Sugars) for the Oriental type varieties. (B) The groups of area within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Area	(J) Area	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
AITOLOAKARNANIA	KARDITSA	2.322*	0.001	0.856	3.788
	KATERINI	1.236	0.120	-0.229	2.702
	XANTHI	3.383*	0.000	1.917	4.849
KARDITSA	AITOLOAKARNANIA	-2.322*	0.001	-3.788	-0.856
	KATERINI	-1.086	0.201	-2.552	0.380
	XANTHI	1.060	0.217	-0.405	2.526
KATERINI	AITOLOAKARNANIA	-1.236	0.120	-2.702	0.229
	KARDITSA	1.086	0.201	-0.380	2.552
	XANTHI	2.146*	0.003	0.680	3.612
XANTHI	AITOLOAKARNANIA	-3.383*	0.000	-4.849	-1.917
	KARDITSA	-1.060	0.217	-2.526	0.405
	KATERINI	-2.146*	0.003	-3.612	-0.680

*. The mean difference is significant at the 0.05 level.

(B)

Area	N	Subset		
		1	2	3
XANTHI	15	3.066		
KARDITSA	15	4.127	4.127	
KATERINI	15		5.213	5.213
AITOLOAKARNANIA	15			6.450
p-value		0.217	0.201	0.120

Supplementary Table S18: (A) Post hoc analysis (Tukey HSD) for the factor variety (dependent Variable: Sugars) for the Oriental type varieties. (B) The groups of variety within the homogeneous subsets obtained by Tukey HSD for the Oriental type varieties.

(A)

(I) Variety	(J) Variety	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
DOXATO	K53	0.056	1.000	-1.693	1.807
	N34	-1.695	0.061	-3.445	0.055
	X2A	0.844	0.621	-0.906	2.594
	X81	-0.369	0.970	-2.119	1.381
K53	DOXATO	-0.056	1.000	-1.807	1.693
	N34	-1.751*	0.050	-3.502	-0.001
	X2A	0.787	0.679	-0.963	2.538
	X81	-0.425	0.951	-2.176	1.324
N34	DOXATO	1.695	0.061	-0.055	3.445
	K53	1.751*	0.050	0.001	3.502
	X2A	2.539*	0.002	0.788	4.289
	X81	1.325	0.202	-0.424	3.076
X2A	DOXATO	-0.844	0.621	-2.594	0.906
	K53	-0.787	0.679	-2.538	0.963
	N34	-2.539*	0.002	-4.289	-0.788
	X81	-1.213	0.277	-2.963	0.537
X81	DOXATO	0.369	0.970	-1.381	2.119
	K53	0.425	0.951	-1.324	2.176
	N34	-1.325	0.202	-3.076	0.424
	X2A	1.213	0.277	-0.537	2.963

*. The mean difference is significant at the 0.05 level.

(B)

Variety	N	Subset	
		1	2
X2A	12	3.637	
K53	12	4.425	
DOXATO	12	4.481	4.481
X81	12	4.850	4.850
N34	12		6.176
Sig.		0.277	0.061

B. Flue and air cured type varieties

Supplementary Table S19: The mean yield (kg/ha) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and variety.

Area	Variety	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	Burley 21E	2673.633	2204.925	3142.342
	KLIO	4044.667	3575.958	4513.375
	NC297	4058.000	3589.291	4526.709
	NC7LC	3799.000	3330.291	4267.709
	NIKI	3555.000	3086.291	4023.709
	VE9	3902.000	3433.291	4370.709
KARDITSA	Burley 21E	1540.667	1071.958	2009.375
	KLIO	1780.333	1311.625	2249.042
	NC297	2390.667	1921.958	2859.375
	NC7LC	2024.333	1555.625	2493.042
	NIKI	2127.667	1658.958	2596.375
	VE9	1943.000	1474.291	2411.709
XANTHI	Burley 21E	3538.333	3069.625	4007.042
	KLIO	3414.667	2945.958	3883.375
	NC297	3528.333	3059.625	3997.042
	NC7LC	3584.333	3115.625	4053.042
	NIKI	3626.667	3157.958	4095.375
	VE9	3353.000	2884.291	3821.709

Supplementary Table S20: The mean yield (kg/ha) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and cultivation year.

Area	Cultivation year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	2014	4281.167	3949.740	4612.594
	2015	3571.667	3240.240	3903.094
	2016	3163.317	2831.890	3494.744
KARDITSA	2014	2178.500	1847.073	2509.927
	2015	1581.667	1250.240	1913.094
	2016	2143.167	1811.740	2474.594
XANTHI	2014	3572.000	3240.573	3903.427
	2015	3513.000	3181.573	3844.427
	2016	3437.667	3106.240	3769.094

Supplementary Table S21: The mean yield (kg/ha) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors variety and cultivation year.

Variety	Cultivation year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
Burley 21E	2014	2589.000	2120.291	3057.709
	2015	2707.667	2238.958	3176.375
	2016	2455.967	1987.258	2924.675
KLIO	2014	3363.000	2894.291	3831.709
	2015	2987.667	2518.958	3456.375
	2016	2889.000	2420.291	3357.709
NC297	2014	3768.333	3299.625	4237.042
	2015	3036.667	2567.958	3505.375
	2016	3172.000	2703.291	3640.709
NC7LC	2014	3646.333	3177.625	4115.042
	2015	2936.667	2467.958	3405.375
	2016	2824.667	2355.958	3293.375
NIKI	2014	3386.000	2917.291	3854.709
	2015	2751.000	2282.291	3219.709
	2016	3172.333	2703.625	3641.042
VE9	2014	3310.667	2841.958	3779.375
	2015	2913.000	2444.291	3381.709
	2016	2974.333	2505.625	3443.042

Supplementary Table S22: (A) Post hoc analysis (Tukey HSD) for the factor cultivation year (dependent Variable: Yield) for the flue and air cured type varieties. (B) The groups of cultivation year within the homogeneous subset s obtained by Tukey HSD for the flue and air cured type varieties.

(A)

(I) Cultivation year	(J) Cultivation year	Mean Difference (I-J)	p-value	95% Confidence Interval Lower Bound	Upper Bound
2014	2015	455.111*	0.006	126.900	783.322
	2016	429.172*	0.009	100.961	757.383
2015	2014	-455.111*	0.006	-783.322	-126.900
	2016	-25.938	0.978	-354.149	302.272
2016	2014	-429.172*	0.009	-757.383	-100.961
	2015	25.938	0.978	-302.272	354.149

*. The mean difference is significant at the 0.05 level.

(B)

Cultivation year	N	Subset 1	2
2015	18	2888.778	
2016	18	2914.716	
2014	18		3343.889
p-value		0.978	1.000

Supplementary Table S23: (A) Post hoc analysis (Tukey HSD) for the factor area (dependent Variable: Yield) for the flue and air cured type varieties. (B) The groups of area within the homogeneous subsets obtained by Tukey HSD for the flue and air cured type varieties.

(A)

(I) Area	(J) Area	Mean Difference (I-J)	p-value	95% Confidence Interval Lower Bound	Upper Bound
AITOLOAKARNANIA	KARDITSA	1704.272*	0.000	1376.061	2032.483
	XANTHI	164.494	0.429	-163.716	492.705
KARDITSA	AITOLOAKARNANIA	-1704.272*	0.000	-2032.483	-1376.061
	XANTHI	-1539.777*	0.000	-1867.988	-1211.567
XANTHI	AITOLOAKARNANIA	-164.494	0.429	-492.705	163.716
	KARDITSA	1539.777*	0.000	1211.567	1867.989

*. The mean difference is significant at the 0.05 level.

(B)

Area	N	Subset 1	2
KARDITSA	18	1967.778	
XANTHI	18		3507.556
AITOLOAKARNANIA	18		3672.050
p-value		1.000	0.429

Supplementary Table S24: (A) Post hoc analysis (Tukey HSD) for the factor variety (dependent Variable: Yield) for the flue and air cured type varieties. (B) The groups of variety within the homogeneous subsets obtained by Tukey HSD for the flue and air cured type varieties.

(A)

(I) Variety	(J) Variety	Mean Difference (I-J)	p-value	95% Confidence Interval Lower Bound	Upper Bound
Burley 21E	KLIO	-495.678	0.119	-1072.351	80.996
	NC297	-741.456*	0.007	-1318.129	-164.781
	NC7LC	-551.678	0.066	-1128.351	24.996
	NIKI	-518.900	0.093	-1095.574	57.774
	VE9	-481.789	0.137	-1058.463	94.885
KLIO	Burley 21E	495.678	0.119	-80.996	1072.351

	NC297	-245.778	0.760	-822.451	330.896
	NC7LC	-56.000	1.000	-632.674	520.674
	NIKI	-23.222	1.000	-599.896	553.451
	VE9	13.889	1.000	-562.785	590.563
NC297	Burley 21E	741.456*	0.007	164.781	1318.129
	KLIO	245.778	0.760	-330.896	822.451
	NC7LC	189.778	0.901	-386.896	766.451
	NIKI	222.556	0.826	-354.118	799.229
	VE9	259.667	0.718	-317.007	836.340
NC7LC	Burley 21E	551.678	0.066	-24.996	1128.351
	KLIO	56.000	1.000	-520.674	632.674
	NC297	-189.778	0.901	-766.451	386.896
	NIKI	32.778	1.000	-543.896	609.451
	VE9	69.889	0.999	-506.785	646.563
NIKI	Burley 21E	518.900	0.093	-57.774	1095.574
	KLIO	23.222	1.000	-553.451	599.896
	NC297	-222.556	0.826	-799.229	354.118
	NC7LC	-32.778	1.000	-609.451	543.896
	VE9	37.111	1.000	-539.563	613.785
VE9	Burley 21E	481.789	0.137	-94.885	1058.463
	KLIO	-13.889	1.000	-590.563	562.785
	NC297	-259.667	0.718	-836.340	317.007
	NC7LC	-69.889	0.999	-646.563	506.785
	NIKI	-37.111	1.000	-613.785	539.563

*. The mean difference is significant at the 0.05 level.

(B)

Variety	N	Subset	
		1	2
Burley 21E	9	2584.211	
VE9	9	3066.000	3066.000
KLIO	9	3079.889	3079.889
NIKI	9	3103.111	3103.111
NC7LC	9	3135.889	3135.889
NC297	9		3325.667
p-value		0.066	0.718

Supplementary Table S25: The mean nicotine (%) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and variety.

Area	Variety	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	Burley 21E	1.217	0.882	1.551
	KLIO	1.393	1.059	1.728
	NC297	1.140	0.806	1.474
	NC7LC	1.243	0.909	1.578
	NIKI	1.123	0.789	1.458
	VE9	1.280	0.946	1.614
KARDITSA	Burley 21E	1.490	1.156	1.824
	KLIO	1.397	1.062	1.731
	NC297	1.227	0.892	1.561
	NC7LC	1.393	1.059	1.728
	NIKI	1.763	1.429	2.098
	VE9	1.330	0.996	1.664

Supplementary Table S26: The mean nicotine (%) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and cultivation year.

Area	Cultivation Year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
AITOLOAKARNANIA	2014	1.210	0.974	1.446
	2015	1.405	1.169	1.641
	2016	1.083	0.847	1.320
KARDITSA	2014	1.077	0.840	1.313
	2015	1.332	1.095	1.568

	2016	1.892	1.655	2.128

Supplementary Table S27: The mean nicotine (%) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors variety and cultivation year.

Variety	Cultivation Year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
Burley 21E	2014	1.070	0.661	1.479
	2015	1.495	1.086	1.904
	2016	1.495	1.086	1.904
KLIO	2014	1.190	0.781	1.599
	2015	1.360	0.951	1.769
	2016	1.635	1.226	2.044
NC297	2014	1.165	0.756	1.574
	2015	1.060	0.651	1.469
	2016	1.325	0.916	1.734
NC7LC	2014	1.175	0.766	1.584
	2015	1.465	1.056	1.874
	2016	1.315	0.906	1.724
NIKI	2014	1.130	0.721	1.539
	2015	1.710	1.301	2.119
	2016	1.490	1.081	1.899
VE9	2014	1.130	0.721	1.539
	2015	1.120	0.711	1.529
	2016	1.665	1.256	2.074

Supplementary Table S28: (A) Post hoc analysis (Tukey HSD) for the factor cultivation year (dependent Variable: Nicotine) for the flue and air cured type varieties. (B) The groups of cultivation year within the homogeneous subsets obtained by Tukey HSD for the flue and air cured type varieties.

(A)

(I) Cultivation Year	(J) Cultivation Year	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
2014	2015	-0.225	0.135	-0.515	0.066
	2016	-0.344*	0.022	-0.635	-0.053
2015	2014	0.225	0.135	-0.065	0.516
	2016	-0.119	0.522	-0.410	0.172
2016	2014	0.344*	0.022	0.053	0.635
	2015	0.119	0.522	-0.172	0.410

*. The mean difference is significant at the 0.05 level.

(B)

Cultivation Year	N	Subset	
		1	2
2014	12	1.143	
2015	12	1.368	1.368
2016	12		1.487
p-value		0.135	0.522

Supplementary Table S29: (A) Post hoc analysis (Tukey HSD) for the factor variety (dependent Variable: Nicotine) for the flue and air cured type varieties. (B) The groups of variety within the homogeneous subsets obtained by Tukey HSD for the flue and air cured type varieties.

(A)

(I) Variety	(J) Variety	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
Burley 21E	KLIO	-0.041	1.000	-0.562	0.479
	NC297	0.170	0.857	-0.351	0.691
	NC7LC	0.035	1.000	-0.486	0.556
	NIKI	-0.090	0.989	-0.611	0.431
	VE9	0.048	0.999	-0.472	0.569

KLIO	Burley 21E	0.041	1.000	-0.479	0.562
	NC297	0.211	0.721	-0.309	0.732
	NC7LC	0.076	0.994	-0.444	0.597
	NIKI	-0.048	0.999	-0.569	0.472
	VE9	0.090	0.989	-0.431	0.611
NC297	Burley 21E	-0.170	0.857	-0.691	0.351
	KLIO	-0.211	0.721	-0.732	0.309
	NC7LC	-0.135	0.938	-0.656	0.386
	NIKI	-0.260	0.542	-0.781	0.261
	VE9	-0.121	0.959	-0.642	0.399
NC7LC	Burley 21E	-0.035	1.000	-0.556	0.486
	KLIO	-0.076	0.994	-0.597	0.444
	NC297	0.135	0.938	-0.386	0.656
	NIKI	-0.125	0.954	-0.646	0.396
	VE9	0.013	1.000	-0.507	0.534
NIKI	Burley 21E	0.090	0.989	-0.431	0.611
	KLIO	0.048	0.999	-0.472	0.569
	NC297	0.260	0.542	-0.261	0.781
	NC7LC	0.125	0.954	-0.396	0.646
	VE9	0.138	0.932	-0.382	0.659
VE9	Burley 21E	-0.048	0.999	-0.569	0.472
	KLIO	-0.090	0.989	-0.611	0.431
	NC297	0.121	0.959	-0.399	0.642
	NC7LC	-0.013	1.000	-0.534	0.507
	NIKI	-0.138	0.932	-0.659	0.382

(B)

Variety	**N**	**Subset 1**
NC297	6	1.1833
VE9	6	1.3050
NC7LC	6	1.3183
Burley 21E	6	1.3533
KLIO	6	1.3950
NIKI	6	1.4433
p-value		0.542

Supplementary Table S30: The mean of sugars (%) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and variety.

Area	**Variety**	**Mean**	**95% Confidence Interval**	
			Lower Bound	**Upper Bound**
AITOLOAKARNANIA	Burley 21E	1.657	-0.303	3.616
	KLIO	11.130	9.170	13.090
	NC297	11.960	10.000	13.920
	NC7LC	1.350	-0.610	3.310
	NIKI	12.587	10.627	14.546
	VE9	14.507	12.547	16.466
KARDITSA	Burley 21E	5.100	3.140	7.060
	KLIO	10.333	8.374	12.293
	NC297	11.953	9.994	13.913
	NC7LC	5.630	3.670	7.590
	NIKI	8.357	6.397	10.316
	VE9	15.063	13.104	17.023

Supplementary Table S31: The mean of sugars (%) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors area and cultivation year.

Area	**Cultivation Year**	**Mean**	**95% Confidence Interval**	
			Lower Bound	**Upper Bound**
AITOLOAKARNANIA	2014	9.212	7.826	10.597
	2015	8.670	7.284	10.056
	2016	8.713	7.328	10.099
KARDITSA	2014	7.887	6.501	9.272

	2015	12.222	10.836	13.607
	2016	8.110	6.724	9.496

Supplementary Table S32: The mean of sugars (%) for the flue and air cured type varieties, along with the 95% confidence interval, for all categories' combinations of the factors variety and cultivation year.

Variety	Cultivation Year	Mean	95% Confidence Interval	
			Lower Bound	Upper Bound
Burley 21E	2014	2.865	0.465	5.265
	2015	4.755	2.355	7.155
	2016	2.515	0.115	4.915
KLIO	2014	9.970	7.570	12.370
	2015	10.790	8.390	13.190
	2016	11.435	9.035	13.835
NC297	2014	10.150	7.750	12.550
	2015	15.175	12.775	17.575
	2016	10.545	8.145	12.945
NC7LC	2014	2.630	0.230	5.030
	2015	4.915	2.515	7.315
	2016	2.925	0.525	5.325
NIKI	2014	12.810	10.410	15.210
	2015	10.180	7.780	12.580
	2016	8.425	6.025	10.825
VE9	2014	12.870	10.470	15.270
	2015	16.860	14.460	19.260
	2016	14.625	12.225	17.025

Supplementary Table S33: (A) Post hoc analysis (Tukey HSD) for the factor cultivation year (dependent Variable: Sugars) for the flue and air cured type varieties. (B) The groups of cultivation year within the homogeneous subsets obtained by Tukey HSD for the flue and air cured type varieties.

(A)

(I) Cultivation Year	(J) Cultivation Year	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
2014	2015	-1.896*	0.030	-3.601	-0.191
	2016	0.137	0.973	-1.567	1.842
2015	2014	1.896*	0.030	0.191	3.601
	2016	2.034*	0.021	0.329	3.739
2016	2014	-0.137	0.973	-1.842	1.567
	2015	-2.034*	0.021	-3.739	-0.329

*. The mean difference is significant at the 0.05 level.

(B)

Cultivation Year	N	Subset	
		1	2
2016	12	8.411	
2014	12	8.549	
2015	12		10.445
p-value		0.973	1.000

Supplementary Table S34: (A) Post hoc analysis (Tukey HSD) for the factor variety (dependent Variable: Sugars) for the flue and air cured type varieties. (B) The groups of variety within the homogeneous subsets obtained by Tukey HSD for the flue and air cured type varieties.

(A)

(I) Variety	(J) Variety	Mean Difference (I-J)	p-value	95% Confidence Interval	
				Lower Bound	Upper Bound
Burley 21E	KLIO	-7.353*	0.000	-10.408	-4.298
	NC297	-8.578*	0.000	-11.633	-5.523
	NC7LC	-0.111	1.000	-3.166	2.943
	NIKI	-7.093*	0.000	-10.148	-4.038
	VE9	-11.406*	0.000	-14.461	-8.351

KLIO	Burley 21E	7.353*	0.000	4.298	10.408
	NC297	-1.225	0.731	-4.279	1.829
	NC7LC	7.241*	0.000	4.186	10.296
	NIKI	0.260	1.000	-2.794	3.314
	VE9	-4.053*	0.009	-7.108	-0.998
NC297	Burley 21E	8.578*	0.000	5.523	11.633
	KLIO	1.225	0.731	-1.829	4.279
	NC7LC	8.466*	0.000	5.411	11.521
	NIKI	1.485	0.567	-1.569	4.539
	VE9	-2.828	0.074	-5.883	0.226
NC7LC	Burley 21E	0.111	1.000	-2.943	3.166
	KLIO	-7.241*	0.000	-10.296	-4.186
	NC297	-8.466*	0.000	-11.521	-5.411
	NIKI	-6.981*	0.000	-10.036	-3.926
	VE9	-11.295*	0.000	-14.349	-8.240
NIKI	Burley 21E	7.093*	0.000	4.038	10.148
	KLIO	-0.260	1.000	-3.314	2.794
	NC297	-1.485	0.567	-4.539	1.569
	NC7LC	6.981*	0.000	3.926	10.036
	VE9	-4.313*	0.006	-7.368	-1.258
VE9	Burley 21E	11.406*	0.000	8.351	14.461
	KLIO	4.053*	0.009	0.998	7.108
	NC297	2.828	0.074	-0.226	5.883
	NC7LC	11.295*	0.000	8.240	14.349
	NIKI	4.313*	0.006	1.258	7.368

(B)

Variety	**N**	**Subset**		
		1	**2**	**3**
Burley 21E	6	3.378		
NC7LC	6	3.490		
NIKI	6		10.471	
KLIO	6		10.731	
NC297	6		11.956	11.956
VE9	6			14.785
p-value		1.000	0.567	0.074