Australian Journal of Crop Science AJCS
Aust J Crop Sci. 18(10):643-649 (2024) | ISSN:1835-2707
https://doi.org/10.21475/ajcs.24.18.10.p52

Effectiveness of principal component analysis on optimization of N:P:K fertilization on various maize varieties

Supplementary Table 1. Variance analysis of some growth characters based on split plot design.

Characters	FP	error a	V	FP*V	error b	CV a	Cv b
Plant Height (PH)	173.76*	41.97	502.81**	237.32**	29.23	3.25	2.72
No of leaves (NL)	4.59ns	1.30	2.53*	0.80**	0.45	10.47	6.13
Stem diameter (SD)	29.53	6.28	25.95**	10.59**	4.34	1.78	1.52
Male flowering age (MFA)	2.40ns	0.72	1.85*	1.28ns	0.80	1.69	1.77
Female flowering age (FFA)	0.97ns	0.69	3.10*	1.32ns	1.31	1.52	2.10
Anthesis Silking Interval (ASI)	3.76*	0.90	2.88ns	2.77ns	1.99	24.07	35.65
Cob height at the plant (CHP)	315.71**	8.07	198.40**	158.76**	3.80	2.97	2.04
Shelled cob weight (SCW)	0.17**	0.01	0.34**	0.12**	0.01	10.62	9.54
Cob diameter (CD)	53.60**	6.59	44.68**	18.02**	4.65	5.54	4.66
Cob length (CL)	10.28ns	4.87	15.39**	4.11*	2.23	12.65	8.56
Length of seeded cob (LSC)	8.69ns	4.28	16.09**	5.71**	2.15	12.27	8.7
No of rows per cob (NRC)	30.19**	2.87	14.03**	9.53**	2.93	11.04	11.15
Percentage of Net Yield (PNY)	0.00ns	0.00	0.01**	0.00ns	0.00	7.73	7.22
Weight of 1000 seeds (W1000S)	85.90**	1.39	52.60**	71.67**	1.69	1.67	1.84
Yield (Y)	7.86**	0.46	95.04**	6.58**	0.37	8.86	7.89

Note : FP = fertilizer package, V = variety, CV = coefficient of variance.

Supplementary 2. Description of Sinhas 1 variety.

Origin	Formed from a cross between balace composites from strains MR 14, G1044-30 DTPYC9, G20133077, CY11, CML161, NEI9008, CY 6, and G2013649
Group	Free Saree
Age	Medium age 50 % Pollen discharge 54 50 % Hair 57 physiological maturity 101 DAP
Stem	Round
Bar Color	Green
Plant height	± 180 cm
Cob Height	± 90 cm
Leaf	Form a ribbon with a slightly upright strand pattern
Leaf color and width	Green and medium
Plant Uniformity	Pretty uniform
Panicle shape	Open
Husk Color	Green with moderate anthocyanins
Panicle Color (Anther)	Red, moderate anthocyanin
Hair color	Cream with red tip
Seed type	Flint
Seed Color	orange

Number of rows of seeds per cob	12- 16 rows of seeds
Seed Row	Straight
Cob Shape	Semi Cylindrical
Cob Closing	Close well
Rooting	Strong
Lying down	Stand
Potential Results	10.71 t/ha at KA 15%
Average results	7.82 t/ha at KA 15%
Results under drought stress conditions	6.27 t/ha at KA 15%
Results under low N stress conditions	6.41 t/ha at KA 15%
Results under combined conditions of drought stress and low N	4, 75 t /ha at KA 15%
Weight of 1000 seeds	298.8 g at KA 15%
Carbohydrate Content	67.72%
Protein Content	10.57%
Fat content	6.89%
Disease Resistance	Resistant to the downy mildew pathogen Peronosclerospora philippinensis , and somewhat resistant to the downy mildew pathogen Peronosclerospora maydis, leaf blight (Helmintosporium maydis) and leaf rust (Puccinia polysora)
Information _ _	Tolerant of drought stress conditions in the phases leading up to flowering until harvest and low N fertilization so it is suitable for cultivation on land with low water availability and less fertile soil. High yields under optimum environmental and maintenance conditions
Breeder	Muh. Farid BDR, Yunus Musa, , Muhammad Azrai, Roy Efend i and Slamet Bambang P.
Researcher _	Amran Muis, Andi Haris Talanca, M. Aqil, R. Heruprapta n a, Awaluddin Hipi, B. Tri R. Herawati, Sampara, Abd Rasyid, Haeruddin, Aswin and Wen Langgo , and Nasaruddin
Breeding Organizer	Hasanuddin University and Cereal Crops Research Institute, Agricultural Research and Development Agency