

Table S1. The main agronomic parameters and nutritional composition of the biomass recorded on the assessed cultivars, across the harvest times, during the two growing seasons

| Treatment | Yield dry weight (t ha ⁻¹) | | CWP (g DM L m ⁻²) | | N-efficiency (t DM kg N ⁻¹) | | NDF (% of DM) | | uNDF (% of DM) | | NEL (kcal kg DM ⁻¹) | |
|--|--|----------|-------------------------------|----------|---|----------|---------------|----------|----------------|----------|---------------------------------|-----------|
| Cultivar - growing season 2013-2014 | | | | | | | | | | | | |
| Altezza | 12.6 | bc | 2.34 | abc | 0.13 | bc | 57.5 | bc | 15.6 | b | 1235 | cd |
| Artico | 10.9 | d | 2.05 | d | 0.11 | d | 52.3 | e | 13.4 | ef | 1317 | ab |
| Caravaggio | 11.7 | cd | 2.2 | bcd | 0.12 | cd | 53.5 | e | 14.8 | cd | 1307 | b |
| Ethic | 13.1 | ab | 2.43 | ab | 0.13 | ab | 49.3 | f | 12.7 | fg | 1347 | a |
| Giorgione | 12.0 | cd | 2.22 | bcd | 0.12 | cd | 56.5 | cd | 15.5 | bc | 1213 | def |
| Ludwig | 13.1 | ab | 2.41 | ab | 0.13 | ab | 58.8 | ab | 15.0 | bcd | 1202 | ef |
| Masaccio | 11.9 | cd | 2.07 | d | 0.12 | cd | 55.8 | d | 15.2 | bcd | 1256 | c |
| Norenos | 13.8 | a | 2.55 | a | 0.14 | a | 59.2 | a | 16.6 | a | 1187 | f |
| Paledor | 11.3 | d | 2.09 | cd | 0.11 | d | 52.7 | e | 12.3 | g | 1301 | b |
| Papageno | 11.1 | d | 2.06 | d | 0.11 | d | 57.6 | bc | 13.8 | e | 1227 | cde |
| Sailor | 12.6 | bc | 2.33 | abc | 0.13 | bc | 57.7 | bc | 14.7 | d | 1238 | cd |
| <i>p-value</i> | p<0.001 | | p<0.01 | | p<0.05 | | p<0.001 | | p<0.001 | | p<0.001 | |
| Treatment | Yield dry weight (t ha ⁻¹) | | CWP (kg DM L ⁻¹) | | N-efficiency (t DM kg N ⁻¹) | | NDF (% of DM) | | uNDF (% of DM) | | NEL (kcal kg DM ⁻¹) | |
| Cultivar - growing season 2014-2015 | | | | | | | | | | | | |
| Altezza | 12.8 | bc | 2.88 | | 0.13 | bc | 57.1 | c | 14.5 | abc | 1264 | b |
| Artico | 11.3 | d | 2.64 | | 0.11 | d | 53.1 | f | 12.8 | ef | 1316 | a |
| Caravaggio | 11.5 | d | 2.48 | | 0.11 | d | 53.4 | ef | 13.7 | cde | 1316 | a |
| Ethic | 12.3 | bcd | 2.77 | | 0.12 | bcd | 52.3 | f | 13.5 | de | 1326 | a |
| Giorgione | 12.9 | bc | 2.94 | | 0.13 | bc | 56.13 | cd | 15.3 | a | 1258 | b |
| Ludwig | 13.1 | bc | 2.87 | | 0.13 | bc | 59.06 | ab | 14.8 | ab | 1247 | b |
| Masaccio | 12.0 | cd | 2.82 | | 0.12 | cd | 56.96 | c | 15.1 | ab | 1269 | b |
| Norenos | 14.5 | a | 3.17 | | 0.15 | a | 60.02 | a | 15.4 | a | 1215 | c |
| Paledor | 13.1 | bc | 2.99 | | 0.13 | bc | 52.23 | f | 11.3 | g | 1332 | a |
| Papageno | 13.2 | b | 2.89 | | 0.13 | b | 55.01 | de | 12.3 | f | 1308 | a |
| Sailor | 13.4 | ab | 2.91 | | 0.13 | ab | 57.48 | bc | 14.2 | bcd | 1257 | b |
| <i>p-value</i> | p<0.001 | | n.s. | | p<0.001 | | p<0.001 | | p<0.001 | | p<0.001 | |

DM = dry matter; CWP = crop water productivity; N-efficiency = nitrogen efficiency; neutral detergent fiber (NDF); undigested NDF (uNDF); NEL = net energy for lactation; different letters indicate statistically significant differences (within a variable) at p < 0.05. n.s. = not significant.