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SC704	Th 91A 1354-G 42 O NTR-2	Th 91A 1353-G 41 Q NTR-1	Th 92B 6270-10-POb-44G2
DC370	Th 97B 6088-POb-91 CD	Th 88A 1344-S87 P 69Q	Th 89B 6324-Rio-Hater(1)-8561
SC250	Th 94A 1126-Side-9245	Th 91A 1305 Comp-1-112	Th 93B 6020--Pob-47-cC5
SC302	Th 94A 1128-Acress 9245	PR 91A 1306 Comp-1-54	PR 91B 5301 EDS 90620 Flint
SC400	Th 87B 6089-Pob-92 C0	Th 94A 1122--E	PR 93B 5212-c peel.16 C21
SC500	Th 94A 1128 Acress 9245	Th 93A 1121- Sakha-9134	Th 83A 1321 R-4-Acress -8569

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ÿ/	b-f	ÿ/	c-k	/	c-e	/	d-j	ÿ/	a	/	f-i	/	a-e	ÿ /	f-i	ÿ/	d-i	4
/	b-f	ÿ/	c-h	/	g-j	/	i-k	/	g-l	ÿ/	a-f	/	f-j	/	d-g	ÿ/	b-g	5
ÿ/	b-f	ÿ	d-k	/	e-i	/	h-k	/	d-h		a-i	/	i-m	/	d-h		f-k	6
ÿ/	a-f	/	f-k	/	ab	/	b-f	/	lm	/	a-g	/	k-n	ÿ /	fghi	/	b-h	7
/	ef	ÿ/	d-k	/	e-i	/	b-e	/	k-m	/	a	/	i-n	ÿ /	f-j	/	e-j	8
/	a-d	ÿ/	c-h	/	b-d	/	c-j	/	f-l	/	ab	/	abc	ÿ	f-i	/	b-h	9
/	a-d	/	abc	/	e-i	/	c-j	/	f-l	ÿ/	a-f	/	c-g	/	ijk	ÿ/	a-e	10
ÿ/	a-f	/	e-k	/	e-i	/	c-j	/	e-k	/	a-h	/	a-d	/	h-k	/	g-k	11
/	ab	ÿ/	c-k	/	c-f	/	b	/	h-m	/	ab	/	d-h	/	ab		ab	12
ÿ/	a-f	/	b-d	/	f-j	/	c-j	/	c-g	/	e-i	/	abc	/	a	/	abc	13
ÿ	b-f		b-g	/	e-i	/	b-e	/	k-m	/	a-h	/	n	ÿ /	e-i	ÿ/	d-i	14
/	c-f	/	g-k	/	f-j	/	i-k	/	e-j	/	a-i	/	j-n	/	hijk	/	g-k	15
/	d-f		b-g	/	e-i	/	h-k	/	j-m	/	a-i	/	l-n	ÿ /	f-i	ÿ	b-f	16
ÿ/	a-f	ÿ/	c-k		d-h	/	g-k	/	g-l	/	ab	/	g-j	/	c-g	/	b-g	17
/	a-c	/	a-c	/	e-i	/	c-j	/	bc	/	e-i	/	ab	/	bc	/	b-h	18
ÿ/	a-f	ÿ/	c-j	/	e-i	/	e-k	/	d-i	/	abc	/	d-h	ÿ /	f-j	/	e-j	19
/	a-e	/	d-k		d-h	ÿ/	c-h	/	e-j	/	a-i	/	e-i	/	c-h	/	a-d	20
/	d-f	/	b-e	/	h-j	/	g-k	/	d-i	/	a-d	/	k-n	/	h-k	/	a-f	22
/	b-f	ÿ/	c-k	/	e-i	/	i-k	/	d-h	/	i	/	a	/	bcd	/	a-g	23
/	f	/	h-k	/	jk	/	jk	/	b-d	/	j	/	c-g	ÿ /	g-j	ÿ /	k	24
ÿ/	b-f	/	jk	/	d-g	ÿ/	c-h	/	f-l	ÿ/	a-i	/	g-k	/	h-k		c-h	25
ÿ/	a-f	ÿ/	d-k	/	bc	ÿ/	c-i	/	h-m	/	a-e	/	d-h	/	h-k	/	b-g	26
/	d-f	/	f-k	/	b	/	bc	/	m	/	a-i	/	h-l	ÿ /	f-i	ÿ/	d-i	27
/	d-f	ÿ/	c-k	/	e-i	/	b-e	/	m	/	a-g	/	e-i	ÿ	f-j	ÿ/	g-k	28
ÿ	b-f	/	k	/	e-i	ÿ/	c-i	/	c-f	/	ghi	/	g-j	/	h-k	/	g-k	29
/	d-f	/	g-k		f-j	/	k	/	g-l	/	a-i	/	g-k	ÿ /	f-i	/	b-h	30
/	d-f	ÿ/	c-k	/	e-i	/	b-g	/	f-l		c-i	/	mn	/	jkl	/	g-k	KDC370
/	ab	/	a	/	kl	/	b-d	/	b-d	/	hi	/	i-m	/	i-l	/	h-k	KSC250
/	ab		b-g	/	h-j	/	c-j	/	d-h	/	d-i	/	i-m	/	l	ÿ /	jk	KSC302
ÿ/	b-f	ÿ/	c-i	/	e-i	ÿ/	c-h	/	d-i	/	a-i	/	e-i		kl	/	d-i	KSC400
/	a	/	ab		l	/	jk	/	b	/	b-i	/	i-m	/	b-e	/	a	KSC500
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1- Collinearity

2- Tolerance index

3- Variance Inflation Factor

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$\dot{y}/$	$\dot{y}/\dot{y} \ \ddot{y}$	$\dot{y}/$	$\dot{y}/\dot{y}$	$\dot{y}/\dot{y}\dot{y}$	$\dot{y}/ \ \ddot{y}$	$\dot{y}/\dot{y}$		

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(Ton/ha)	(mm)	(cm)			(gr)		(cm)	(cm)	
d-h	k	a-i	b-d	bc	ij	g-l	b-d	c-k	1
e-i	b-i	g-k	b-g	b-d	a-i	d-g	bc	A	2
jk	jk	i-k	kl	hi	ej	d-g	bc	a-d	4
b-g	f-j	c-j	ab	bc	b-j	f-j	d-i	d-k	5
b-e	c-i	a-e	b-e	b-d	a-j	f-j	b-e	d-l	6
b-g	h-j	a-d	ab	d-h	a-d	i-n	b-e	a-d	7
g-k	a-g	h-k	d-j	d-i	a-i	mn	d-i	g-l	8
d-i	i-k	a-h	b-i	c-f	ab	ab	b-d	a-g	9
b-f	b-i	g-k	d-j	d-i	a-c	e-h	IJK	g-l	10
a	b-h	a-c	a	bc	c-j	e-h	d-j	f-l	11
b-d	a-f	a-g	ab	b-d	a	b-e	b-d	b-k	12
d-i	a-e	e-j	b-f	b-d	g-j	ab	b	b-h	13
h-k	ab	kl	c-j	ab	a-d	mn	k	M	14
i-k	g-j	e-j	h-l	i	f-j	k-n	g-k	i-m	15
f-k	a-c	b-j	c-i	c-g	a-g	l-n	f-k	f-l	16
f-k	c-j	i-k	i-l	d-i	a-f	k-n	h-k	lm	17
d-i	b-i	a-c	b-i	d-h	d-j	a-c	c-h	f-l	18
d-i	c-i	j-l	g-l	f-i	ab	e-h	f-k	e-l	19
f-i	h-j	a-d	b-e	bc	c-j	c-f	b-e	a-g	20
g-k	e-j	d-j	h-l	d-i	g-j	h-m	jk	h-l	22
f-j	jk	a-f	g-l	e-i	a-f	a	a	a-c	23
f-j	c-j	c-j	c-j	c-f	j	a-d	b-f	j-m	24
f-i	k	c-j	g-l	g-i	a-h	g-l	c-h	ab	25
f-k	c-j	e-j	e-k	c-g	a-j	g-k	b-f	a-d	26
e-i	b-i	a-g	b-g	c-f	f-j	m-n	d-i	b-i	27
bc	a-f	ab	b-d	c-g	a-f	k-n	b-g	a-f	28
d-i	a-f	a-h	d-j	b-e	a-j	j-n	d-j	b-j	29
b-g	d-j	a-e	b-g	d-i	a-f	f-i	b-f	d-k	30
i-k	g-j	lm	j-l	c-f	e-j	n	g-k	f-l	KDC370
b	b-h	c-j	a-c	a	c-j	g-k	i-k	k-m	KSC250
b-g	a-d	c-j	b-e	ab	h-j	k-n	jk	g-l	KSC302
b-d	a-f	g-k	b-i	b-d	a-h	k-n	k	h-l	KSC400
k	c-i	m	l	c-f	e-j	g-k	b-f	a-e	KSC500
c-h	a	a	b-h	b-d	ab	c-f	b-g	a-g	KSC704

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## A Study of Corn (*Zea mays* L.) Yield Determining Traits in Normal Condition and Low-Irrigation

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### Abstract

In order to study effect of drought stress on morphologic traits, yield and yield components of 28 new hybrids of corn to heat and drought stress in addition 6 commercial hybrid (as control), an experiment was carried out on based of complete randomized block design with three replication under normal irrigation and drought stress in Khorasan Razavi Agricultural Research and Natural Resources Institute Mashhad, Iran on 2010. Results of analysis of variance showed that in both condition there are significant different between all hybrids for all traits. Results of hybrid means comparison with Duncan's multiple range test showed that in normal irrigation condition S.C500 hybrid and in stress condition N.11 hybrid was better than others in yield trait (13.79 and 5.69 respectively). Genetic correlation between traits under stress condition showed that number of kernel in row was the highest correlation with yield and in normal irrigation ear diameter was higher than other traits correlated. The results showed that under no stress conditions, hybrids with the mean number of ear per plants that have more thick ear, heavier and more kernel per row and the same time have a lower percentage of wood, will be higher in total yield. Generally, according to results of path analysis, review and compare traits affecting grain yield in two environments can be concluded that plant traits in maize, kernel weight per ear, ear weight and percentage of kernel, deficit quickly affected and determining the limitations of plant production. Breeding for these traits can be obstacles on the path taken from the performance and the ultimate goal of increasing performance in low-Irrigation conditions.

**Keywords:** Corn, Path analysis, Simple Correlation, Stepwise Regression

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