Supplementary Table 1: Basic information of each trial included in AFA data series: latitude (Lat.), longitude (Lg.), sowing date, number of hybrids tested and environmental index (EI, Mg ha-1).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Location | Lat. | Lg. | Sowing date | Hybrids | EI |
| **AFA 2010-11** | | | | | |
| Marcos Juarez | 32.67 | 62.00 | 17/09/2010 | 22 | 7.83 |
| Las Rosas | 32.33 | 61.50 | 05/10/2010 | 22 | 7.95 |
| Cañada de Gomez | 32.67 | 61.33 | 24/09/2010 | 20 | 8.61 |
| Bigand-Bombal | 33.33 | 61.16 | 24/09/2010 | 22 | 8.93 |
| María Juana | 31.67 | 61.67 | 05/10/2010 | 20 | 9.32 |
| Maciel- Carrizales | 32.33 | 60.83 | 17/09/2010 | 22 | 9.42 |
| Alcorta | 33.50 | 61.00 | 05/10/2010 | 21 | 10.77 |
| Casilda | 33.00 | 61.16 | 04/10/2010 | 22 | 11.70 |
| Firmat | 33.33 | 61.33 | 05/10/2010 | 21 | 12.42 |
| Arteaga | 33.00 | 61.67 | 24/09/2010 | 22 | 13.36 |
| Chovet | 33.50 | 61.50 | 03/10/2010 | 22 | 14.42 |
| **AFA 2011-12** | | | | | |
| Bigand-Bombal | 33.33 | 61.16 | 21/10/2011 | 20 | 4.02 |
| Crespo | 32.00 | [60.16](http://tools.wmflabs.org/geohack/geohack.php?language=es&pagename=Crespo_(Entre_R%C3%ADos)&params=-32.033333333333_N_-60.316666666667_E_type:city) | 17/10/2011 | 20 | 5.95 |
| Las Rosas | 32.33 | 61.50 | 26/09/2011 | 20 | 6.27 |
| Cañada de Gomez | 32.67 | 61.33 | 25/10/2011 | 20 | 8.42 |
| Gödeken | 33.33 | [61.50](http://tools.wmflabs.org/geohack/geohack.php?language=es&pagename=G%C3%B6deken&params=-33.3833_N_-61.8333_E_type:city) | 21/09/2011 | 20 | 8.67 |
| Casilda | 33.00 | 61.16 | 26/09/2011 | 20 | 9.13 |
| Marcos Juarez | 32.67 | 62.00 | 21/09/2011 | 20 | 9.15 |
| Alcorta | 33.50 | 61.00 | 17/11/2011 | 16 | 9.54 |
| Maggiolo | 33.67 | [62.16](http://tools.wmflabs.org/geohack/geohack.php?language=es&pagename=Maggiolo&params=-33.7333_N_-62.2833_E_type:city) | 22/09/2011 | 19 | 9.68 |
| Chovet | 33.50 | 61.50 | 25/09/2011 | 18 | 10.11 |
| Chañar Ladeado | 33.00 | 61.67 | 06/10/2011 | 20 | 12.69 |
| **AFA 2012-13** | | | | | |
| Montes de Oca | 32.60 | [61.67](http://tools.wmflabs.org/geohack/geohack.php?language=es&pagename=Montes_de_Oca_(Argentina)&params=-32.5664_N_-61.7686_E_type:city) | 03/10/2012 | 20 | 6.73 |
| Oncativo | 31.83 | [63.67](http://tools.wmflabs.org/geohack/geohack.php?language=es&pagename=Oncativo&params=-31.916666666667_N_-63.666666666667_E_type:city) | 03/10/2012 | 16 | 6.80 |
| Las Rosas | 32.33 | 61.50 | 02/10/2012 | 18 | 7.62 |
| Maggiolo | 33.67 | [62.16](http://tools.wmflabs.org/geohack/geohack.php?language=es&pagename=Maggiolo&params=-33.7333_N_-62.2833_E_type:city) | 27/09/2012 | 20 | 8.71 |
| Rojas | 34.16 | [60.66](http://tools.wmflabs.org/geohack/geohack.php?language=es&pagename=Rojas_(Argentina)&params=-34.183333333333_N_-60.733333333333_E_type:city) | 01/10/2012 | 20 | 10.93 |
| Marcos Juarez | 32.67 | 62.00 | 24/09/2012 | 18 | 11.16 |
| Chañar Ladeado | 33.33 | 61.33 | 13/10/2012 | 20 | 11.72 |
| Arteaga | 33.00 | 61.67 | 28/09/2012 | 20 | 12.17 |
| Chovet | 33.35 | 61.50 | 02/11/2012 | 20 | 12.19 |
| María Juana | 31.67 | 61.67 | 04/10/2012 | 20 | 12.31 |
| Arteaga | 33.00 | 61.67 | 27/09/2012 | 20 | 12.32 |

Supplementary Table 2: Basic information of each hybrid included in AFA data series: complete name, date of release (day/month/year), Seed Company, number of environments where it was tested, and slope and r2 coefficients obtained from Yield *vs*. EI correlations. For all the hybrids, the significance of the correlations Yield *vs*. EI was always higher than P<0.003. In AFA 2011-12, the hybrids AI7308 MLLZ and AI7405 MLLZ were tested before being released to the market and the commercial names appear between brackets. N/A: data not available.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Hybrid | Date of release | Seed company | Number of Environments | Slope  Yield *vs*. EI | r2 |
| **AFA 2010-11** | | | | | |
| M510HXRR2 | 10/06/2010 | Dow | 10 | 0.82 | 0.71 |
| ACA 467RR2 | 29/06/2010 | ACA | 11 | 0.55 | 0.68 |
| ACA 496MG | 25/08/2009 | ACA | 11 | 0.92 | 0.97 |
| AX870 MGRR2 | 28/09/2010 | Nidera | 11 | 0.94 | 0.93 |
| AX 886 MG | 05/09/2007 | Nidera | 11 | 0.90 | 0.88 |
| AX887 MG | 06/09/2010 | Nidera | 10 | 0.97 | 0.89 |
| AX896 MG | 06/09/2010 | Nidera | 11 | 1.08 | 0.94 |
| DK670MGRR2 | 08/06/2009 | Monsanto | 10 | 1.00 | 0.87 |
| DK699MGRR2 | 08/06/2009 | Monsanto | 11 | 1.00 | 0.96 |
| DK 747 MG RR2 | 26/09/2007 | Monsanto | 10 | 1.06 | 0.95 |
| D 2738 MG | 16/04/2009 | Don Mario | 11 | 1.18 | 0.97 |
| D 2741 MG | 17/05/2007 | Don Mario | 11 | 0.92 | 0.97 |
| 2M495MG | 26/06/2009 | Dow | 11 | 1.10 | 0.97 |
| I-887MG | 04/08/2010 | Illinois | 10 | 1.05 | 0.90 |
| I-898 MG | 01/09/2009 | Illinois | 11 | 1.09 | 0.97 |
| LT618MG | 28/07/2008 | Seminium | 11 | 1.19 | 0.98 |
| LT622MGRR2 | 30/07/2008 | Seminium | 10 | 0.97 | 0.93 |
| LT632MG | 28/07/2008 | Monsanto | 11 | 0.97 | 0.94 |
| NK860 TDMAX | 22/10/2009 | Syngenta | 11 | 1.14 | 0.96 |
| NK900 TD/TG | 05/03/2010 | Syngenta | 11 | 1.10 | 0.94 |
| SPS 2736 TD MAX | 22/10/2009 | SPS | 11 | 0.93 | 0.85 |
| 565 MG | 05/09/2007 | Sursem | 11 | 1.12 | 0.95 |
| **AFA 2011-12** | | | | | |
| M510HXRR2 | 10/06/2010 | Dow | 11 | 0.80 | 0.82 |
| 515HXRR2 | 16/07/2012 | Dow | 10 | 0.95 | 0.84 |
| AI7308 MLLZ (DK72-50MGRR2) | 03/04/2012 | Monsanto | 10 | 1.08 | 0.97 |
| AI7405 MLLZ (DK72-10MGRR2) | 03/04/2012 | Monsanto | 10 | 0.96 | 0.89 |
| AX852 HX | 01/09/2009 | Nidera | 11 | 1.11 | 0.92 |
| AX886 MG | 05/09/2007 | Nidera | 11 | 1.24 | 0.96 |
| AX886 MGRR2 | 28/09/2010 | Nidera | 9 | 1.13 | 0.92 |
| AX887 MG | 06/09/2010 | Nidera | 11 | 1.17 | 0.91 |
| DK692 MGRR2 | 08/06/2010 | Monsanto | 11 | 1.20 | 0.92 |
| DM2738 MG | 16/04/2009 | Don Mario | 11 | 0.92 | 0.89 |
| DM2741 MG | 17/05/2007 | Don Mario | 10 | 0.90 | 0.96 |
| I887 MGRR2 | 27/07/2011 | Illinois | 11 | 1.20 | 0.96 |
| I893 MGRR2 | 04/08/2010 | Illinois | 11 | 0.82 | 0.90 |
| LG102C01 MGRR2 | N/A | Limagrain | 11 | 0.85 | 0.89 |
| LG103C01 MG | N/A | Limagrain | 11 | 0.92 | 0.92 |
| NK860 TDMax | 22/10/2009 | Syngenta | 11 | 0.85 | 0.89 |
| NK900 TDMax | 05/09/2003 | Syngenta | 11 | 1.01 | 0.88 |
| SPS2736 TDMax | 22/10/2009 | SPS | 11 | 1.14 | 0.97 |
| SPS2879 TDMax | 30/12/2009 | SPS | 10 | 0.78 | 0.95 |
| SRM566 MG | 04/09/2012 | Sursem | 11 | 1.01 | 0.93 |
| **AFA 2012-13** | | | | | |
| AX7822 TDM | N/A | Nidera | 11 | 1.17 | 0.92 |
| AX852HX | 01/09/2009 | Nidera | 11 | 0.97 | 0.85 |
| AX 886 MG | 05/09/2007 | Nidera | 11 | 1.17 | 0.95 |
| AX887 MG | 06/09/2010 | Nidera | 11 | 1.13 | 0.97 |
| AX896 MG | 06/09/2010 | Nidera | 11 | 1.05 | 0.90 |
| BIOMAIZ 620MG | 12/08/2010 | Bioceres | 10 | 0.85 | 0.95 |
| DK70-10VT3P | 10/07/2012 | Monsanto | 11 | 0.89 | 0.98 |
| DK72-10VT3P | 10/07/2012 | Monsanto | 11 | 0.93 | 0.94 |
| D 2738 MG | 16/04/2009 | Don Mario | 11 | 0.94 | 0.95 |
| 505 PW | 31/05/2013 | Dow | 9 | 1.04 | 0.94 |
| I887VT3P | 12/06/2012 | Illinois | 9 | 0.90 | 0.90 |
| KM4500L | 08/03/2012 | KWS | 11 | 0.98 | 0.78 |
| KM4020L | 08/03/2012 | KWS | 11 | 0.99 | 0.92 |
| LT621MGRR2 | 01/09/2011 | Monsanto | 11 | 1.05 | 0.96 |
| LT626VT3P | 13/09/2011 | Monsanto | 11 | 1.01 | 0.94 |
| LT632MGRR2 | 29/06/2010 | Monsanto | 11 | 1.07 | 0.92 |
| SY 900 VIPTERA3 | 04/07/2012 | Syngenta | 10 | 0.85 | 0.79 |
| SY 2866 TD/TG | 15/03/2012 | Syngenta | 10 | 0.98 | 0.86 |
| SPS 2879 TD MAX | 30/12/2009 | SPS | 11 | 0.92 | 0.90 |
| SRM564 MGRR | N/A | Sursem | 10 | 1.05 | 0.94 |