

Supporting file:

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Stay green traits of hybrids of maize (*Zea mays* L.) below and above ear during grain filling and their association with grain yields in winter in subtropical foot plain of Nepalese Himalaya

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It includes tables of analysis of variance of different traits of Stay green leaf and stay-green plant traits of single cross hybrids of maize during grain filling. It also includes regression equations to estimate grain yields of newly bred single cross hybrids in winter in subtropical foot plain of Nepalese Himalaya.

Sup Table 1: Mean square values of green leaf nos of the hybrids in different stage. The hybrids were observed during grain filling. The hybrids were grown October 3, 2012 in subtropical foot plain of Nepalese Himalaya.

SOV	DF	BtmGrn110	BtmGrn125	BtmGrn140	BtmGrn155	BtmGrn170	TopEoGrn110	TopEoGrn125	TpE0Grn140
REPLIC	2	1.368	0.4542	0.0202	0.648	0.01137	0.0249	0.0227	0.0152
HYBRIDS	14	1.393**	1.3431**	1.2114**	0.9523NS	0.04535NS	0.8417**	0.7342**	0.7146**
RESIDUAL	28	0.3682	0.398	0.304	0.5137	0.0317	0.123	0.1413	0.1637

Sup Table 2: Mean square values of green leaf nos of the hybrids in different stage. The hybrids were observed during grain filling

SOV	DF	Tp+E0Grn155	Tp+E0Grn170	GrnLvs110	GrnLvs125	GrnLvs140	GrnLvs155	GrnLvs170	ANTH50
REPLIC	2	1.1816	1.7469	1.4729	0.5632	0.0004	3.57	2.0082	2.156
HYBRIDS	14	2.0745**	1.6276 *	3.2112**	3.0877**	3.1732**	4.305**	1.9518*	34.213**
RESIDUAL	28	0.6244	0.6974	0.3907	0.4545	0.4548	1.647	0.8809	3.156

Sup Table 3: Mean square values of stay green traits of the hybrids. The traits are days for stay green leaf and days for stay green .

SOV	DF	SILK50	ASI 50-50	50%LFGRN	0%LFGRN	50%POPGRN	0%POPGRN	ERSENCMP	ALLLSENE
REPLIC	2	5.956	1.756	6.956	8.289	5.756	9.489	2.353	49.99
HYBRIDS	14	22.898**	11.756**	6.165 ns	8.27**	8.594*	12.022**	28.935**	22.42 ns
ERROR	28	4.932	2.184	6.384	2.503	3.589	3.346	7.897	12.2

The regression equations discovered are the following: Grain yield in t ha⁻¹ is designated by Y

$$\begin{aligned}
 Y &= -131.1 + 73.3 \text{ BtmGrn110} - 12.57 (\text{BtmGrn110})^2 + 0.712 (\text{BtmGrn110})^3; & \text{R-Sq} &= 9.0\% \quad (\text{Eq 1}) \\
 Y &= -18.1 + 11.96 \text{ BtmGrn125} - 1.55 (\text{BtmGrn125})^2 + 0.056 (\text{BtmGrn125})^3; & \text{R-Sq} &= 11.6\% \quad (\text{Eq 2}) \\
 Y &= -13.3 + 10.7 \text{ BtmGrn140} - 1.31 (\text{BtmGrn140})^2 + 0.019 (\text{BtmGrn140})^3; & \text{R-Sq} &= 17.0\% \quad (\text{Eq 3}) \\
 Y &= -6.78 + 24.56 \text{ BtmGrn155} - 11.40 (\text{BtmGrn155})^2 + 1.673 (\text{BtmGrn155})^3; & \text{R-Sq} &= 12.7\% \quad (\text{Eq 4}) \\
 Y &= 10.46 - 22.64 \text{ BtmGrNo170} + 111.8 (\text{BtmGrNo170})^2 - 140.7 (\text{BtmGrNo170})^3; & \text{R-Sq} &= 13.4\% \quad (\text{Eq 5}) \\
 \\
 Y &= -1470 + 632.5 \text{ TopEoGrn110} - 89.85 (\text{TopEoGrn110})^2 + 4.244(\text{TopEoGrn110})^3; & \text{R-Sq} &= 53.3\% \quad (\text{Eq 6}) \\
 Y &= -819 + 359.7 \text{ TopEoGrn125} - 52.01(\text{TopEoGrn125})^2 + 2.506(\text{TopEoGrn125})^3; & \text{R-Sq} &= 47.6\% \quad (\text{Eq 7}) \\
 Y &= -682.7 + 304.9 \text{ TpE0Grn140} - 44.77(\text{TpE0Grn140})^2 + 2.194(\text{TpE0Grn140})^3; & \text{R-Sq} &= 48.5\% \quad (\text{Eq 8}) \\
 Y &= 42.32 - 24.38 \text{ Tp+E0Grn155} + 5.626(\text{Tp+E0Grn155})^2 - 0.4079(\text{Tp+E0Grn155})^3; & \text{R-Sq} &= 32.1\% \quad (\text{Eq 9}) \\
 Y &= 13.08 - 8.700 \text{ Tp+E0Grn170} + 5.665(\text{Tp+E0Grn170})^2 - 1.016(\text{Tp+E0Grn170})^3; & \text{R-Sq} &= 18.8\% \quad (\text{Eq 10}) \\
 \\
 Y &= -218.8 + 49.2 \text{ GrnLvs110} - 3.51(\text{GrnLvs110})^2 + 0.0826(\text{GrnLvs110})^3; & \text{R-Sq} &= 23.2\% \quad (\text{Eq 11}) \\
 Y &= -108.7 + 21.9 \text{ GrnLvs125} - 1.21(\text{GrnLvs125})^2 + 0.0178(\text{GrnLvs125})^3; & \text{R-Sq} &= 37.2\% \quad (\text{Eq 12}) \\
 Y &= -841.9 + 228.9 \text{ GrnLvs140} - 20.45(\text{GrnLvs140})^2 + 0.6072(\text{GrnLvs140})^3; & \text{R-Sq} &= 52.6\% \quad (\text{Eq 13}) \\
 Y &= -19.25 + 10.51 \text{ GrnLvs155} - 1.217(\text{GrnLvs155})^2 + 0.0454(\text{GrnLvs155})^3; & \text{R-Sq} &= 28.7\% \quad (\text{Eq 14}) \\
 Y &= 13.49 - 8.813 \text{ GrnLvs170} + 5.182(\text{GrnLvs170})^2 - 0.8457(\text{GrnLvs170})^3; & \text{R-Sq} &= 20.9\% \quad (\text{Eq 15}) \\
 \\
 Y &= 410801 - 7934 (50\%LfGrn) + 51.08 (50\%LfGrn)^2 - 0.1096 (50\%LfGrn)^3; & \text{R-Sq} &= 21.2\% \quad (\text{Eq 16}) \\
 Y &= -526149 + 8937(0\%LfGrn) - 50.60(0\%LfGrn)^2 + 0.0955 (0\%LfGrn)^3; & \text{R-Sq} &= 39.6\% \quad (\text{Eq 17}) \\
 Y &= 282749 - 4960 (50\%PopGrn) + 29.00(50\%PopGrn)^2 - 0.05652(50\%PopGrn)^3; & \text{R-Sq} &= 54.3\% \quad (\text{Eq 18}) \\
 Y &= -61688 + 1034(0\%PopGrn) - 5.78(0\%PopGrn)^2 + 0.01077(0\%PopGrn)^3; & \text{R-Sq} &= 30.7\% \quad (\text{Eq 19}) \\
 Y &= -1045 + 34.74 \text{ PltTpGrn\% 120} - 0.3817 \text{ PltTpGrn\% 120}^2 + 0.001399(\text{PltTpGrn\% 120})^3; & \text{R-Sq} &= 39.4\% \quad (\text{Eq 20}) \\
 Y &= -70.0 + 3.23 \text{ PltBtmGrn\% 120} - 0.0437 \text{ PltBtmGrn\% 120}^2 + 0.000198 \text{ PltBtmGrn\% 120}^3; & \text{R-Sq} &= 15.0\% \quad (\text{Eq 21}) \\
 \\
 Y &= -8048 + 155.6 \text{ ErSenIni} - 1.000(\text{ErSenIni})^2 + 0.002138(\text{ErSenIni})^3; & \text{R-Sq} &= 16.4\% \quad (\text{Eq 22}) \\
 Y &= -44180 + 834.8 \text{ ErSenCmp} - 5.255(\text{ErSenCmp})^2 + 0.01102(\text{ErSenCmp})^3; & \text{R-Sq} &= 20.9\% \quad (\text{Eq 23}) \\
 Y &= 47.84 - 15.23 \text{ Er Sen Dura} + 2.005(\text{Er Sen Dura})^2 - 0.08647(\text{Er Sen Dura})^3; & \text{R-Sq} &= 33.7\% \quad (\text{Eq 24})
 \end{aligned}$$