

dr_albedri53@yahoo.com -

*

**

16 14 12 10 :

Parafield Santi

2011 / 2010 2010 / 2009

%90 %50

(/) 100 / /

(/ 1323.74) 12

Santi Parafield

/ (1291.81)

:

Leguminosae

Pisum sativum L.

(1989)

)

(1983)

(1994) Agcaoili, Oram
1991-1979

8

Dry Pea

(4036875)

1992

16

(1997) FAO

/ (487.025)

)

(2002)

. 2011 / 10 / 20

. 2012 / 1 / 24

(1969) Gritton Eastin

(2002)

(1988)

(2009)

Parafield Santi
Santi

/

2010/2009

2009/12/11

V2

V1

Santi

Parafield

(16 14 12 10)

2010/12/22
D4, D3, D2, D1

RCBD

3

5

30

%41

%48

Parafield Santi
%11

Silty

/ 37.44

/ 24

/ 60

Loam

%50

%90

100

/

/

()

(+)

100 ×

()

.(1986 Smith Shaarma)

3

4×2

.(2000) %5

*

.1

()		()		()		
-	35.00	26.80	19.13	6.40	9.44	2
63.00	75.00	18.50	13.05	4.10	5.28	1
57.50	32.50	13.00	14.00	3.10	6.00	2
69.00	60.00	14.73	16.00	4.18	6.00	
1.00	62.00	20.30	21.00	6.67	10.00	
105.50	15.00	25.36	26.00	12.73	13.00	
105.00	17.50	30.29	32.00	15.44	21.00	
300	331					

/ *

(2)

(53.00 58.171)

(1966 Leopold Lam)

(1982 Particia)

Parafield (1980 Singh) Photoxidation
(54.17 63.16) Santi

(2009 2007 1996 Negornotive)

Singh

Santi Parafield (1980)
/ (2.67 64.042)

(1982)

(2009)

%50

جدول 2. تأثير مسافة الزراعة والصفات والتداخل بينهما على النمو والإزهار ونضج القنرات في البزاليا للموسمين الزراعيين 2010/2009 و 2011/2010 *

الموسم الثاني	طول القنرة (سم)		ارتفاع أول قنرة (سم)		عدد الأيام حتى 90% نضج		عدد الأيام حتى 50% تزهر		عدد القنرات / إنك		ارتفاع النبات (سم)		التداخل
	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	
3.112a	4.42a	21.33d	29.33a	140.33f	140.67c	101.00c	83.67a	2.27bc	3.57c	46.00c	51.67a	D1 × V1	
2.913ab	4.57a	21.33d	30.00a	141.67e	143.67b	103.67b	86.00a	1.63d	3.68bc	43.67c	53.00a	D2 × V1	
2.729b	4.62a	20.00de	27.33a	142.67d	145.00b	103.67b	87.33a	2.00c	3.66bc	44.33c	48.00a	D3 × V1	
2.998ab	4.75a	18.67e	27.00a	143.33d	144.33b	104.00b	88.67a	1.67d	3.73bc	38.68d	49.00a	D4 × V1	
2.085bc	4.10a	31.33a	38.67a	144.33c	147.00a	107.33a	90.33a	2.73a	3.78b	60.00a	64.67a	D1 × V2	
1.988 c	4.07a	28.00b	37.00a	146.00 b	147.67a	107.00a	92.67a	2.53ab	4.09a	53.33b	64.33a	D2 × V2	
2.241bc	4.15a	26.00c	33.00a	146.33ab	148.00a	106.67a	95.33a	2.73a	4.22 a	51.67b	62.33a	D3 × V2	
2.447bc	4.17a	27.33bc	34.67a	147.00a	148.33a	107.33a	96.00a	2.67a	4.08a	51.67b	61.33a	D4 × V2	
الصفات													
2.933a	4.588a	20.33b	28.41b	142.00b	143.41b	103.08b	86.41b	1.89b	3.659b	43.17b	50.66b	V1	
2.193b	4.121b	28.17a	35.83a	145.92a	147.75a	107.08a	93.58a	2.67a	4.042a	54.17a	63.16a	V2	
الكثافات													
2.396b	4.26a	26.33 a	34.00a	142.33d	144.50b	104.17b	87.00d	2.08c	3.67b	53.00a	58.17a	D1	
2.463b	4.32a	24.67b	33.50ab	143.03c	145.33 ab	105.23a	89.33c	2.17bc	3.89a	48.50b	58.57 a	D2	
2.533ab	4.38a	23.00c	30.17b	144.50b	146.50a	105.17a	91.33b	2.37a	3.94a	48.00b	55.67a	D3	
2.724a	4.46a	23.00c	30.83ab	145.17a	146.00a	105.67a	92.33a	2.50a	3.09a	45.17c	55.17a	D4	

* المتوسطات التي تتشارك بنفس الحرف الأبجدي لا تختلف عن بعضها معنوياً حسب اختبار دنكن متعدد الحدود عند مستوى احتمال 5% .

		(104.17 87.00)		
	Santi		%50	
	(2002)	(1999) Mulugeta	(103.08 86.41)	
				(2009)
%90				
	(142.33 144.50)			
		(Healthy Plant)		
	Parafield		Santi	
			(142.00 143.41)	
	(2007)	(1999) Mulugeta	(1996)	Negornotive (2009)
		(26.33 34.00)		
	(28.17 35.83)		Santi	Parafield
)			(2.724 4.46)	(1988)
	Parafield	Santi		
	(1981) Matlob		(2.933 4.588)	
				(2001)

(2002) .
 (3)
 (9.07 12.77) /
 / (8.80 12.76) Santi Parafield
 (1)
 (2001)
 (2) ; (2001) ; (1994) Eteve Domuline
 (30.82 50.46)
 Parafield (1988) /
 (27.46 51.59) / Santi /
 100
 100
)
 (1999) Berhe (2009
 Parafield Santi
 (2007) (20.05)
 (2001)
 2768.52) / (2573.38
 2770.83) Santi Parafield
 / (2514.47

جدول 3. تأثير مسافة الزراعة والصفة والتداخل بينهما على الحاصل ومكوناته في البزاليا للموسمين الزراعيين 2010/2009 و 2011/2010 *.

الموسم الثاني	الموسم الأول	دليل الحصة (%)		حاصل البذور (كغم/هكتار)		حاصل البيولوجي (كغم/هكتار)		وزن 100 بذرة /غم		عدد البذور / نيك		عدد الفراتك / نيك		التداخل
		الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	الموسم الثاني	الموسم الأول	
41.89a	50.56a	1122.68a	1231.57b	2680.55ab	2435.19c	19.34bc	19.65a	27.43abc	38.95a	7.27b	10.07a	D1 × V1		
37.74bc	49.04b	803.24b	976.11 d	2125.00c	1990.74de	19.82b	19.95a	25.20bc	39.53a	7.00b	10.83a	D2 × V1		
38.87abc	45.22d	838.89bc	955.07d	2162.04c	2111.1cd	19.81b	19.53 a	25.13bc	42.54a	7.47b	12.20a	D3 × V1		
39.90ab	44.36d	898.15b	727.26e	2254.63c	1638.89e	21.24a	18.74a	31.00a	49.10a	8.00a	12.33a	D4 × V1		
38.93d	42.93d	703.24d	1285.85b	2255.09bc	3027.78b	19.28c	17.55a	25.27bc	49.67a	7.67b	11.90a	D1 × V2		
30.16 d	47.17c	910.19b	1671.37a	3021.76a	3546.30a	16.49d	17.74a	24.87c	50.71a	7.80b	12.10a	D2 × V2		
30.85d	47.49c	733.80cd	1178.30bc	2386.57bc	2481.48 c	18.46c	17.50a	29.07ab	53.83a	9.60a	13.87a	D3 × V2		
35.19c	50.91a	770.83cd	1031.74cd	2194.45c	2027.78de	20.13ab	17.44a	30.63a	52.18a	10.13a	13.20a	D4 × V2		
الصفة														
39.60a	47.29a	915.74a	972.50b	2305.56a	2043.98b	20.05a	19.46a	27.19a	42.53b	7.42b	11.35b	V1		
31.28b	47.00a	779.51b	1291.81a	2514.47a	2770.83a	18.55b	17.55b	27.46a	51.59a	8.80a	12.76a	V2		
التداخل														
35.41ab	46.51b	912.96 a	1258.71a	2567.82a	2731.48a	19.31b	18.60ab	26.35b	44.31b	7.47b	10.98b	D1		
33.95b	48.10a	856.71b	1323.74a	2573.38a	2768.52a	18.16c	18.85a	25.03b	45.12b	7.40b	11.47b	D2		
34.86ab	46.35b	786.34b	1066.69b	2274.31ab	2296.30b	19.14b	18.51ab	27.10 b	48.18ab	8.53a	13.03 a	D3		
37.54a	47.63a	834.49ab	879.50c	2224.54b	1833.33c	20.69a	18.09b	30.82a	50.64a	9.07a	12.77a	D4		

* المتوسطات التي تتشارك بنفس الحرف الأبجدي لا تختلف عن بعضها معنوياً حسب اختبار دكان معتمد الحدود عند مستوى احتمال 5% .

Santi

Parafield

/ 1291.81

. (2007

)

. (2002)

(1991) Walton

(1999) Berhe (1991) Walton

. (1)

.(2009)

Parafield

Santi

Parafield, Santi

/

- . 2000 .
- . 2007 .
- (2) : 23
- . 75-65 :
- / . 2002.
- . 1983.
- . 2007.
- /
- .2009.
- . 218-205 : (1) 9
- . 1988.
- Pisum* .
- sativum* L
- .1989 .
- . 2001.
- .32-29 : (1)2
- . 2002.
- .20-16 :(3)7
- .2009.
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- . 217-211 : (4)7
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EFFECT OF PLANT SPACING AND CULTIVARS ON GROWTH AND PRODUCTION OF PEA UNDER DRY LAND CONDITIONS

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ABSTRACT

Four Plant spacing (i.e.10 , 12, 14 and 16) cm. between Plants and two pea cultivars i.e. Santi and Parafield under dry land conditions Ninevah on two growth seasons 2009/2010 and 2010-2011 . Results indicated that Plant spacing was affected significantly on number of days to 50% flowering, number of days to 90% maturation , first pod height, number of pods/plant , number of seeds/plant , weight of 100seeds, biological yield and , dry seed yield (economic yield) Kg/ha and harvest index in the two growing seasons . The second Plant spacing gave the highest dry seed yield (1323.74)kg/ha in the first growing season . Results indicated that Parafield cultivar gives the highest dry seed yield (1291.81)kg/ha in the first growing season .

Key words : Peas , Plant spacing , Cultivar.