Supplementary data for the article:

Dramićanin, A. M.; Andrić, F. L.; Poštić, D. Ž.; Momirović, N. M.; Milojković-Opsenica, D. M. Sugar Profiles as a Promising Tool in Tracing Differences between Potato Cultivation Systems, Botanical Origin and Climate Conditions. *Journal of Food Composition and Analysis* **2018**, *72*, 57–65. https://doi.org/10.1016/j.jfca.2018.06.005

**Table A1.** Univariate test for significance of factor effects influencing sugar microcomponents level (Tre – trehalose, Mal – maltose, Ara – arabinose, Tur – turanose, Rib – ribose, Gent – gentiobiose, Ism – isomaltose, Pan – panose, Ismt – isomaltotriose, Malt – maltotriose, Mel – melibiose, Gal – galactose, Xyl – xylose, Sor – sorbitol, Glt – galactitol) in the potato bulk and peel. Values designated to peel samples are in bold. DF-Degrees of freedom; SS-Sum of squares; MS-Mean squares. Factors: F1–production type: conventional (C), integral (I), organic (O); F2–varieties: Marabel (M), Red Fantasy (F), Laura (L) and Jelly (J); F3-production year: 2013, 2014, 2015. All of the presented results are statistically significant except the ones marked with ”a”.

| | | Sor | | | | Tre | | | | Ara | | | | Tur | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Factor | DF | SS | MS | F | p | SS | MS | F | p | SS | MS | F | p | SS | MS | F | p |
| Intercept | 1 | 15.86 | 15.86 | 11740.92 | <0.001 | 31.44 | 31.44 | 16647.69 | <0.001 | 52.81 | 52.81 | 35695.45 | <0.001 | 109.83 | 109.83 | 100125.6 | <0.001 |
| | | **0.56** | **0.56** | **171485.9** | **<0.001** | **68.20** | **68.20** | **42987.29** | **<0.001** | **4.59** | **4.59** | **46904.02** | **<0.001** | **156.38** | **156.38** | **396314.2** | **<0.001** |
| $F_1$ | 2 | 0.89 | 0.44 | 328.63 | <0.001 | 2.74 | 1.37 | 726.88 | <0.001 | 1.32 | 0.66 | 445.38 | <0.001 | 10.97 | 5.48 | 4998.8 | <0.001 |
| | | **0.19** | **0.10** | **29599.8** | **<0.001** | **10.72** | **5.36** | **3377.29** | **<0.001** | **0.04** | **0.02** | **197.65** | **<0.001** | **4.77** | **2.38** | **6041.0** | **<0.001** |
| $F_2$ | 3 | 7.53 | 2.51 | 1857.39 | <0.001 | 4.09 | 1.36 | 722.24 | <0.001 | 35.35 | 11.78 | 7964.80 | <0.001 | 10.51 | 3.50 | 3192.8 | <0.001 |
| | | **0.11** | **0.04** | **11500.7** | **<0.001** | **3.84** | **1.28** | **806.08** | **<0.001** | **0.16** | **0.05** | **533.48** | **<0.001** | **8.11** | **2.70** | **6851.8** | **<0.001** |
| $F_3$ | 2 | 13.49 | 6.75 | 4993.90 | <0.001 | 13.95 | 6.98 | 3694.12 | <0.001 | 22.13 | 11.06 | 7477.24 | <0.001 | 9.48 | 4.74 | 4321.0 | <0.001 |
| | | **0.21** | **0.11** | **32634.4** | **<0.001** | **97.73** | **48.86** | **30799.55** | **<0.001** | **1.13** | **0.56** | **5742.97** | **<0.001** | **7.18** | **3.59** | **9099.5** | **<0.001** |
| $F_1 \times F_2$ | 6 | 4.50 | 0.75 | 555.71 | <0.001 | 0.78 | 0.13 | 68.98 | <0.001 | 17.89 | 2.98 | 2015.53 | <0.001 | 6.69 | 1.11 | 1016.4 | <0.001 |
| | | **0.15** | **0.02** | **7487.5** | **<0.001** | **38.98** | **6.45** | **4095.24** | **<0.001** | **0.17** | **0.03** | **285.53** | **<0.001** | **7.77** | **1.30** | **3283.5** | **<0.001** |
| $F_1 \times F_3$ | 4 | 0.42 | 0.10 | 76.86 | <0.001 | 3.52 | 0.88 | 466.19 | <0.001 | 1.95 | 0.49 | 329.17 | <0.001 | 1.04 | 0.26 | 236.7 | <0.001 |
| | | **0.15** | **0.04** | **11328.6** | **<0.001** | **24.47** | **6.12** | **3856.47** | **<0.001** | **0.53** | **0.13** | **1349.64** | **<0.001** | **6.35** | **1.59** | **4026.0** | **<0.001** |
| $F_2 \times F_3$ | 6 | 9.52 | 1.59 | 1174.90 | <0.001 | 3.33 | 0.56 | 294.07 | <0.001 | 59.59 | 9.93 | 6712.56 | <0.001 | 34.71 | 5.79 | 5274.3 | <0.001 |
| | | **0.11** | **0.02** | **5583.3** | **<0.001** | **4.23** | **0.70** | **444.02** | **<0.001** | **0.82** | **0.14** | **1389.55** | **<0.001** | **8.65** | **1.44** | **3654.8** | **<0.001** |
| $F_1 \times F_2 \times F_3$ | 12 | 9.73 | 0.81 | 600.45 | <0.001 | 2.10 | 0.17 | 92.54 | <0.001 | 38.07 | 3.17 | 2144.21 | <0.001 | 6.34 | 0.53 | 481.5 | <0.001 |
| | | **0.17** | **0.01** | **4266.5** | **<0.001** | **72.35** | **6.03** | **3800.47** | **<0.001** | **0.59** | **0.05** | **499.17** | **<0.001** | **13.12** | **1.09** | **2768.2** | **<0.001** |

**Table A1.** Continued.

| | | Mal | | | | Glt | | | | Gal | | | | Rib | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Factor | DF | SS | MS | F | p | SS | MS | F | p | SS | MS | F | p | SS | MS | F | p |
| Intercept | 1 | 72.02 | 72.02 | 15538.92 | <0.001 | 1.25 | 1.25 | 3691.89 | <0.001 | 58.97 | 58.97 | 5562.59 | <0.001 | 9.63 | 9.63 | 336.78 | <0.001 |
| | | **95.15** | **95.15** | **10744.37** | **<0.001** | **1.41** | **1.41** | **376.67** | **<0.001** | **81.08** | **81.08** | **472.37** | **<0.001** | **7.22** | **7.22** | **3093.28** | **<0.001** |
| $F_1$ | 2 | 11.91 | 5.95 | 1284.36 | <0.001 | 0.30 | 0.15 | 436.68 | <0.001 | 28.23 | 14.12 | 1331.67 | <0.001 | 1.93 | 0.96 | 33.74 | <0.001 |
| | | **13.96** | **6.98** | **788.20** | **<0.001** | **0.01** | **0.01** | **1.71** | **0.19 a** | **36.79** | **18.39** | **107.16** | **<0.001** | **0.38** | **0.19** | **82.29** | **<0.001** |
| $F_2$ | 3 | 2.61 | 0.87 | 187.76 | <0.001 | 0.05 | 0.02 | 53.71 | <0.001 | 1.33 | 0.44 | 41.91 | <0.001 | 0.29 | 0.10 | 3.41 | <0.001 |
| | | **7.69** | **2.56** | **289.48** | **<0.001** | **0.10** | **0.03** | **9.31** | **<0.001** | **18.29** | **6.10** | **35.51** | **<0.001** | **1.31** | **0.44** | **187.51** | **<0.001** |
| $F_3$ | 2 | 18.18 | 9.09 | 1961.06 | <0.001 | 0.40 | 0.20 | 592.03 | <0.001 | 27.18 | 13.59 | 1282.06 | <0.001 | 0.40 | 0.20 | 7.01 | <0.001 |
| | | **20.62** | **10.31** | **1164.15** | **<0.001** | **0.75** | **0.38** | **100.22** | **<0.001** | **90.80** | **45.40** | **264.50** | **<0.001** | **1.65** | **0.82** | **352.73** | **<0.001** |
| $F_1 \times F_2$ | 6 | 2.27 | 0.38 | 81.63 | <0.001 | 0.27 | 0.05 | 133.24 | <0.001 | 3.34 | 0.56 | 52.47 | <0.001 | 0.87 | 0.14 | 5.06 | <0.001 |
| | | **4.65** | **0.77** | **87.50** | **<0.001** | **0.59** | **0.10** | **26.41** | **<0.001** | **61.67** | **10.28** | **59.88** | **<0.001** | **2.87** | **0.48** | **205.22** | **<0.001** |
| $F_1 \times F_3$ | 4 | 10.37 | 2.59 | 559.54 | <0.001 | 0.19 | 0.05 | 143.92 | <0.001 | 32.53 | 8.13 | 767.25 | <0.001 | 1.20 | 0.30 | 10.48 | <0.001 |
| | | **4.43** | **1.11** | **125.10** | **<0.001** | **0.09** | **0.02** | **6.15** | **<0.001** | **74.32** | **18.58** | **108.25** | **<0.001** | **1.41** | **0.35** | **150.63** | **<0.001** |
| $F_2 \times F_3$ | 6 | 4.78 | 0.80 | 171.92 | <0.001 | 0.09 | 0.02 | 44.99 | <0.001 | 13.90 | 2.32 | 218.57 | <0.001 | 0.74 | 0.12 | 4.32 | <0.001 |
| | | **26.87** | **4.48** | **505.72** | **<0.001** | **0.38** | **0.06** | **16.79** | **<0.001** | **36.13** | **6.02** | **35.09** | **<0.001** | **1.60** | **0.27** | **114.54** | **<0.001** |
| $F_1 \times F_2 \times F_3$ | 12 | 6.31 | 0.53 | 113.40 | <0.001 | 0.53 | 0.04 | 130.14 | <0.001 | 9.88 | 0.82 | 77.64 | <0.001 | 1.25 | 0.10 | 3.65 | <0.001 |
| | | **10.83** | **0.90** | **101.93** | **<0.001** | **0.66** | **0.06** | **14.75** | **<0.001** | **115.14** | **9.59** | **55.90** | **<0.001** | **6.17** | **0.51** | **220.35** | **<0.001** |

**Table A1.** Continued.

| | | Ism | | | | Ismt | | | | Malt | | | | Xyl | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Factor | DF | SS | MS | F | p | SS | MS | F | p | SS | MS | F | p | SS | MS | F | p |
| Intercept | 1 | 14.63 | 14.63 | 6260.26 | <0.001 | 5.72 | 5.72 | 2122.04 | <0.001 | 28.74 | 28.74 | 7067.57 | <0.001 | 13.04 | 13.04 | 2636.51 | <0.001 |
| | | **32.40** | **32.40** | **9117.83** | **<0.001** | **3.73** | **3.73** | **7568.40** | **<0.001** | **17.58** | **17.58** | **182.99** | **<0.001** | **20.08** | **20.08** | **104.40** | **<0.001** |
| $F_1$ | 2 | 0.83 | 0.41 | 177.47 | <0.001 | 0.35 | 0.17 | 64.19 | <0.001 | 4.36 | 2.18 | 535.95 | <0.001 | 2.31 | 1.15 | 233.45 | <0.001 |
| | | **0.17** | **0.08** | **23.64** | **<0.001** | **0.25** | **0.12** | **252.58** | **<0.001** | **4.30** | **2.15** | **22.38** | **<0.001** | **1.39** | **0.70** | **3.62** | **0.03** |
| $F_2$ | 3 | 1.33 | 0.44 | 190.31 | <0.001 | 0.79 | 0.26 | 97.51 | <0.001 | 13.44 | 4.48 | 1101.50 | <0.001 | 1.55 | 0.52 | 104.21 | <0.001 |
| | | **2.23** | **0.74** | **209.24** | **<0.001** | **0.42** | **0.14** | **282.11** | **<0.001** | **1.95** | **0.65** | **6.77** | **<0.001** | **0.75** | **0.25** | **1.30** | **0.28 a** |
| $F_3$ | 2 | 1.55 | 0.78 | 332.57 | <0.001 | 0.03 | 0.01 | 4.76 | <0.001 | 32.57 | 16.28 | 4003.87 | <0.001 | 3.29 | 1.64 | 332.69 | <0.001 |
| | | **12.09** | **6.04** | **1700.56** | **<0.001** | **0.51** | **0.25** | **513.71** | **<0.001** | **11.62** | **5.81** | **60.47** | **<0.001** | **5.68** | **2.84** | **14.77** | **<0.001** |
| $F_1 \times F_2$ | 6 | 0.37 | 0.06 | 26.20 | <0.001 | 0.21 | 0.03 | 12.97 | <0.001 | 5.06 | 0.84 | 207.47 | <0.001 | 0.69 | 0.12 | 23.32 | <0.001 |
| | | **2.55** | **0.42** | **119.52** | **<0.001** | **0.07** | **0.01** | **23.01** | **<0.001** | **1.17** | **0.20** | **2.03** | **0.08 a** | **2.00** | **0.33** | **1.74** | **0.13 a** |
| $F_1 \times F_3$ | 4 | 0.27 | 0.07 | 29.14 | <0.001 | 0.02 | 0.01 | 2.27 | 0.07 a | 4.70 | 1.18 | 289.03 | <0.001 | 1.08 | 0.27 | 54.41 | <0.001 |
| | | **1.44** | **0.36** | **101.37** | **<0.001** | **0.23** | **0.06** | **118.91** | **<0.001** | **5.63** | **1.41** | **14.65** | **<0.001** | **1.55** | **0.39** | **2.02** | **0.10 a** |
| $F_2 \times F_3$ | 6 | 0.95 | 0.16 | 67.87 | <0.001 | 0.78 | 0.13 | 48.03 | <0.001 | 26.88 | 4.48 | 1101.49 | <0.001 | 2.68 | 0.45 | 90.30 | <0.001 |
| | | **3.64** | **0.61** | **170.75** | **<0.001** | **0.45** | **0.08** | **153.17** | **<0.001** | **1.43** | **0.24** | **2.49** | **0.03** | **4.71** | **0.79** | **4.09** | **<0.001** |
| $F_1 \times F_2 \times F_3$ | 12 | 0.68 | 0.06 | 24.07 | <0.001 | 0.20 | 0.02 | 6.12 | <0.001 | 8.84 | 0.74 | 181.22 | <0.001 | 1.53 | 0.13 | 25.83 | <0.001 |
| | | **8.10** | **0.67** | **189.91** | **<0.001** | **0.51** | **0.04** | **86.89** | **<0.001** | **2.37** | **0.20** | **2.06** | **0.04** | **3.59** | **0.30** | **1.56** | **0.13 a** |

**Table A1.** Continued.

| | | Mel | | | | Gent | | | | Pan | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Factor | DF | SS | MS | F | p | SS | MS | F | p | SS | MS | F | p |
| Intercept | 1 | 10.25 | 10.25 | 15522.79 | <0.001 | 8.81 | 8.81 | 12708.03 | <0.001 | 15.46 | 15.46 | 3309.68 | <0.001 |
| | | **19.00** | **19.00** | **3626.61** | **<0.001** | **8.23** | **8.23** | **37167.63** | **<0.001** | **3.21** | **3.21** | **4534.80** | **<0.001** |
| $F_1$ | 2 | 1.04 | 0.52 | 785.71 | <0.001 | 0.41 | 0.21 | 296.71 | <0.001 | 1.05 | 0.53 | 112.39 | <0.001 |
| | | **0.10** | **0.05** | **9.20** | **<0.001** | **1.56** | **0.78** | **3528.95** | **<0.001** | **0.72** | **0.36** | **506.23** | **<0.001** |
| $F_2$ | 3 | 0.74 | 0.25 | 373.79 | <0.001 | 0.47 | 0.16 | 227.32 | <0.001 | 0.63 | 0.21 | 45.09 | <0.001 |
| | | **1.26** | **0.42** | **79.96** | **<0.001** | **1.04** | **0.35** | **1558.33** | **<0.001** | **0.55** | **0.18** | **260.93** | **<0.001** |
| $F_3$ | 2 | 2.30 | 1.15 | 1742.08 | <0.001 | 4.53 | 2.26 | 3266.14 | <0.001 | 21.69 | 10.85 | 2321.34 | <0.001 |
| | | **11.14** | **5.57** | **1062.99** | **<0.001** | **1.41** | **0.71** | **3183.50** | **<0.001** | **2.43** | **1.21** | **1717.95** | **<0.001** |
| $F_1 \times F_2$ | 6 | 0.37 | 0.06 | 94.36 | <0.001 | 0.25 | 0.04 | 61.03 | <0.001 | 3.02 | 0.50 | 107.77 | <0.001 |
| | | **0.96** | **0.16** | **30.68** | **<0.001** | **0.49** | **0.08** | **371.80** | **<0.001** | **0.17** | **0.03** | **40.05** | **<0.001** |
| $F_1 \times F_3$ | 4 | 0.40 | 0.10 | 151.76 | <0.001 | 0.05 | 0.01 | 18.47 | <0.001 | 2.41 | 0.60 | 129.21 | <0.001 |
| | | **0.82** | **0.20** | **39.08** | **<0.001** | **0.36** | **0.09** | **409.44** | **<0.001** | **0.83** | **0.21** | **294.40** | **<0.001** |
| $F_2 \times F_3$ | 6 | 2.30 | 0.38 | 580.73 | <0.001 | 6.25 | 1.04 | 1503.56 | <0.001 | 1.12 | 0.19 | 40.03 | <0.001 |
| | | **2.91** | **0.49** | **92.61** | **<0.001** | **1.16** | **0.19** | **870.60** | **<0.001** | **0.23** | **0.04** | **53.50** | **<0.001** |
| $F_1 \times F_2 \times F_3$ | 12 | 0.97 | 0.08 | 122.64 | <0.001 | 0.59 | 0.05 | 71.32 | <0.001 | 6.20 | 0.52 | 110.54 | <0.001 |
| | | **1.36** | **0.11** | **21.61** | **<0.001** | **0.74** | **0.06** | **277.38** | **<0.001** | **0.25** | **0.02** | **29.67** | **<0.001** |