**Supplementary Tables**

*Frost*

Table S1: Extreme and average date of the first and last frost from 2014 to 2021 in Formosa Argentina

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Date of first frost** | **Date of last frost** | **Total number of frosts** |
| 2014 |  |  | 0 |
| 2015 |  |  | 0 |
| 2016 | 09-Jun | 23-Aug | 11 |
| 2017 | 18-Jul | 20-Jul | 3 |
| 2018 | 16-Jun | 27-Aug | 12 |
| 2019 | 06-Jul | 05-Aug | 6 |
| 2020 | 08-May | 22-Aug | 9 |
| 2021 | 29-Jun | 03-Aug | 7 |
| Average | 19-Jun | 11-Aug | 6 |
| Minimum | 08-May | 20-Jul | 0 |
| Maximum | 29-Jun | 27-aug | 12 |

*Temperature and humidity*

Table S2: Monthly averages and deviations from 2014 to 2021 of the maximum, minimum, average temperature and humidity in Formosa Argentina

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Maximum Temperature (°C)** | **Minimum Temperature (°C)** | **Average Temperature (°C)** | **Humidity (%)** |
|  | **January** | Average | 35.733 | 23.435 | 29.570 | 70.903 |
|  | Deviation | 23.006 | 2.057 | 11.457 | 10.117 |
|  | **February** | Average | 33.484 | 22.475 | 27.980 | 68.652 |
|  | Deviation | 3.211 | 2.444 | 2.486 | 11.672 |
|  | **March** | Average | 31.747 | 20.939 | 26.343 | 70.562 |
|  | Deviation | 3.637 | 2.760 | 2.731 | 13.608 |
|  | **April** | Average | 29.468 | 18.827 | 24.147 | 72.420 |
|  | Deviation | 3.984 | 4.091 | 3.677 | 11.305 |
|  | **May** | Average | 25.330 | 15.693 | 20.479 | 76.865 |
|  | Deviation | 4.433 | 6.198 | 4.522 | 11.553 |
|  | **June** | Average | 23.891 | 13.520 | 18.694 | 75.146 |
|  | Deviation | 4.932 | 5.213 | 4.699 | 10.898 |
|  | **July** | Average | 24.639 | 12.437 | 18.540 | 67.996 |
|  | Deviation | 5.321 | 5.464 | 5.018 | 14.093 |
|  | **August** | Average | 28.025 | 14.513 | 21.269 | 59.752 |
|  | Deviation | 5.477 | 5.424 | 5.120 | 13.705 |
|  | **September** | Average | 29.973 | 16.704 | 23.338 | 60.252 |
|  | Deviation | 5.797 | 4.523 | 4.666 | 15.804 |
|  | **October** | Average | 31.615 | 19.260 | 25.438 | 64.558 |
|  | Deviation | 5.032 | 3.900 | 4.122 | 15.881 |
|  | **November** | Average | 31.419 | 19.773 | 25.574 | 64.840 |
|  | Deviation | 6.049 | 4.417 | 4.976 | 14.383 |
|  | **December** | Average | 33.483 | 22.012 | 27.748 | 66.563 |
|  | Deviation | 2.943 | 2.548 | 2.338 | 12.976 |

*Precipitation*

Table S3: Total monthly and annual rainfall from 2014 to 2021 in Formosa Argentina millimeters (mm)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** |
| **January** | 68 | 181 | 148 | 95 | 219 | 166 | 131.5 | 222.5 |
| **February** | 114 | 195 | 316 | 182 | 36 | 45 | 58 | 29 |
| **March** | 318 | 55 | 93 | 69 | 129 | 266 | 30.5 | 105 |
| **April** | 247 | 158 | 149 | 148 | 0 | 266 | 31 | 145 |
| **May** | 222 | 303 | 86 | 124.6 | 73 | 206 | 30.5 | 27 |
| **June** | 140 | 84.5 | 2 | 75 | 32 | 2.4 | 37.5 | 73 |
| **July** | 45 | 90 | 21 | 0 | 27 | 42.8 | 22.8 | 63 |
| **August** | 2 | 53 | 28 | 36.5 | 15 | 33.2 | 5 | 2 |
| **September** | 65 | 4 | 27 | 30 | 190 | 0 | 13 | 62.5 |
| **October** | 10 | 100 | 177.8 | 135 | 215 | 54 | 61.5 | 147.5 |
| **November** | 189 | 163 | 164 | 170 | 138 | 89 | 212.9 | 83 |
| **December** | 161 | 375 | 257 | 91 | 31 | 54 | 312.8 | 56.5 |
| **Total annual** | 1581 | 1761.5 | 1468.8 | 1156.1 | 1105 | 1223 | 947 | 1016 |

*Multiple Factor Analysis*

Table S4. Coordinates of the first five global axes of the MFA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **axis 1** | **axis 2** | **axis 3** | **axis 4** | **axis 5** |
| Height 16 | 0.12765550 | 0.424211659 | 0.21880103 | -0.0166899713 | 0.25950282 |
| Diameter 16 | 0.12588660 | 0.313382287 | 0.54244875 | 0.2846098300 | -0.09587351 |
| Leaves at flowering 16 | -0.17712110 | 0.204045968 | 0.34398847 | 0.5462210318 | -0.20872050 |
| Number of hands 16 | 0.17502472 | 0.083763687 | 0.50026275 | 0.1825250306 | 0.18688587 |
| Hands weight 16 | -0.03135019 | 0.536202201 | 0.36288507 | 0.5155487272 | 0.20628649 |
| Second hand diameter 16 | -0.01715517 | 0.723278816 | 0.17782030 | 0.4215250018 | 0.24632887 |
| Second hand length 16 | -0.14572972 | 0.650244471 | 0.26596109 | 0.3789854019 | 0.27161439 |
| Last hand diameter 16 | -0.18368268 | 0.602682027 | 0.07752501 | 0.1205597781 | 0.31812170 |
| Last hand length 16 | -0.19448105 | 0.517420783 | 0.34101028 | 0.1650904372 | 0.21368887 |
| Peel thickness 16 | 0.70588128 | 0.045427807 | -0.15350193 | 0.4788680979 | -0.03854582 |
| Height 17 | 0.49776821 | 0.430394202 | -0.21429003 | -0.1010920953 | 0.16007787 |
| Diameter 17 | 0.76648057 | 0.273739642 | -0.16689631 | 0.3497113274 | 0.11891758 |
| Leaves at flowering 17 | -0.07671324 | -0.005424714 | -0.16891466 | 0.2167586035 | 0.20011428 |
| Number of hands 17 | 0.72606340 | 0.186643115 | -0.15692764 | 0.2997752577 | 0.09920455 |
| Hands weight 17 | 0.79828071 | -0.012846471 | -0.30342874 | 0.0213506866 | 0.24628639 |
| Second hand diameter 17 | 0.22510064 | -0.260237047 | -0.28169112 | 0.0579152348 | 0.43362409 |
| Second hand length 17 | 0.54993471 | 0.121300411 | 0.26373102 | -0.2715737987 | -0.14688417 |
| Last hand diameter 17 | 0.16684737 | -0.285068170 | -0.12743747 | 0.0228490014 | 0.58099976 |
| Last hand length 17 | 0.56825508 | -0.091257135 | 0.48285530 | -0.1978073548 | -0.26382278 |
| Peel thickness 17 | -0.03313345 | 0.169775509 | 0.06326504 | -0.0550649846 | -0.40211574 |
| Height 18 | 0.21965053 | -0.097502635 | 0.71458234 | 0.0430706206 | 0.03189672 |
| Diameter 18 | 0.81564391 | 0.145380198 | 0.01935152 | 0.1494828438 | 0.23034289 |
| Leaves at flowering 18 | 0.37985983 | 0.298090140 | 0.01328965 | -0.0454445982 | -0.09557534 |
| Number of hands 18 | 0.51760865 | -0.177807083 | -0.08725578 | 0.2990132330 | 0.15219109 |
| Hands weight 18 | 0.62705096 | 0.278319907 | 0.03049261 | -0.2014424449 | -0.03762867 |
| Second hand diameter 18 | 0.02147121 | 0.038882969 | 0.19888529 | -0.4323344673 | 0.60291546 |
| Second hand length 18 | 0.56276477 | 0.287719602 | 0.22536208 | -0.1366865520 | -0.49023294 |
| Last hand diameter 18 | 0.02917281 | 0.157446906 | 0.19049340 | -0.3931332382 | 0.42859416 |
| Last hand length 18 | 0.33809236 | 0.346282434 | 0.42746655 | 0.0003378418 | -0.35624776 |
| Peel thickness 18 | -0.09875407 | 0.350391150 | 0.07905750 | 0.1066136080 | -0.44869327 |
| Height 19 | 0.06734290 | 0.344169051 | 0.01465436 | -0.3126591118 | -0.05022788 |
| Diameter 19 | 0.60161286 | 0.089757905 | -0.34200315 | -0.2131698760 | -0.10577798 |
| Leaves at flowering 19 | 0.36254992 | 0.440101016 | -0.14807000 | 0.1641690348 | -0.13544397 |
| Number of hands 19 | 0.43036392 | 0.136153370 | -0.49358534 | -0.0195749750 | -0.47344324 |
| Hands weight 19 | 0.14644811 | 0.536752676 | -0.48180194 | -0.2966661777 | -0.17356465 |
| Second hand diameter 19 | -0.01707707 | 0.548842651 | -0.65884800 | -0.1377920501 | 0.13092647 |
| Second hand length 19 | -0.18259161 | 0.526191902 | -0.24731784 | -0.2940540561 | 0.05877225 |
| Last hand diameter 19 | -0.21294740 | 0.418686232 | -0.60148586 | -0.0538283404 | -0.29152837 |
| Last hand length 19 | 0.13371875 | 0.505110439 | -0.29585163 | -0.4202157238 | -0.21446760 |
| Peel thickness 19 | 0.18418610 | 0.113562107 | -0.30154787 | -0.3689880526 | 0.31893494 |
| Height 20 | 0.19895018 | -0.420347561 | -0.46265150 | 0.4160590463 | 0.12366231 |
| Diameter 20 | 0.53274859 | -0.214551492 | -0.16013620 | 0.5572657228 | 0.07337733 |
| Leaves at flowering 20 | 0.50738742 | -0.387701881 | 0.04292893 | -0.0674038962 | 0.07848981 |
| Number of hands 20 | 0.39726735 | -0.378790851 | -0.22371796 | 0.6566182160 | -0.22580741 |
| Hands weight 20 | 0.67251476 | -0.465213032 | 0.05196602 | -0.0928492194 | -0.07784792 |
| Second hand Diameter 20 | 0.47046259 | -0.026259097 | 0.27106112 | -0.5106333047 | 0.06143073 |
| Second hand length 20 | 0.59954895 | -0.431498389 | 0.26943581 | -0.3105962890 | -0.17292509 |
| Last hand diameter 20 | 0.46061969 | 0.054127122 | 0.41396939 | -0.3239678236 | 0.25118572 |
| Last hand length 20 | 0.55581720 | -0.354871369 | 0.07461270 | -0.3426725401 | 0.05605198 |
| Peel thickness 20 | -0.04183577 | -0.408970367 | 0.09401151 | 0.0406559147 | -0.50954298 |

*Analysis of variance (ANOVA)*

Table S5. Analysis of Variance Table for plant height (SS type III)

SD SS DF F p-value

Model 4.46 14 2.54 0.0029

Group 0.23 2 0.91 0.4055

Year 3.12 4 6.23 0.0001

Group\*Year 1.04 8 1.03 0.4150

Error 16.93 135

Total 21.39 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S6. Analysis of Variance Table for pant diameter (SS type III)

SD SS DF F p-value

Model 13593.52 14 33.03 <0.0001

Group 2583.05 2 43.94 <0.0001

Year 9489.42 4 80.71 <0.0001

Group\*Year 698.16 8 2.97 0.0043

Error 3967.95 135

Total 17561.47 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S7. Analysis of Variance Table for leaves at flowering (SS type III)

SD SS DF F p-value

Model 52.79 14 2.84 0.0009

Group 8.75 2 3.30 0.0399

Year 37.63 4 7.09 <0.0001

Group\*Year 7.86 8 0.74 0.6552

Error 179.05 135

Total 231.84 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S8. Analysis of Variance Table for number of hands (SS type III)

SD SS DF F p-value

Model 165.82 14 9.87 <0.0001

Group 48.46 2 20.19 <0.0001

Year 98.16 4 20.45 <0.0001

Group\*Year 12.60 8 1.31 0.2423

Error 161.98 135

Total 327.79 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S9. Analysis of Variance Table for hands weight (SS type III)

SD SS DF F p-value

Model 2200.68 14 8.08 <0.0001

Group 467.60 2 12.02 <0.0001

Year 1339.43 4 17.22 <0.0001

Group\*Year 405.06 8 2.60 0.0111

Error 2625.33 135

Total 4826.01 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S10. Analysis of Variance Table for second hand diameter (SS type III)

SD SS DF F p-value

Model 1519.19 14 21.35 <0.0001

Group 22.01 2 2.16 0.1187

Year 1466.50 4 72.12 <0.0001

Group\*Year 88.69 8 2.18 0.0326

Error 686.26 135

Total 2205.46 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S11. Analysis of Variance Table for second hand length (SS type III)

SD SS DF F p-value

Model 334.72 14 8.37 <0.0001

Group 10.21 2 1.79 0.1714

Year 267.47 4 23.41 <0.0001

Group\*Year 55.82 8 2.44 0.0168

Error 385.56 135

Total 720.27 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S12. Analysis of Variance Table for last hand diameter (SS type III)

SD SS DF F p-value

Model 1478.17 14 15.38 <0.0001

Group 10.58 2 0.77 0.4647

Year 1403.05 4 51.11 <0.0001

Group\*Year 51.62 8 0.94 0.4858

Error 926.52 135

Total 2404.69 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S13. Analysis of Variance Table for last hand length (SS type III)

SD SS DF F p-value

Model 219.02 14 7.00 <0.0001

Group 3.44 2 0.77 0.4647

Year 193.27 4 21.62 <0.0001

Group\*Year 15.02 8 0.84 0.5689

Error 301.67 135

Total 520.69 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom

Table S14. Analysis of Variance Table for peel thickness (SS type III)

SD SS DF F p-value

Model 10.60 14 3.08 0.0004

Group 1.70 2 3.47 0.0339

Year 3.68 4 3.74 0.0064

Group\*Year 5.91 8 3.01 0.0039

Error 33.16 135

Total 43.75 149

Note: SD: sources of deviation; SS: sum of squares; DF: degree of freedom