Grower Summary

FV 419

Snap peas: Evaluation of varieties sown at the appropriate commercial timing.

Final 2013

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Before using all pesticides check the approval status and conditions of use.

Read the label before use: use pesticides safely.

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.

HDC
Stoneleigh Park
Kenilworth
Warwickshire
CV8 2TL

Tel – 0247 669 2051

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

Project Number:	FV 419
Project Title:	Snap peas: Evaluation of varieties sown at the appropriate commercial timing.
Project Leader:	Shona Johnson
Contractor:	PGRO
Industry Representative:	Peter Waldock, Mack Multiples
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Previous report/(s):	None
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Project Cost:	£15,025

Headline

Growers now have information on previously untested varieties to enable choice of variety with improved quality and yield, and maturity information to help plan harvesting schedules.

Background

The project provides information on agronomic and quality factors relating to varieties of snap peas and their suitability for fresh market. Varieties were sown at the appropriate commercial timing for snap peas and harvested as they reached maturity. All varieties were treated with Wakil XL seed treatment to prevent damping off and primary downy mildew. Assessments of pod finish, determinacy, maturity, pod length, stringiness, plant height, vigour and yield were made. Varieties were assessed for resistance to downy mildew. Varieties were assessed for tolerance to selected pre-emergence herbicides. The results give growers, processors and retailers information on new varieties of snap peas. Data will be published in an HDC factsheet and will include agronomic advice as well as data for the characteristics evaluated.

Results

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

Variety Name	Leaf Type	Source	Maturity
Sugar Sprint	Conventional	ProVeg Seeds	-5
Delikett	Conventional	Elsoms	-3
Zuccola	Conventional	Tozer Seeds	-1
Sugar Heart	Conventional	ProVeg Seeds	-1
Norbu	Conventional	Tozer Seeds	-1
Quartz	Semi leafless	Tozer Seeds	0
Cascadia	Conventional	Tozer Seeds	0
Sugar Lace	Semi leafless	ProVeg Seeds	+1
Sapphire	Conventional	Crites Seeds (Elsoms)	+1
Sugar Lady	Semi leafless	ProVeg Seeds	+1

Trial site details

1) Variety Trial: Thorney Trial site, Upper Knarr Fen, Thorney; OS Grid Ref TF306015.
2) Downy Mildew Trial sites A) Redhouse farm, Holbeach St Matthew, PE12 9NJ OS Grid Ref: TF437311. B) Curf Fen, Chatteris OS Grid Ref: TL394887.
3) Herbicide variety interaction trial: PGRO, The Research Station, Great North Road, Thornhaugh, Peterborough PE8 6HJ. OS Grid Ref: TF070017.

Variety trial summary

Variety	Yield % of Cascadia	Pod stringiness 5= v stringy 1= none	Pod length mm	Pod width mm	Haulm length cm	Standing ability 9=erect 1=lodged
Cascadia	100	4	70	16.1	60	7
Norbu	101	1	84	16.8	57	7
Quartz	89	1	86	13.6	56	8
Sugar Sprint	107	3	69	12.8	46	6
Sugar Lady	100	1	86	15.0	61	8
Delikett	100	4	86	11.3	71	7
Sugar Heart	122+	1	86	13.9	54	8
Sugar Lace	114	1	86	16.2	52	8
Zuccola	128+	5	86	14.6	61	7
Sapphire	113	1	86	16.3	51	8

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

Herbicide variety interaction trial

Double rows of each of the varieties were drilled and pre-emergence spray applications were made across the direction of drilling. Unsprayed strips were included for comparison.

Treatments:

Treatment	Product	Rate (l/ha or kg/ha)	Registration
1	Lingo	2.0	EAMU for edible podded peas
2	Nirvana	3.5	Vining Peas Only
3	Stomp	2.2	EAMU for edible podded peas
4	Centium	0.25	Vining Peas Only
5	Nirvana	3.0	Vining Peas Only
6	Stomp Aqua + Centium	2.2 + 0.25	Vining Peas Only
7	Dual Gold	1.0	Vining Peas Future
8	Lingo + Stomp Aqua	1.5 + 1.5	Vining Peas Only
9	Nirvana + Centium	3.5 + 0.25	Vining Peas Only

EAMU = Extension of Authorisation for Minor Use.

Herbicide Snap Pea Variety interaction trial –Assessment 14 May

Assessment 14th May	Lingo 2.0l/ha	Nirvana 3.5l/ha	Stomp Aqua 2.2 l/ha	Centium 0.25 l/ha	Nirvana 3.0 l/ha	Stomp Aqua + Centium (2.2 + 0.25)	Dual Gold 1.0l/ha	Lingo + Stomp Aqua (1.5 + 1.5l/ha)	Nirvana + Centium (3.5 + 0.25)
GS: 102									
Cascadia	2.5	2	1.5	1	1	1	1	2.5	2
Sapphire	3	2	1.5	1.5	1.5	1.5	1.5	3	3
Norbu	2.5	2	1	1	2.5	1.5	2	3	2.5
Sugar Heart	2.5	2	1.5	1.5	2	1.5	1	2.5	2
Sugar Sprint	3.5	2.5	2	2	2.5	1.5	1	3	2.5
Delikett	3	2.5	2	2	2	2	2	2.5	2
Quartz	3	2	2	2	2.5	2	1.5	2.5	2
Sugar Lady	3	2.5	2.5	2	3	2	2.5	3	2.5

Scores are a mean of 2 replications. GS = Growth Stage
KEY:
1 = highly tolerant, 2 = tolerant, 3 = slightly sensitive, 4 = moderately sensitive, 5 = highly sensitive

Downy mildew trials

Thiram treated seed was sown in a double row plot with two replications at two sites in commercial crops of vining peas with a long history of pea growing, where natural infection was likely to occur. Infection scores were made on three occasions during the season and these scores converted to a scale of relative field resistance.

Downy Mildew Susceptibilities

Susceptible	Moderately Susceptible	Slightly Susceptible	Moderate Field Resistance	Good Field Resistance
Avola	Cascadia	Ambassador		
Delikett	Norbu			
Quartz	Zuccola (1 site only)			
Sapphire				

Main conclusions

Quartz, Sugar Lady and Sugar Lace were semi-leafless types while all the other varieties were conventional leaf types.

Zuccola had the most string, while Delikett, Cascadia and Sugar Sprint had less string. Norbu, Quartz, Sugar Lady, Sugar Heart, Sugar Lace and Sapphire were all stringless.

All of the varieties had very similar pod length except Cascadia and Sugar Sprint which were slightly shorter.

Norbu had the widest pod width and Delikett the narrowest.

Sapphire and Zuccola gave significantly higher yields than Cascadia. No variety gave significantly lower yields than Cascadia. Zuccola gave the highest yields in the trial

Cascadia showed the greatest early vigour with Quartz and Sugar Lace exhibiting the least.

Sapphire was the most determinate variety while Delikett was the least determinate.

Zuccola had the best pod finish in the trial while Quartz gave produce with the lowest quality pod finish.

Delikett had the longest haulm length, while Sugar Sprint had the shortest.

Most of the varieties had good standing ability and were all fairly erect, but Sugar Sprint did not stand as well.

At the time of writing only Lingo and Stomp Aqua have an EAMU for use on edible podded peas (sugar snaps), however, this work shows that any of the products tested which have full vining pea registration, have the potential for future EAMU's on edible podded peas.

Overall in there was little sensitivity to the herbicides tested. Sensitivity was only recorded at the time of the first assessment (14 May).

Varieties were most sensitive to Lingo, either as a standalone treatment or with a partner product. Cascadia and Sugar Heart were the only two varieties to have shown tolerance across all the treatments.

On the following two assessments (31 May and 19 June) all varieties were tolerant across all of the treatments. However, there was still some lower leaf chlorosis on varieties treated with Lingo and Lingo + Stomp Aqua. This appeared to be present on older leaves only and all new growth was healthy and symptom free.

Compared to Avola, Delikett Quartz and Sapphire were susceptible to downy mildew. Cascadia, Norbu and Sapphire were moderately susceptible to downy mildew.