



Agriculture & Horticulture
DEVELOPMENT BOARD



Grower Summary

FV 340a

Vining Peas: Extension of
variety evaluation trials

Annual 2011 (February 2012)

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Further information

If you would like a copy of the full report, please email the HDC office (hdc@hdc.ahdb.org.uk), quoting your HDC number, alternatively contact the HDC at the address below.

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HDC is a division of the Agriculture and Horticulture Development Board.

Project Number: FV 340a

Project Title: Vining Peas: Extension of variety evaluation trials

Project Leader: Mr S.J. Belcher

Contractor: PGRO

Industry Representative: Mr R Fitzpatrick

Report: Annual 2011 Report

Publication Date: 06/03/2012

Previous report/(s): FV 340 Final Report (February 2011)

Start Date: March 2011

End Date: February 2014

Project Cost (total project cost): £25,710.00

Headline

This project will provide vining pea growers with independent, relevant and accurate trials evaluations on vining pea varieties, so that a considered and informed variety choice can be made.

Background

Currently vining varieties are evaluated at just one site at PGRO, Thornhaugh with petits pois varieties being evaluated on a silt soil type in South Lincolnshire (trials funded by seedsmen). The soil type at Thornhaugh is representative of only a proportion of the national pea growing production area and varieties can often perform differently in other soil types and areas. These trials on a fertile silt soil type in South Lincolnshire will give additional data to enable growers to make an appropriate variety choice.

Results

For full and comprehensive results please refer to the full trials report.

Table of varieties, leaf type, source and approximate maturity - 2011

Variety Name	Leaf Type	Source	Maturity
M 89325	Semi-leafless	Maribo Seeds, Denmark	0
Avola	Conventional	Seminis Vegetable Seeds, France	0
Vivaldi (DS 89326)	Conventional	Maribo Seeds, Denmark	+ 2
Yeti (DS 89289)	Conventional	Maribo Seeds, Denmark	+ 3
M 89282	Semi-leafless	Maribo Seeds, Denmark	+ 3
DaVinci (DS 89324)	Conventional	Maribo Seeds, Denmark	+ 4
CS 421 AF	Semi-leafless	Crites Seeds, USA	+ 5
Sienna	Conventional	Limagrain, UK	+ 6
CS 424 F	Conventional	Crites Seeds, USA	+ 7
Reliance(08240793)	Semi-leafless	Seminis Vegetable Seeds	+ 8
Minotaur (08240773)	Semi-leafless	Seminis Vegetable Seeds	+ 9
PLS 560	Semi-leafless	Pure Line Seeds, USA	+ 9
Bikini	Semi-leafless/ semi-fasciated	Syngenta Seeds, France	+ 9
PLS 566	Semi-leafless	Pure Line Seeds, USA	+10
Compana (Nun 6240)	Semi-leafless	Nunhems Seeds, Netherlands	+10
Ruler (D 165182)	Semi-leafless	Syngenta Seeds	+10
Ruthless (D 165188)	Semi-leafless	Syngenta Seeds	+11
01S51911	Conventional	Limagrain	+11
00S68320	Conventional	Limagrain	+12
Genesis	Conventional	Plant & Food Research, New Zealand	+12
Fantasy	Semi-leafless	Van Waveren, Germany	+12
CMG 419 AF	Semi-leafless	Crites Seeds, USA	+13
08250833 (Hyperion)	Semi-leafless	Seminis Vegetable Seeds, France	+13
Cawood	Conventional	Plant & Food Research, New Zealand	+15
Oasis	Conventional	Limagrain	+15
Ambassador	Conventional	Van Waveren, Germany	+17
Columbus	Conventional	Plant & Food Research, New Zealand	+18
02S51209	Conventional	Limagrain	+19
02S52836	Conventional	Limagrain	+19

Trial site details

Variety Trial Site: Fertile light silt soil in a commercial crop of Vining Peas, near Holbeach Hurn, South Lincolnshire. OS Ref: TF377292. Holbeach Marsh Co-op, Manor Farm, Holbeach Hurn, Spalding, PE12 8LR.

Powdery Mildew Trial: Sandy Loam Soil. OS Ref: TF070017. PGRO, Thornhaugh, Peterborough, PE8 6HJ

Downy Mildew Trials: 2011 Silt loam soil. OS Ref TF414515 . Fold Hill, Old Leake, Lincs & silt loam soil. OS Ref TF212487 Chestnut House Farm, Amber Hill, Lincs

Table of % yield, % size grade, haulm length and standing ability - 2011

Variety	@TR100				@TR120		Standing Ability 9=erect 1=lodged	
	Yield % of Bikini	% in size grades L M S VS				Yield % of Bikini		Haulm length cm
M 89325	93	28	65	7	0	82	62	6
Avola	79	59	34	6	1	80	64	4
Vivaldi (DS 89326)	79	38	54	7	1	93	78	4
Yeti (DS 89289)	110	14	49	29	8	104	66	4
M 89282	92	20	64	15	1	101	70	6
DaVinci (DS 89324)	96	13	54	29	4	105	63	4
CS 421 AF	106	28	57	13	2	100	80	7
Sienna	126 ⁺	50	46	3	1	117	64	2
CS 424 F	121	52	43	4	1	118	56	4
Reliance(08240793)	101	23	63	12	2	116	60	8
Minotaur (08240773)	105	24	56	17	3	120	62	8
PLS 560	95	21	66	12	1	91	69	6
Bikini	100	43	47	9	1	100	66	7
	(11.14t/ha)					(12.11t/ha)		
PLS 566	127 ⁺	49	45	5	1	119	66	5
Compana (Nun 6240)	117	30	54	14	2	119	75	6
Ruler (D 165182)	103	49	41	9	1	98	70	8
M 89325	93	28	65	7	0	82	62	6
Ruthless (D 165188)	99	40	49	10	1	113	76	8
01S51911	114	38	54	7	1	108	70	4
00S68320	76	40	41	16	3	79	67	4
Genesis	109	34	56	9	1	110	67	2
Fantasy	105	56	37	6	1	99	68	7
CMG 419 AF	101	14	55	28	3	100	93	8
08250833 (Hyperion)	119	25	58	15	2	117	77	9
Cawood	104	42	47	10	1	105	68	2
Oasis	117	40	49	10	1	121	70	3
Ambassador	103	47	44	8	1	105	78	4
Columbus	115	59	35	5	1	113	64	4
02S51209	114	52	41	6	1	121	78	5
02S52836	110	52	42	6	0	110	74	5

Full information on all varieties can be found in the Full Trial Report.

None of the varieties were found to be unsuitable for UK production

Growth was more vigorous than the Thornhaugh site. Pea colour was not as even as at the Thornhaugh site and there were blond peas in some of the frozen samples. The yield standard, Bikini yielded very well, giving over 12.11t/ha at TR120.

M 89325 matured at the same time as Avola, was semi-leafless and had similar length haulm

to Avola. Yields of medium size grade peas were higher than Avola and a little lower than Bikini at TR100.

Avola gave lower, but not significantly lower yields than Bikini. Produce was very large size grade.

Vivaldi matured 2 days later than Avola. Haulm was longer than Avola and standing ability similar. Yields were better at TR120, a little lower than Bikini. Produce was uneven in colour and contained several blond peas.

Yeti and M89282 matured 3 days later than Avola.

Yeti had shorter haulm than Avola and similar standing ability. Yields of medium-small size grade peas were higher, but not significantly higher than Bikini. Produce was uneven in colour and contained some blond peas.

M 89282 was semi-leafless, had longer haulm than Avola and better than average standing ability. Yields of medium size grade peas were similar to Bikini at TR120.

DaVinci matured 4 days later than Avola. Haulm length and standing ability were similar to Avola. Yields of medium size grade peas were higher than Avola and similar to Bikini at TR120.

CS 421 AF was semi-leafless and matured 5 days later than Avola. Haulm was long and the variety stood well at harvest. Yields of medium-large size grade peas were similar to Bikini at TR100.

Sienna matured 6 days later than Avola. Haulm was similar in length to Avola and the variety was lodged at harvest. Yields of large size grade peas were significantly higher than Bikini at TR100.

CS 424 F matured 7 days later than Avola. Haulm was shorter than Bikini and standing ability similar to Avola. Yields of large size grade peas were good, higher than Bikini, but significantly so.

Reliance was semi-leafless and matured 8 days later than Avola. Haulm was shorter than

Bikini and the variety stood well at harvest. Yields of medium size grade peas were higher than Bikini at TR120, but significantly so.

Minotaur and PLS560 were semi-leafless and matured at the same time as Bikini, 9 days later than Avola.

Minotaur had similar length haulm to Bikini and stood very well at harvest. Yields of medium-large size grade peas were higher, but not significantly higher than Bikini at TR120.

PLS 560 had similar length haulm to Bikini and better than average standing ability. Yields of medium size grade peas were similar to Bikini at TR100.

Bikini gave high yields of large size grade peas.

PLS 566, Compana and Ruler were all semi-leafless and matured one day later than Bikini.

PLS 566 had similar length haulm to Bikini and had average standing ability. Yields were very high, significantly higher than Bikini at TR100. Produce was large size grade.

Compana had longer haulm than Bikini and had average standing ability. Yields of medium-large size grade peas were higher, but not significantly higher than Bikini.

Ruler had longer haulm than Bikini and stood very well at harvest. Yields of large size grade peas were similar to Bikini.

Ruthless and 01S51911 matured 2days later than Bikini.

Ruthless was semi-leafless, had long haulm and stood very well at harvest. Yields of large size grade peas were higher than Bikini at TR120, but not significantly so.

01S51911 lodged at harvest and stood similar to Ambassador. Yields of large size grade peas were higher than Bikini at TR120, but not significantly so.

00S68320, Genesis and Fantasy matured 3 days later than Bikini.

00S68320 lodged similar to Ambassador. Yields of large size grade peas were lower, but not significantly lower than Bikini. Produce was uneven in colour and contained some blond

peas.

Genesis was lodged at harvest. Yields of large size grade peas were higher than Bikini, but not significantly so. Produce was uneven in colour and contained some blond peas.

Fantasy had long haulm and stood well at harvest. Yields of large size grade peas were similar to Bikini.

CMG 419 AF and 08250833 were semi-leafless and matured 4 days later than Bikini.

CMG 419 AF had very long haulm and stood very well at harvest. Yields of medium-small size grade peas were similar to Bikini.

08250833 had long haulm and excellent standing ability. Yields of medium size grade peas were higher, but not significantly higher than Bikini.

Cawood matured at the same time as Oasis, 6 days later than Bikini. Haulm was not as long as Ambassador and the variety was lodged at harvest. Yields of large size grade peas were similar to Bikini. Produce was uneven in colour and contained some blond peas.

Oasis was also lodged at harvest. Yields of large size grade peas were good, higher than Bikini, but not significantly higher.

Ambassador matured 7 days later than Bikini and was lodged at harvest. Yields of large size grade peas were similar to Bikini.

Columbus matured one day later than Ambassador and lodged the same as Ambassador. Yields of very large size grade peas were good, higher than Bikini, but not significantly higher. Produce was uneven in colour and contained some blond peas.

02S51209 and **02S52836** matured 2 days later than Ambassador. Both varieties had average standing ability.

02S51209 was the higher yielding of the two and both gave higher, but not significantly higher yields than Bikini. Both varieties gave peas of very large size grade. Produce from

both varieties was uneven in colour and contained some blond peas.

Main conclusions

Conclusions are drawn from a 2 year summary of varieties evaluated in either 2010/2011.

Vining peas are a unique crop in terms of timely harvesting. Varietal selection is an important and key element of vining pea crop production to ensure a programmed harvest period and to maintain high quality.

Avola gave statistically significantly lower yields than Bikini.

Early and second early varieties Yeti, Vivaldi and DaVinci gave lower yields than Bikini, but yields were higher than the standard early Avola. These varieties yielded better at TR 120 than TR100.

Reliance and Minotaur were a little lower yielding than Bikini at TR100, but a little higher yielding at TR120. Produce size was smaller than Bikini, with fewer peas in the large size grade.

Ruler and Ruthless were a little lower yielding at TR100. Ruthless was a little higher yielding than Bikini at TR120. Both had longer haulm than Bikini and gave similar size grade peas to Bikini.

Several varieties including DaVinci, Reliance, Minotaur, Ruthless and Ruler Showed resistance to powdery mildew, a trait that can be beneficial for late sown and late maturing crops.

Ruthless, Vivaldi, Reliance and Minotaur showed good tolerance to downy mildew.