



PGRO Variety Trials Results 2017

Vining Peas

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WEATHER FOR THE 2016 / 2017 SEASON.

Comments below are a summary taken from the meteorology website for the UK <http://www.metoffice.gov.uk/climate/uk/summaries/2017>

Spring 2017

This was a warm and rather dry spring. It was generally warmer than average during March and early April, but the second half of April was cooler, with some cold nights and numerous late frosts. May was predominantly warm, especially early and late in the month. April was much drier than average for most areas. Sunshine has been above average for spring in most areas.

Summer 2017

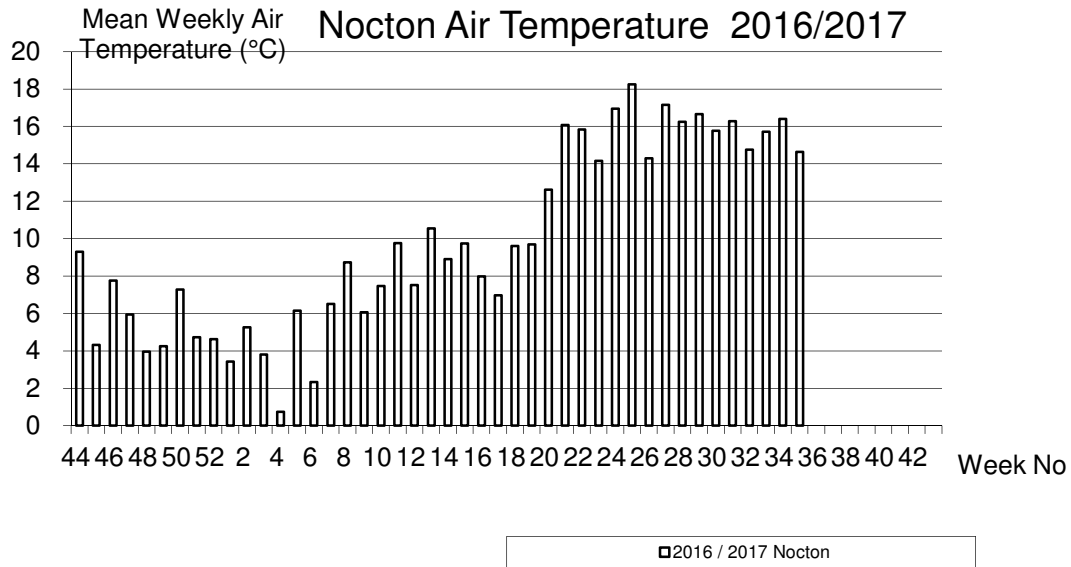
The summer was rather warm and wet. It was generally warmer than average during June and early July, especially in southern and eastern areas, but the second half of July was cooler, with an unsettled westerly regime. Both of these months were rather wet generally, and only a few areas were drier than average in each of them. Sunshine amounts have been slightly below average for summer so far in the majority of places.

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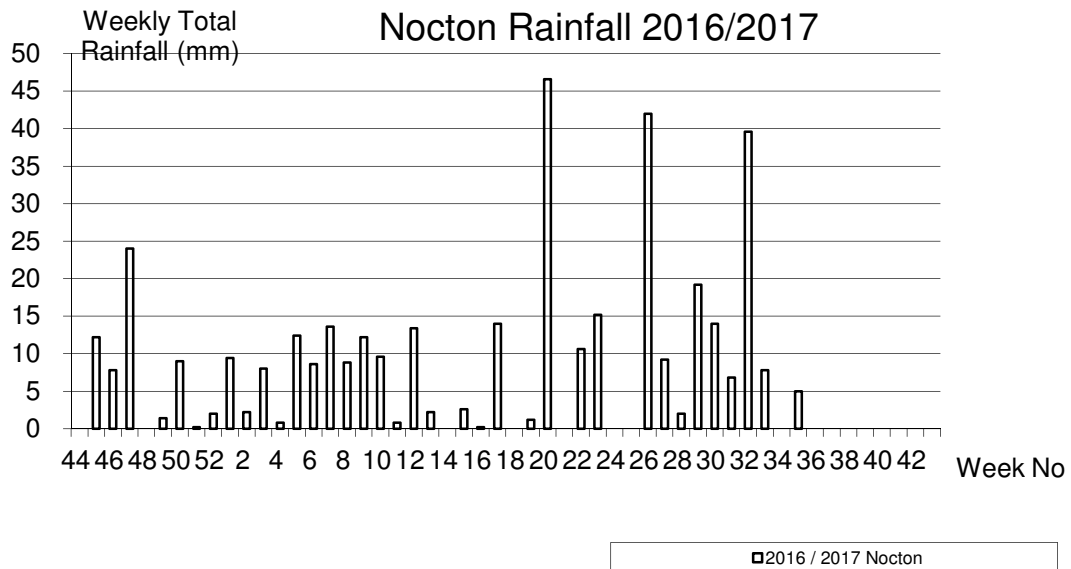
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METEROLOGICAL DATA - 2016 / 2017 season

Nocton mean weekly air temperatures (°C) 2015/2016



Nocton weekly rainfall totals (mm) 2016/2017



Nocton monthly rainfall totals (mm) 2016/2017

Month	2016/2017 Monthly Rainfall (mm) Nocton
November	-
December	-
January	49.0
February	27.6
March	56.0
April	50.8
May	29.2
June	73.2
July	39.8
August	32.4
September	-
October	-

VINING PEAS

SUMMARY

2015 was a cooler year with temperatures for the most part at or below average. The end of June / early July saw some very high temperatures. Rainfall was average and unlike recent years rainfall was frequent and at the right times.

2016 followed on from a wet and notably mild winter. The spring was overall mostly unremarkable, with temperature and rainfall overall very close to the seasonal average. All three spring months had above-average sunshine totals.

The summer months began with a very cloudy and wet June over most of England and Wales, but under cloudy skies the night-time minima were often high. The mean temperature for the summer was 14.9 °C, which is 0.6 °C above the long-term average. Summer rainfall totals were above average for most areas. June was exceptionally wet in East Anglia. Summer sunshine totals were slightly below average except in parts of eastern England. June was an exceptionally dull month in the south.

2017 was a warm and rather dry spring. It was generally warmer than average during March and early April, but the second half of April was cooler, with some cold nights and numerous late frosts. May was predominantly warm, especially early and late in the month. April was much drier than average for most areas. Sunshine has been above average for spring in most areas.

The summer months were rather warm and wet. It was generally warmer than average during June and early July, especially in southern and eastern areas, but the second half of July was cooler, with an unsettled westerly regime. Both of these months were rather wet generally, and only a few areas were drier than average in each of them. Sunshine amounts have been slightly below average for summer so far in the majority of places.

Standard Size Varieties, Nocton 2015 – 2017 Tables 1 & 2

Varieties were evaluated in Standard Preliminary Trial 2015 and Standard Main Trials 2016 and 2017.

This 3 year data set comprises data from only the Nocton site.

After the withdrawal of 07S51368A and Valido and the placement of D95389 in the petits pois trials, nine varieties Saltingo, D165618, Fantastigo, SV0957QF, D85607, LG Midnight, Reflection (PLS 196), Vidor and CS-445AF completed three years of evaluation in 2017.

Yields from the yield standard Oasis were similar in 2015 (9.51 t/ha) and 2017 (9.97 t/ha), but were lower in 2016 (7.16 t/ha) at TR100. Maturity of Oasis when compared to Avola ranged from +12 days in 2016 to +9 in 2017.

Sherwood, a replacement for Avola matured at the same time as Avola and gave similar yields.

Saltingo (D165621) (Syngenta) was semi-leafless and matured on average 5 days later than Avola. Maturity was very early in 2016, maturing only 2 days later than Avola. Yields were significantly lower than Oasis, but higher than Avola. Produce was smaller than Avola, mostly medium size grade at TR100. Haulm was similar in length to Avola and the variety had excellent standing ability.

D165618 (Syngenta) was semi-leafless and matured on average 5 days later than Avola. Maturity was very early in 2016, maturing only 2 days later than Avola. Yields were significantly lower than Oasis, but higher than Avola at TR100. Produce was smaller than Avola, mostly medium-large size grade at TR100. Standing ability was excellent.

Fantastigo (D165613) (Syngenta) was semi-leafless and matured 6 days later than Avola. Yields were lower than Avola (86/90%), but not significantly so. Highest yields were in 2015 when yields were similar to Oasis. Produce was mostly medium size grade, smaller than Avola. Standing ability was very good.

SV0957QF (Seminis Vegetable Seed) was semi-leafless and matured 2 days before Oasis. Yields were lower, but not significantly lower than Oasis (86/89%). Yields were good in 2016, higher than Oasis. Produce was medium-large size grade, similar in size to Oasis. Haulm shorter than Oasis and

standing ability was very good.

D85607 (Syngenta) matured 2 days before Oasis. Overall yields were a little lower than Oasis (93/97%), but were low in 2016. Produce was smaller than Oasis, medium-small size grade. Standing ability was similar to Oasis.

LG Midnight (06S55519A) (Limagrain UK) was semi-leafless and matured at the same time as Oasis. Overall yields were lower but not significantly lower than Oasis (85/83%). Yields were a little higher than Oasis in 2015, but low in 2017. Produce was larger than Oasis, medium-large size grade. Haulm was as long as Ambassador and the variety had average standing ability.

Reflection (PLS 196) (Pure Line Seeds) was semi-leafless and matured one day later than Oasis. Overall yields were better at TR120 than TR100, yielding a little below (97%) Oasis at TR120. Produce was similar size to Oasis, medium-large size grade. Standing ability was average.

Vidor (Wav 4361) (van Waveren) matured one day later than Oasis. Overall yields were lower than Oasis (87/91%), but were low in 2016. Produce was similar in size to Oasis, medium-large size grade. Standing ability was poor, similar to Oasis.

CS-445AF (Crites Seed) was semi-leafless and matured one day later than Oasis. Yields have been variable, but, overall yields were a little lower than Oasis (94/98%). Yields were higher than Oasis in 2015, but were low in 2016. Produce was large size grade, larger than Oasis. Haulm was short and the variety had very good standing ability.

Standard Size Varieties, Holbeach 2016 - 2017 (AHDB Horticulture funded) Tables 3 & 4

Varieties were evaluated in standard Vining Pea Main Trials in 2016 and 2017.

After the withdrawal of 07S51368A and Valido and the placement of D95389 in the petits pois trials, nine varieties Saltingo, D165618, Fantastigo, SV0957QF, D85607, LG Midnight, Reflection (PLS 196), Vidor and CS-445AF completed three years of evaluation in 2017.

In 2016 Oasis gave a 2 t/ha yield increase from TR100 to TR120. In 2017 yields did not increase from TR100 to TR120. Oasis matured 9 and 12 days later than Avola in 2016 and 2017 respectively.

Sherwood, an early maturing replacement for Avola matured at the same time as Avola and gave a significant yield increase over Avola at TR100.

Saltingo (D165621) (Syngenta) was semi-leafless and matured on average 5 days later than Avola. Yields were significantly lower than Oasis, but significantly higher than Avola at TR100. Produce was medium-large size grade, a little smaller than Avola at TR100. Haulm was similar in length to Avola and the variety had better standing ability (5).

D165618 (Syngenta) was semi-leafless and matured on average 5 days later than Avola. Yields were lower than Oasis, but significantly higher than Avola at TR100. Produce was medium-large size grade, a little smaller than Avola at TR100. Standing ability was a little above average (6).

Fantastigo (D165613) (Syngenta) was semi-leafless and matured 7 days later than Avola. Yields were significantly higher than Avola (84/89%). Yields were higher in 2017, than 2016. Produce was medium-large size grade, smaller than Avola. Standing was ability a little above average (6).

SV0957QF (Seminis Vegetable Seed) was semi-leafless and matured 3 days before Oasis. Yields were lower, but not significantly lower than Oasis (87/96). Produce was medium-large size grade. Standing ability was a little above average (6).

D85607 (Syngenta) matured 3 days before Oasis. Yields at TR100 were significantly lower than Oasis. Yields were better in 2017 than 2016. Produce was smaller than Oasis, medium-small size grade. Standing ability was average (5).

LG Midnight (06S55519A) (Limagrain UK) was semi-leafless and matured at the same time as Oasis. Overall yields were lower but not significantly lower than Oasis (84/83%). Yields were a little higher in 2017 than 2016. Produce was larger than Oasis, medium-large size grade. Haulm was longer than Oasis and the variety had the best standing ability (7).

Vidor (Wav 4361) (van Waveren) matured at the same time as Oasis. Overall, yields were similar to Oasis (98/100%). Produce was similar in size to Oasis, medium-large size grade. Standing ability was poor, similar to Oasis.

Reflection (PLS 196) (Pure Line Seeds) was semi-leafless and matured one day later than Oasis. Overall yields were higher than Oasis (102/118%) and were the highest in the trial at TR120. Produce was a little larger than Oasis, large-medium size grade. Standing ability was average (5).

CS-445AF (Crites Seed) was semi-leafless and matured one day later than Oasis. Yields were much higher in 2017 than 2016. Yields were the highest in trial at TR100 (109/114%). Produce was large size grade, larger than Oasis. Haulm was short and standing ability was a little above average (6).

Petits Pois Varieties, Holbeach 2015 - 2017 Tables 5 & 6

Three petits pois varieties Judith, Lunanvert and Festivert completed trials in 2017.

Waverex gave the highest yields in 2015 (7.3 t/ha) with 2016 (5.14 t/ha) and 2017 (5.21 t/ha) being similar at TR100. Produce gave peas with 73% <8.75mm in diameter. Standing ability was poor (2).

Judith (Wav 6199) (van Waveren) matured one day before Waverex. Yields (113/103%) were higher, but not significantly higher than Waverex. Yields were very high in 2016 when compared to Waverex. Produce was smaller than Waverex with 90% of the peas <8.75mm diameter at TR100. Haulm was similar in length to Waverex and standing ability was similar.

Lunanvert (D95389) (Syngenta) matured one day later than Waverex. Yields (97/106%) were a little lower than Waverex at TR100 and a little higher at TR120. Produce was a little larger than Waverex, with less peas in the very small size grade. Haulm was a little longer than Waverex and standing ability was average (5).

Festivert (D175161) (Syngenta) was semi-leafless and matured 2 days later than Waverex. Yields were lower, but not significantly lower than Waverex. Produce was a little smaller than Waverex with 78% of the peas <8.75mm diameter. Haulm was longer than Waverex and standing ability was average-good (7).

TRIALS IN 2017

Standard size varieties were evaluated in Main, Preliminary and Screening Trials at Nocton, Lincs. Trials of standard and petits pois varieties were evaluated at Holbeach, South Lincolnshire. The standard pea Main Trial at Holbeach was funded by Agriculture and Horticulture Development Board (AHDB-Horticulture).

Promising varieties from 2015 Preliminary Trials were assessed in the Main Trial. Preliminary Trial varieties were at National List stage of testing in an EU member country, while breeders' material at an early stage of development were evaluated in the Screening Trial.

Seed of all varieties was treated to control damping off, downy mildew and *Ascochyta* diseases. Avola was the standard variety for maturity; Oasis was the yield standard and Ambassador was the late maturing standard. Waverex was the petits pois yield and maturity standard.

Nocton trials were drilled on 10 March and Holbeach trials on 11 April. The peas emerged well and evenly, with few field losses. At Nocton, broad-leaved weeds were controlled post-emergence with Bentazone and MPCA. Weevil (*Sitona lineatus*) and field thrips (*Thrips angusticeps*) were controlled with an application of Hallmark (lambda-cyhalothrin). Aphid (*Acyrtosiphon pisum*) and pea moth (*Cydia nigricana*) were controlled with insecticide. Foliar disease levels were low this year. At Holbeach inputs were the same as the surrounding commercial crop.

The vining pea harvest started early about 15 days earlier than 2016 on the 13 June and was completed on 14 August. Pea colour for most varieties was good and unless otherwise stated the uniformity of colour was also good.

A sample from all trials were frozen for later colour and Brix assessments. Most varieties became darker in colour after freezing and defrosting than in the raw state.

Standard Pea Main Trial, Nocton - Tables 7 & 8

D85460 was the first to mature one day before Avola while 08S40137A matured very late, 15 days later than Avola.

Avola gave significantly lower yields than Oasis.

No variety gave significantly higher yields than Oasis. 08S05676A was the highest yielding at both TR100 and TR120, yielding 109 and 105% of Oasis. CS-445AF (103%) and 08S01030A (102%) were also a little higher yielding than Oasis at TR120.

Several varieties had excellent / very good standing ability including, Fantastigo, D165618, Saltingo, SV8112QF, SV0957QF, D165315, PFR 15-PA42, CS-445AF and 08S04137A, all of these were semi-leafless.

Standard Pea Main Trial, Holbeach (AHDB-Horticulture funded) - Tables 9 & 10

Hot weather and a clash at harvest meant the early varieties Avola and D85460) were not harvested the correct time for TR100 and no yield data was presented.

Yields from the yield standard Oasis, were about 1 t/ha higher than in 2016 at TR100, but there was no yield increase from TR100 to TR120, yielding 9.49 t/ha. Consequently many varieties appear higher yielding at TR120 when compared to Oasis than at TR100.

Early varieties Avola and Sherwood gave similar yields at TR120. D85460 was lower yielding, but not significantly so. 08S04137A had very late maturity, maturing 7 days later than Oasis.

The highest yielding variety was CS-445AF, which yielded 117 and 147% of Oasis at TR100 and TR120 respectively. Several other varieties out yielded Oasis at TR100 including 08S05676A, Vidor, Ambassador, Reflection (PLS 196) and 08S04137A.

Varieties with very good standing ability (8) were SV8112QF, SV0957QF, PFR 15-PA42 and 08S04137A.

Standard Pea Preliminary Trial, Nocton – Tables 11 & 12

Eleven Preliminary trial varieties were evaluated.

Avola was the first variety to mature and gave significantly lower yields than Oasis.

No variety gave significantly higher yields than Oasis. LG06S54009A was the highest yielding variety in the trial yielding 98% and 103% of Oasis. PFR 1606 (95/94%) and PFR 1604 (98/94%) were also two of the higher yielding varieties.

Several varieties had excellent standing ability, including CS455AF, DGL0027, LG06S54009A, D165641, PFR 1601 and CS-457AF. All of these were semi-leafless.

Standard Pea Screening Trial, Nocton – Tables 13 & 14

Thirteen Screening trial varieties were evaluated.

Avola was the first variety to mature and gave significantly lower yields than Oasis. Belvedere matured 3 days later than Avola and gave higher, but not significantly higher yields than Avola. PLS 11P42 also matured 3 days later than Avola and gave significantly higher yields than Avola.

Marimba (94/106%) and Lyric (98/99%) were the highest yielding varieties in the trial.

Varieties that had very good standing ability were Bonfire, CS-467AF, CS-471AF and CS-463AF, all of these were semi-leafless.

Petits Pois Main & Preliminary Trials, Holbeach – Tables 15 & 16

Main Trial Varieties

Judith matured one day before Waverex, with Lunanvert and Festivert maturing 2 and 3 days later respectively.

Judith (95%) and Festivert were a little lower yielding than Waverex at TR100.

Judith gave produce of the smallest size, with 93% of the peas <8.75mm diameter.

Semi-leafless Festivert had very good standing ability.

Preliminary Trial Varieties

Norvert had early maturity, maturing 5 days earlier than Waverex. D175880 and SV3946QB matured 3 days later than Waverex and SV6064QC matured 4 days later than Waverex.

SV3946QB gave similar yields (99%) to Waverex at TR100, but produce was larger with only 52% of the peas <8.75mm diameter. D175880 gave significantly lower yields than Waverex.

SV6064QC gave very small produce with 95% of the peas <8.75 mm diameter.

Semi-leafless varieties D175880 and SV6064QC had very good standing ability.

Varietal Susceptibility of Vining Peas to Downy Mildew (*Peronospora viciae*) - 2017

It is important that untreated seed is entered for trials so that downy mildew susceptibility can be evaluated.

As part of the variety evaluation work 48 varieties of vining peas were sown in disease observation trials at two locations in Lincolnshire. Both trials were situated in a field with a history of pea growing.

Plants were scored for infection on two occasions during the season, to include both primary systemically infected seedlings and secondary infection on the foliage and pods. The data were combined to give an indication of the relative susceptibility to downy mildew.

Downy mildew levels were very low at both sites in 2017

Susceptible	Moderately Susceptible	Slightly Susceptible	Moderate Field Resistance	Good Field Resistance
	Avola	06S54009A	04S51315N	Belvedere(Wav 1188)
		CS-445AF	LG Midnight(06S55519A)	Bonfire(Wav 181)
		CS-457AF	08S01030	Cargo
		CS-467AF	08S04137	CS-455AF
		Oasis	08S05676	D165315
		PFR15-A10	CS-441AF	D165618
		PFR 1604	CS-463AF	D175580
			D165641	D85460
			Festivert(D175161)	D85607
			LG Element	Dancer(Wav 585)
			LG Galileo	Fantastigo(D165613)
			LG Guardian	Judith(Wav 6199)
			Lunanvert(D95389)	Marimba(Wav 1189)
			PFR15-PA42	Maurice
			PFR 1601	Norvert(D95387)
			PFR 1606	Saltingo(D165621)
			Reflection (PLS 196)	SV3946QB
			Vidor(Wav 4361)	

The results of these tests and those of previous years were incorporated in the PGRO Advisory Leaflet of Vining Pea Varieties.

TABLE 1 - VINING PEA VARIETY STUDIES. Summary of Standard Vining Peas - Nocton 2015 - 2017

Varieties placed in order of maturity. Standard varieties underlined

Variety	Source	1000 Seed Weight g	@ TR 100							@ TR 120							Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
			Maturity (± days) Avola	Yield % of Oasis	% in size grades L M S VS				Maturity (± days) Avola	Yield % of Oasis	% in size grades L M S VS				Haulm length cm				
<u>Avola</u>	<u>SVS</u>	<u>214</u>	<u>0</u>	<u>60-</u>	<u>47</u>	<u>39</u>	<u>12</u>	<u>2</u>	<u>0</u>	<u>66-</u>	<u>64</u>	<u>28</u>	<u>6</u>	<u>2</u>	<u>60</u>	<u>3</u>	<u>21</u>	<u>5.4</u>	
<u>Sherwood</u>	<u>SVS</u>	<u>203</u>	<u>0</u>	<u>62-</u>	<u>24</u>	<u>47</u>	<u>25</u>	<u>4</u>	<u>0</u>	<u>65-</u>	<u>32</u>	<u>49</u>	<u>16</u>	<u>3</u>	<u>50</u>	<u>5</u>	<u>21</u>	<u>5.6</u>	
D165621(Saltingo)	(SL) Syn	203	+5	73-	24	52	21	3	+4	74-	31	55	13	1	60	9	21	5.6	
D165618	(SL) Syn	201	+5	74-	29	52	17	2	+5	77-	37	53	9	1	53	9	22	5.6	
D165613(Fantastigo)	(SL) Syn	198	+6	86	22	51	24	3	+5	90	30	56	13	1	58	8	24	5.4	
SV0957QF	(SL) SVS	180	+8	86	27	56	16	1	+7	89	31	58	10	1	54	8	26	5.6	
D85607	Syn	180	+8	93	13	49	34	4	+8	97	15	56	26	3	65	3	24	5.4	
LG Midnight(06S55519A)	(SL) LUK	204	+10	85	27	61	11	1	+9	83	34	57	8	1	72	5	25	5.6	
<u>Oasis</u>	<u>LUK</u>	<u>194</u>	<u>+10</u>	<u>100</u>	<u>24</u>	<u>55</u>	<u>19</u>	<u>2</u>	<u>+10</u>	<u>100</u>	<u>30</u>	<u>58</u>	<u>11</u>	<u>1</u>	<u>61</u>	<u>2</u>	<u>25</u>	<u>5.5</u>	
				(8.88t/ha)						(9.64t/ha)									
Reflection (PLS 196)	(SL) PLS	205	+11	86	29	55	15	1	+10	97	38	50	11	1	64	6	26	5.6	
Vidor(Wav4361)	vW	174	+11	87	29	55	14	2	+10	91	35	54	10	1	66	2	21	5.5	
CS-445AF	(SL) CS	210	+11	94	46	46	6	2	+11	98	53	42	4	1	51	8	26	5.5	
<u>Ambassador</u>	<u>vW</u>	<u>184</u>	<u>+12</u>	<u>85</u>	<u>30</u>	<u>58</u>	<u>11</u>	<u>1</u>	<u>+12</u>	<u>82-</u>	<u>36</u>	<u>56</u>	<u>7</u>	<u>1</u>	<u>75</u>	<u>4</u>	<u>21</u>	<u>5.5</u>	
Significance @ P=0.05				SD						SD									
LSD @ P=0.05				17.8						16.3									
CV %				13.5						12.1									

KEY: Yield: + Significantly greater than Oasis @ P = 0.05; - Significantly less than Oasis @ P = 0.05

Size grades: L = large > 10.2mm; M = medium 8.75 - 10.2mm; S = small 7.5 - 8.75mm; VS = very small < 7.5mm

SL = Semi-leafless; SF = Semi-fasciated

Source of varieties see Appendix

TABLE 2 - VINING PEA VARIETY STUDIES. Summary of quality data – Standard pea varieties – Nocton 2015 – 2017

Variety	Year	Tenderometer Reading	Appearance				Brix %
			Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	
Avola	15	101.5	6.3	1.0	4.3	1.0	9.8
	16	98.0	6.3	1.0	4.3	1.0	11.2
	17	101.0	5.5	2.0	4.5	1.0	13.3
Sherwood	15	101.5	6.2	1.0	4.7	1.0	12.2
	16	105.5	6.0	2.0	4.5	1.0	14.0
	17	103.0	5.0	2.0	4.5	1.0	13.0
Saltingo	15	99.5	6.7	1.3	4.3	1.3	11.8
	16	101.5	5.8	1.0	4.3	1.0	12.0
	17	100.0	6.0	2.0	5.0	1.0	11.0
D165618	15	99.0	6.7	1.3	4.7	1.0	12.6
	16	98.5	5.5	1.5	4.3	1.0	12.2
	17	101.0	5.5	2.0	4.5	1.0	11.7
Fantastigo	15	95.5	6.0	1.0	4.7	1.0	11.7
	16	104.0	5.5	1.0	4.8	1.0	11.0
	17	99.0	5.0	2.0	4.0	1.0	12.9
SV0957QF	15	114.5	6.3	1.0	4.5	1.0	10.9
	16	98.5	5.8	1.0	4.8	1.0	11.9
	17	101.0	5.5	2.0	5.0	1.0	13.2
D85607	15	102.0	6.0	1.0	4.0	1.0	11.3
	16	99.0	6.0	1.0	4.5	1.0	13.1
	17	114.0	5.0	2.0	4.0	1.0	12.4
LG Midnight(06S55519A)	15	109.5	6.5	1.0	4.5	1.0	11.7
	16	98.5	7.0	1.0	4.5	1.0	10.3
	17	102.0	6.0	2.0	5.0	1.0	12.4
Oasis	15	102.0	6.0	1.0	4.0	1.0	11.7
	16	106.0	5.8	1.0	4.5	1.0	10.8
	17	98.5	5.5	2.0	4.5	1.0	12.6
Refelection (PLS 196)	15	109.5	6.8	1.0	4.5	1.0	10.9
	16	99.5	6.3	1.0	4.8	1.0	11.8
	17	122.0	5.0	2.0	4.0	1.0	12.7
Ambassador	15	99.5	6.5	1.5	4.5	1.0	11.7
	16	100.5	5.3	1.0	3.8	1.0	12.0
	17	107.5	5.0	2.0	4.0	1.0	12.2
Vidor	15	111.0	6.3	1.0	4.3	1.0	9.8
	16	103.0	5.8	1.0	4.5	1.0	11.3
	17	98.5	5.5	2.0	4.5	1.0	12.5
CS-445AF	15	111.0	5.8	1.0	4.5	1.0	10.2
	16	102.5	5.3	1.0	3.8	1.0	9.8
	17	117.0	5.0	1.0	5.0	1.0	10.9

KEY: Uniformity; Uniformity; No. of blonds: (1-5) - a high figure indicates that the variety shows the character to a high degree

Colour: a high figure indicates a darker green; Brightness: 1 = bright, 2 = dull; Brix - measured using Atago pocket refractometer PAL-1 and gives an indication of sugar content

TABLE 3 - VINING PEA VARIETY STUDIES. Summary of Standard Vining Peas - Holbeach 2016 - 2017

Varieties placed in order of maturity. Standard varieties underlined

Variety	Source	1000 Seed Weight g	Maturity (± days) Avola	@ TR 100					@ TR 120					Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark	
				Yield % of Oasis	% in size grades	L	M	S	VS	Maturity (± days) Avola	Yield % of Oasis	% in size grades	L					M
<u>Avola</u>	<u>SVS</u>	<u>212</u>	<u>0</u>	<u>40-</u>	<u>56</u>	<u>35</u>	<u>7</u>	<u>2</u>	<u>0</u>	<u>60-</u>	<u>57</u>	<u>36</u>	<u>6</u>	<u>1</u>	<u>66</u>	<u>2</u>	<u>18</u>	<u>5.1</u>
<u>Sherwood</u>	<u>SVS</u>	<u>197</u>	<u>0</u>	<u>67-</u>	<u>27</u>	<u>47</u>	<u>23</u>	<u>3</u>	<u>+1</u>	<u>86</u>	<u>34</u>	<u>53</u>	<u>12</u>	<u>1</u>	<u>62</u>	<u>2</u>	<u>22</u>	<u>5.4</u>
D165621(Saltingo)	(SL) Syn	204	+5	63-	38	46	14	2	+5	61-	44	46	9	1	63	5	16	5.4
D165618	(SL) Syn	201	+5	80	41	46	11	2	+6	76	52	43	5	0	61	6	18	5.4
D165613(Fantastigo)	(SL) Syn	198	+7	84	27	48	21	4	+7	89	37	53	9	1	66	6	18	5.0
SV0957QF	(SL) SVS	176	+8	87	30	51	16	3	+8	96	40	51	8	1	67	6	21	5.3
D85607	Syn	180	+8	72-	18	51	25	6	+8	83	24	58	15	3	74	5	18	5.0
LG Midnight(06S55519A)	(SL) LUK	202	+11	84	32	57	10	1	+10	83	42	51	6	1	74	7	22	5.4
<u>Oasis</u>	<u>LUK</u>	<u>189</u>	<u>+11</u>	<u>100</u>	<u>38</u>	<u>49</u>	<u>11</u>	<u>2</u>	<u>+11</u>	<u>100</u>	<u>45</u>	<u>46</u>	<u>7</u>	<u>2</u>	<u>64</u>	<u>2</u>	<u>19</u>	<u>5.1</u>
				(8.98t/ha)						(9.99t/ha)								
Vidor(Wav4361)	vW	181	+11	98	42	45	11	2	+11	100	56	38	5	1	67	2	18	4.9
Reflection (PLS 196)	(SL) PLS	210	+12	102	46	43	9	2	+12	118	67	28	4	1	68	5	20	5.1
CS-445AF	(SL) CS	221	+12	109	58	33	7	2	+12	114	71	25	3	1	56	6	22	5.0
<u>Ambassador</u>	<u>vW</u>	<u>188</u>	<u>+13</u>	<u>96</u>	<u>39</u>	<u>43</u>	<u>15</u>	<u>3</u>	<u>+13</u>	<u>99</u>	<u>51</u>	<u>41</u>	<u>7</u>	<u>1</u>	<u>83</u>	<u>4</u>	<u>18</u>	<u>5.0</u>
Significance @ P=0.05				SD						SD								
LSD @ P=0.05				21.7						37.1								
CV %				12.6						21.1								

KEY: Yield: + Significantly greater than Oasis @ P = 0.05; - Significantly less than Oasis @ P = 0.05

Size grades: L = large > 10.2mm; M = medium 8.75 - 10.2mm; S = small 7.5 - 8.75mm; VS = very small < 7.5mm

SL = Semi-leafless; SF = Semi-fasciated

Source of varieties see Appendix

TABLE 4 - VINING PEA VARIETY STUDIES. Summary of quality data – Standard pea varieties – Holbeach 2016 – 2017

Variety	Year	Tenderometer Reading	Appearance				Brix %
			Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	
Avola	16	91.5	5.5	1.0	3.8	1.0	10.8
	17	122.0	5.0	2.0	4.5	1.0	9.0
Sherwood	16	102.5	5.8	1.0	2.5	2.0	12.0
	17	116.0	5.0	2.0	4.5	1.0	11.2
Saltingo	16	99.5	6.5	1.5	4.5	1.0	10.5
	17	99.5	5.0	2.0	4.5	1.0	12.0
D165618	16	103.5	6.3	1.0	4.8	1.0	10.7
	17	95.5	5.0	2.0	4.5	1.0	12.1
Fantastigo	16	97.0	5.5	1.0	4.3	1.0	10.6
	17	103.0	4.5	2.0	4.0	2.0	11.0
SV0957QF	16	106.0	5.8	1.0	4.5	1.0	11.1
	17	103.5	5.0	2.0	4.5	1.0	11.6
D85607	16	104.0	5.3	1.0	3.0	2.0	11.8
	17	99.5	5.5	2.0	4.5	1.0	12.2
LG Midnight(06S55519A)	16	101.5	6.3	2.0	4.5	1.0	11.5
	17	103.0	5.5	1.0	4.5	2.0	10.6
Oasis	16	99.5	5.5	1.0	2.5	2.0	10.3
	17	99.0	5.0	1.0	4.0	2.0	10.4
Vidor	16	98.5	5.3	1.0	3.5	1.0	10.8
	17	100.5	5.0	2.0	4.0	2.0	11.4
Reflection (PLS 196)	16	100.5	6.0	1.0	4.0	1.0	11.7
	17	97.0	6.0	1.0	4.5	1.0	12.4
CS-445AF	16	99.0	5.3	1.0	4.5	1.0	9.9
	17	98.5	5.0	2.0	4.0	2.0	10.5
Ambassador	16	103.0	5.8	1.5	3.0	2.0	11.1
	17	94.5	5.0	1.0	4.0	2.0	11.8

KEY: Uniformity; Uniformity; No. of blonds: (1-5) - a high figure indicates that the variety shows the character to a high degree

Colour: a high figure indicates a darker green; Brightness: 1 = bright, 2 = dull; Brix - measured using Atago pocket refractometer PAL-1 and gives an indication of sugar content

TABLE 5 - VINING PEA VARIETY STUDIES. Summary of Petits Pois Vining Peas - Holbeach 2015 - 2017

Varieties placed in order of maturity. Standard varieties underlined

Variety	Source	1000 Seed Weight g	@ TR 100							@ TR 120							Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
			Maturity (± days) Waverex	Yield % of Waverex	% in size grades L M S VS				Maturity (± days) Waverex	Yield % of Waverex	% in size grades L M S VS				Haulm length cm				
Judith	vW	93	- 1	113	0	10	48	42	- 1	103	1	12	50	37	52	3	18	4.8	
<u>Waverex</u>	<u>vW</u>	<u>105</u>	<u>0</u>	<u>100</u>	<u>3</u>	<u>24</u>	<u>42</u>	<u>31</u>	<u>0</u>	<u>100</u>	<u>6</u>	<u>34</u>	<u>42</u>	<u>18</u>	<u>55</u>	<u>2</u>	<u>15</u>	<u>5.0</u>	
				(5.88t/ha)						(6.46t/ha)									
Lunanvert(D95389)	Syn	106	+ 1	97	3	26	51	20	+ 1	106	4	32	50	14	64	5	14	4.8	
Festivert(D175161) (SL)	Syn	87	+ 2	75	2	20	45	33	+ 2	87	4	27	51	18	65	7	13	4.8	
Significance @ P=0.05				NSD						NSD									
LSD @ P=0.05				36.6						22.4									
CV %				30.3						18.0									

KEY: Yield: + Significantly greater than Oasis @ P = 0.05; - Significantly less than Oasis @ P = 0.05

Size grades: L = large > 10.2mm; M = medium 8.75 - 10.2mm; S = small 7.5 - 8.75mm; VS = very small < 7.5mm

SL = Semi-leafless; SF = Semi-fasciated

Source of varieties see Appendix

TABLE 6 - VINING PEA VARIETY STUDIES. Summary of quality data - Petits Pois Peas, Holbeach - 2015 - 2017

Variety	Year	Tenderometer Reading	Appearance				Brix %
			Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	
Judith	15	105.5	5.3	1.0	4.3	1.0	10.8
	16	114.0	5.3	1.0	4.5	1.0	11.4
	17	98.0	5.0	2.0	4.5	1.0	12.8
Waverex	15	103.0	5.8	1.0	3.5	1.5	11.8
	16	97.0	5.5	1.0	3.8	1.0	12.4
	17	103.5	5.0	2.0	5.0	1.0	12.5
Lunanvert(D95389)	15						
	16	97.0	5.3	2.0	3.8	1.0	10.9
	17	105.5	5.0	2.0	4.0	2.0	11.1
Festivert(D175161)	15	102.0	6.3	1.0	4.5	1.0	11.6
	16	100.5	5.8	1.0	4.3	1.0	12.6
	17	105.5	5.5	2.0	4.0	1.0	12.9

KEY: Uniformity; Uniformity; No. of blonds: (1-5) - a high figure indicates that the variety shows the character to a high degree

Colour: a high figure indicates a darker green; Brightness: 1 = bright, 2 = dull; Brix - measured using Atago pocket refractometer PAL-1 and gives an indication of sugar content

TABLE 7 - VINING PEA VARIETY STUDIES. Summary of agronomic data Standard Vining Pea Main Variety Trial, Nocton - 2017
 Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 10 March.
 Results are means of three replicates. Target population 90 plants per m² sown in ten 15 cm rows.

Variety	Source	1000 Seed Weight g	@ TR 100				@ TR 120				Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark				
			Maturity (± days) Avola	Yield % of Oasis	% in size grades L M S VS				Maturity (± days) Avola	Yield % of Oasis					% in size grades L M S VS			
D85460	Syn	221	- 1	46-	22	44	28	6	0	48-	39	52	8	1	67	2	20	6.0
<u>Avola</u>	<u>SVS</u>	<u>206</u>	<u>0(25/6)</u>	<u>57-</u>	<u>48</u>	<u>42</u>	<u>9</u>	<u>1</u>	<u>0(27/6)</u>	<u>64-</u>	<u>72</u>	<u>25</u>	<u>2</u>	<u>1</u>	<u>60</u>	<u>3</u>	<u>21</u>	<u>5.5</u>
<u>Sherwood</u>	<u>SVS</u>	<u>184</u>	<u>+1</u>	<u>61-</u>	<u>18</u>	<u>50</u>	<u>28</u>	<u>4</u>	<u>+1</u>	<u>63-</u>	<u>25</u>	<u>58</u>	<u>15</u>	<u>2</u>	<u>51</u>	<u>5</u>	<u>23</u>	<u>5.8</u>
D165613(Fantastigo)	(SL) Syn	195	+ 5	76-	17	50	29	4	+ 5	83	25	59	15	1	57	8	24	5.4
D165618	(SL) Syn	201	+ 6	73-	23	57	18	2	+ 5	71-	29	58	12	1	51	9	24	5.5
D165621(Saltingo)	(SL) Syn	204	+ 6	75-	18	57	23	2	+ 5	73-	21	62	16	1	61	9	22	5.5
SV8112QF	(SL) SVS	170	+ 6	83	10	49	38	3	+ 5	87	14	54	30	2	57	9	25	5.5
SV0957QF	(SL) SVS	156	+ 7	85	17	60	23	0	+ 7	91	21	63	16	0	52	9	31	5.6
D85607	Syn	180	+ 8	92	8	46	45	1	+ 8	98	8	56	35	1	69	2	27	5.3
PFR 15-A10	PFR	176	+ 9	78-	8	38	51	3	+ 8	91	10	50	39	1	61	6	27	5.3
<u>Oasis</u>	<u>LUK</u>	<u>206</u>	<u>+9</u>	<u>100</u>	<u>15</u>	<u>58</u>	<u>26</u>	<u>1</u>	<u>+9</u>	<u>100</u>	<u>21</u>	<u>62</u>	<u>16</u>	<u>1</u>	<u>64</u>	<u>1</u>	<u>27</u>	<u>5.3</u>
				(9.97t/ha)					(10.43t/ha)									
D165315	(SL) Syn	198	+ 9	76-	16	51	31	2	+ 9	72-	25	57	17	1	59	9	20	5.6
CS-441AF	(SL) CS	213	+ 9	88	25	66	9	0	+ 9	93	29	64	7	0	61	6	27	5.1
PFR 15-PA42	(SL) PFR	190	+ 9	79-	4	34	60	2	+ 9	77-	8	52	39	1	61	9	22	5.2
DGL0042	Syn	215	+ 9	80	9	65	25	1	+10	77-	16	66	17	1	72	2	23	5.2
Reflection (PLS 196)	(SL) PLS	202	+10	82	23	71	6	0	+ 9	97	35	61	4	0	69	7	26	5.4
LG Midnight(06S55519A)	(SL) LUK	204	+10	85	21	66	12	1	+ 9	84	28	64	8	0	74	4	26	5.4
08S05676A	(SL) LUK	241	+10	109	32	62	6	0	+ 9	105	36	60	4	0	70	6	28	5.3
Vidor(Wav4361)	vW	200	+10	87	21	67	11	1	+10	90	29	65	6	0	62	2	23	5.2
CS-445AF	(SL) CS	243	+10	97	33	63	4	0	+10	103	37	60	3	0	52	8	29	5.3
04S51315N	LUK	228	+10	90	18	57	24	1	+10	92	29	64	7	0	67	2	22	5.3
08S01030A	(SL) LUK	180	+11	100	24	63	12	1	+10	102	38	56	6	0	64	6	27	5.5
<u>Ambassador</u>	<u>vW</u>	<u>184</u>	<u>+11</u>	<u>78-</u>	<u>28</u>	<u>67</u>	<u>5</u>	<u>0</u>	<u>+11</u>	<u>78-</u>	<u>32</u>	<u>65</u>	<u>3</u>	<u>0</u>	<u>72</u>	<u>3</u>	<u>22</u>	<u>5.4</u>
08S04137A	(SL) LUK	178	+15	95	58	38	4	0	+14	90	60	37	3	0	62	8	22	5.0
Significance @ P=0.05				SD					SD									
LSD @ P=0.05				16.8					13.9									
CV %				12.9					10.5									

KEY: Yield: + Significantly greater than Oasis @ P = 0.05; - Significantly less than Oasis @ P = 0.05

Size grades: L = large > 10.2mm; M = medium 8.75 - 10.2mm; S = small 7.5 - 8.75mm; VS = very small < 7.5mm

SL = Semi-leafless; SF = Semi-fasciated

Source of varieties see Appendix

TABLE 8 - VINING PEA VARIETY STUDIES. Summary of quality data - Standard Vining Pea Main Variety Trial, Nocton - 2017

Variety	Tenderometer Reading	Appearance				Brix %
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	
Avola	101.0	5.5	2.0	4.5	1.0	13.3
Sherwood	103.0	5.0	2.0	4.5	1.0	13.0
D165613(Fantastigo)	99.0	5.0	2.0	4.0	1.0	12.9
D165618	101.0	5.5	2.0	4.5	1.0	11.7
D165621(Saltingo)	100.0	6.0	2.0	5.0	1.0	11.0
SV8112QH	97.0	6.5	2.0	5.0	1.0	14.3
SV0957QF	101.0	5.5	2.0	5.0	1.0	13.2
D85607	114.0	5.0	2.0	4.0	1.0	12.4
PFR 15-A10	99.0	5.5	2.0	4.5	1.0	13.6
CS-441AF	99.5	5.0	2.0	4.5	1.0	11.1
D165315	98.0	6.0	2.0	5.0	1.0	12.2
Oasis	98.5	5.5	2.0	4.5	1.0	12.6
PFR 15-PA42	101.0	4.5	2.0	4.5	1.0	11.1
DGL0042	110.5	5.0	2.0	4.0	1.0	12.2
LG Midnight(06S55519A)	102.0	6.0	2.0	5.0	1.0	12.4
08S05676A	99.0	5.5	2.0	4.5	1.0	11.9
Reflection (PLS 196)	122.0	5.0	2.0	4.0	1.0	12.7
04S51315N						
CS-445AF	117.0	5.0	1.0	5.0	1.0	10.9
Vidor(Wav4361)	98.5	5.5	2.0	4.5	1.0	12.5
08S01030A	109.5	5.0	2.0	4.0	1.0	13.3
Ambassador	107.5	5.0	2.0	4.0	1.0	12.2
08S04137A	119.0	4.5	1.0	5.0	1.0	9.8

KEY: Uniformity; Uniformity; No. of blonds; (1-5) - a high figure indicates that the variety shows the character to a high degree

Colour: a high figure indicates a darker green; Brightness: 1 = bright, 2 = dull; Brix - measured using Atago pocket refractometer PAL-1 and gives an indication of sugar content

TABLE 9 - VINING PEA VARIETY STUDIES. Summary of agronomic data Standard Vining Pea Main Variety Trial, Holbeach Hurn - 2017
 Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 11 April.
 Results are means of two replicates. Target population 90 plants per m² sown in ten 15 cm rows.

Variety	Source	1000 Seed Weight g	@ TR 100							@ TR 120							Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
			Maturity (± days) Avola	Yield % of Oasis	% in size grades				Maturity (± days) Avola	Yield % of Oasis	% in size grades				Haulm length cm				
					L	M	S	VS			L	M	S	VS					
<u>Avola</u>	<u>SVS</u>	<u>206</u>	<u>0(25/6)</u>		<u>63</u>	<u>37</u>	<u>0</u>	<u>0</u>	<u>0(27/6)</u>	<u>95</u>	<u>61</u>	<u>37</u>	<u>2</u>	<u>0</u>	<u>70</u>	<u>2</u>	<u>21</u>	<u>5.3</u>	
<u>Sherwood</u>	<u>SVS</u>	<u>184</u>	<u>0</u>	<u>64-</u>	<u>21</u>	<u>58</u>	<u>20</u>	<u>1</u>	<u>0</u>	<u>98</u>	<u>26</u>	<u>59</u>	<u>14</u>	<u>1</u>	<u>66</u>	<u>2</u>	<u>22</u>	<u>5.4</u>	
D85460	Syn	221	0		39	53	8	0	0	87	37	57	6	0	89	2	20	5.5	
D165621(Saltingo)	(SL) Syn	204	+6	58-	39	45	14	2	+6	66-	44	47	8	1	66	5	13	5.4	
D165618	(SL) Syn	201	+6	68-	41	45	12	2	+7	75-	59	37	4	0	62	6	15	5.1	
SV8112QF	(SL) SVS	170	+8	70-	17	55	24	4	+8	70-	31	53	13	3	66	8	14	5.3	
D165613(Fantastigo)	(SL) Syn	195	+8	87	21	52	23	4	+8	110	33	58	9	0	74	6	19	5.1	
SV0957QF	(SL) SVS	156	+10	83	27	49	20	4	+10	97	41	49	9	1	74	8	18	5.3	
D165315	Syn	180	+10	77-	15	50	27	8	+10	81	19	57	20	4	84	3	17	5.0	
CS-441AF	(SL) CS	213	+11	88	42	48	9	1	+10	102	42	50	7	1	68	6	19	4.8	
PFR 15-A10	PFR	176	+11	76-	19	37	36	8	+12	86	22	52	23	3	68	2	17	5.0	
<u>Oasis</u>	<u>LUK</u>	<u>206</u>	<u>+12</u>	<u>100</u>	<u>36</u>	<u>49</u>	<u>13</u>	<u>2</u>	<u>+12</u>	<u>100</u>	<u>41</u>	<u>48</u>	<u>9</u>	<u>2</u>	<u>65</u>	<u>2</u>	<u>19</u>	<u>5.3</u>	
				(9.49t/ha)						(9.49t/ha)									
PFR 15-PA42	(SL) PFR	190	+12	78	12	47	36	5	+12	98	22	61	15	2	72	8	16	5.0	
D85607	Syn	198	+12	89	23	45	25	7	+13	100	32	51	14	3	72	6	16	5.1	
04S51315N	LUK	228	+12	86	37	47	14	2	+13	95	60	36	4	0	70	2	16	5.0	
DGL0042	Syn	215	+12	60-	22	57	18	3	+13	69-	45	46	8	1	79	2	12	4.9	
LG Midnight(06S55519A)	(SL) LUK	204	+13	93	30	60	9	1	+12	102	39	54	6	1	82	7	21	5.3	
08S05676A	(SL) LUK	241	+13	101	42	47	10	1	+12	112	58	36	5	1	74	7	20	5.4	
Vidor(Wav4361)	vW	200	+13	103	47	44	8	1	+13	103	57	37	5	1	72	2	18	5.0	
08S01030A	(SL) LUK	180	+13	92	24	50	21	5	+14	134+	47	41	10	2	70	5	20	5.0	
<u>Ambassador</u>	<u>vW</u>	<u>184</u>	<u>+14</u>	<u>107</u>	<u>35</u>	<u>47</u>	<u>15</u>	<u>3</u>	<u>+14</u>	<u>133+</u>	<u>49</u>	<u>44</u>	<u>6</u>	<u>1</u>	<u>83</u>	<u>2</u>	<u>19</u>	<u>5.0</u>	
Reflection (PLS 196)	(SL) PLS	202	+14	105	51	41	7	1	+14	123	67	28	4	1	66	6	20	5.0	
CS-445AF	(SL) CS	243	+15	117	64	30	5	1	+15	147+	75	23	2	0	58	7	22	5.0	
08S04137A	(SL) LUK	178	+19	109	32	51	15	2	+19	109	48	52	0	0	66	8	18	5.0	
Significance @ P=0.05				SD					SD										
LSD @ P=0.05				22.4					23.4										
CV %				14.3					13.1										

KEY: Yield: + Significantly greater than Oasis @ P = 0.05; - Significantly less than Oasis @ P = 0.05
 Size grades: L = large > 10.2mm; M = medium 8.75 - 10.2mm; S = small 7.5 - 8.75mm; VS = very small < 7.5mm
 SL = Semi-leafless; SF = Semi-fasciated
 Source of varieties see Appendix

TABLE 10 - VINING PEA VARIETY STUDIES. Summary of quality data - Standard Vining Pea Main Variety Trial, Holbeach Hurn - 2017

Variety	Tenderometer Reading	Appearance			No. of blonds (1-5)	Brix %
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)		
Avola	122.0	5.0	2.0	4.5	1.0	9.0
Sherwood	116.0	5.0	2.0	4.5	1.0	11.2
D85460	121.0	5.0	2.0	4.5	1.0	12.1
D165621(Saltingo)	99.5	5.0	2.0	4.5	1.0	12.0
D165618	95.5	5.0	2.0	4.5	1.0	12.1
SV8112QH	101.5	6.0	2.0	5.0	1.0	13.0
D165613(Fantastigo)	103.0	4.5	2.0	4.0	2.0	11.0
SV0957QF	103.5	5.0	2.0	4.5	1.0	11.6
D165315	101.0	4.5	2.0	4.5	1.0	11.0
CS-441AF	103.0	4.5	1.0	3.5	2.0	10.5
PFR 15-A10	98.5	5.0	2.0	4.0	1.0	12.7
Oasis	99.0	5.0	1.0	4.0	2.0	10.4
PFR 15-PA42	95.5	5.0	2.0	5.0	1.0	11.6
04S51315N	95.0	4.5	2.0	3.5	2.0	12.5
DGL0042	101.0	5.0	2.0	3.5	2.0	11.3
D85607	99.5	5.5	2.0	4.5	1.0	12.2
LG Midnight(06S55519A)	103.0	5.5	1.0	4.5	2.0	10.6
08S05676A	99.5	5.0	1.0	4.5	1.0	12.2
Vidor(Wav4361)	100.5	5.0	2.0	4.0	2.0	11.4
08S01030A	97.0	6.0	2.0	4.5	2.0	11.9
Reflection (PLS 196)	97.0	6.0	1.0	4.5	1.0	12.4
Ambassador	94.5	5.0	1.0	4.0	2.0	11.8
CS-445AF	98.5	5.0	2.0	4.0	2.0	10.5
08S04137A	101.0	5.5	2.0	4.0	2.0	11.6

KEY: Uniformity; Uniformity; No. of blonds; (1-5) - a high figure indicates that the variety shows the character to a high degree

Colour: a high figure indicates a darker green; Brightness: 1 = bright, 2 = dull; Brix - measured using Atago pocket refractometer PAL-1 and gives an indication of sugar content

TABLE 11 - VINING PEA VARIETY STUDIES. Summary of agronomic data Standard Vining Pea Preliminary Variety Trial, Nocton - 2017
 Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 10 March.
 Results are means of three replicates. Target population 90 plants per m² sown in ten 15 cm rows.

Variety	Source	1000 Seed Weight g	@ TR 100				@ TR 120				Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark				
			Maturity (± days) Avola	Yield % of Oasis	% in size grades L M S VS				Maturity (± days) Avola	Yield % of Oasis					% in size grades L M S VS			
<u>Avola</u>	<u>SVS</u>	<u>206</u>	<u>0(25/6)</u>	<u>57-</u>	<u>48</u>	<u>42</u>	<u>9</u>	<u>1</u>	<u>0(27/6)</u>	<u>64-</u>	<u>72</u>	<u>25</u>	<u>2</u>	<u>1</u>	<u>60</u>	<u>3</u>	<u>21</u>	<u>5.5</u>
<u>Sherwood</u>	<u>SVS</u>	<u>184</u>	<u>+1</u>	<u>61-</u>	<u>18</u>	<u>50</u>	<u>28</u>	<u>4</u>	<u>+1</u>	<u>63-</u>	<u>25</u>	<u>58</u>	<u>15</u>	<u>2</u>	<u>51</u>	<u>5</u>	<u>23</u>	<u>5.8</u>
Hesbana	(SL) Nun	173	+2	58-	14	56	27	3	+2	57-	29	58	12	1	65	6	22	5.5
CS-455AF	(SL) CS	202	+3	75-	36	48	13	3	+3	79	55	37	7	1	56	9	25	5.5
DGL0027	(SL) Syn	240	+4	71-	24	61	13	2	+4	68-	34	56	9	1	52	9	22	5.8
Nun19024	(SL) Nun	140	+5	76-	13	54	28	5	+4	74-	16	59	22	3	60	7	29	5.5
LG06S54009A	(SL) LUK	206	+7	98	12	68	20	0	+6	103	17	69	14	0	64	9	31	5.3
D165641	(SL) Syn	184	+7	82	26	62	11	1	+7	85	30	62	8	0	47	9	29	5.6
PFR 1606	PFR	204	+9	95	24	67	9	0	+8	93	26	67	7	0	59	7	27	5.3
SV0823QG	(SL) SVS	175	+9	86	12	56	30	2	+9	84	15	63	21	1	74	9	24	5.3
PFR 1601	PFR	180	+9	83	8	57	34	1	+9	80	12	68	19	1	60	7	23	5.2
<u>Oasis</u>	<u>LUK</u>	<u>206</u>	<u>+9</u>	<u>100</u>	<u>15</u>	<u>58</u>	<u>26</u>	<u>1</u>	<u>+9</u>	<u>100</u>	<u>21</u>	<u>62</u>	<u>16</u>	<u>1</u>	<u>64</u>	<u>1</u>	<u>27</u>	<u>5.3</u>
				(9.97t/ha)						(10.43t/ha)								
PFR 1604	PFR	200	+10	98	26	66	8	0	+9	94	31	63	6	0	55	6	26	5.3
CS-457AF	(SL) CS	185	+10	63-	33	63	4	0	+9	65-	40	57	3	0	56	9	20	5.3
<u>Ambassador</u>	<u>vW</u>	<u>184</u>	<u>+11</u>	<u>78-</u>	<u>28</u>	<u>67</u>	<u>5</u>	<u>0</u>	<u>+11</u>	<u>78-</u>	<u>32</u>	<u>65</u>	<u>3</u>	<u>0</u>	<u>72</u>	<u>3</u>	<u>22</u>	<u>5.4</u>
Significance @ P=0.05				SD						SD								
LSD @ P=0.05				16.8						13.9								
CV %				12.9						10.5								

KEY: Yield: + Significantly greater than Oasis @ P = 0.05; - Significantly less than Oasis @ P = 0.05
 Size grades: L = large > 10.2mm; M = medium 8.75 - 10.2mm; S = small 7.5 - 8.75mm; VS = very small < 7.5mm
 SL = Semi-leafless; SF = Semi-fasciated
 Source of varieties see Appendix

TABLE 12 - VINING PEA VARIETY STUDIES. Summary of quality data - Standard Vining Pea Preliminary Variety Trial, Nocton - 2017

Variety	Tenderometer Reading	Appearance				Brix %
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	
Avola	101.0	5.5	2.0	4.5	1.0	13.3
Sherwood	103.0	5.0	2.0	4.5	1.0	13.0
Hesbana	98.5	5.0	1.0	4.5	1.0	14.0
CS-455AF	99.5	5.5	2.0	4.5	1.0	12.6
DGL0027	106.0	5.5	1.0	5.0	1.0	11.8
Nun19024	100.0	5.5	2.0	4.5	1.0	14.7
LG06S54009A	109.5	5.5	2.0	4.0	1.0	13.2
D165641	106.5	5.5	2.0	5.0	1.0	12.9
PFR 1606	99.0	5.0	1.0	4.5	1.0	11.8
SV0823QG	99.0	5.5	2.0	4.5	1.0	10.5
PFR 1601	100.0	5.5	2.0	5.0	1.0	12.4
Oasis	98.5	5.5	2.0	4.5	1.0	12.6
PFR 1604	99.5	5.0	2.0	4.5	1.0	9.4
CS-457AF	111.0	5.0	1.0	4.5	1.0	13.9
Oasis	98.5	5.5	2.0	4.5	1.0	12.6
Ambassador	107.5	5.0	2.0	4.0	1.0	12.2

KEY: Uniformity; Uniformity; No. of blonds; (1-5) - a high figure indicates that the variety shows the character to a high degree

Colour: a high figure indicates a darker green; Brightness: 1 = bright, 2 = dull; Brix - measured using Atago pocket refractometer PAL-1 and gives an indication of sugar content

TABLE 13 - VINING PEA VARIETY STUDIES. Summary of agronomic data Standard Vining Pea Screening Variety Trial, Nocton - 2017
 Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 10 March.
 Results are means of two replicates. Target population 90 plants per m² sown in ten 15 cm rows.

Variety	Source	1000 Seed Weight g	@ TR 100							@ TR 120							Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
			Maturity (± days) Avola	Yield % of Oasis	% in size grades L M S VS				Maturity (± days) Avola	Yield % of Oasis	% in size grades L M S VS				Haulm length cm				
<u>Avola</u>	<u>SVS</u>	<u>206</u>	<u>0(25/6)</u>	<u>57-</u>	<u>48</u>	<u>42</u>	<u>9</u>	<u>1</u>	<u>0(27/6)</u>	<u>64-</u>	<u>72</u>	<u>25</u>	<u>2</u>	<u>1</u>	<u>60</u>	<u>3</u>	<u>21</u>	<u>5.5</u>	
<u>Sherwood</u>	<u>SVS</u>	<u>184</u>	<u>+1</u>	<u>61-</u>	<u>18</u>	<u>50</u>	<u>28</u>	<u>4</u>	<u>+1</u>	<u>63-</u>	<u>25</u>	<u>58</u>	<u>15</u>	<u>2</u>	<u>51</u>	<u>5</u>	<u>23</u>	<u>5.8</u>	
Bonfire(Wav 181)	(SL) vW	175	+1	56-	13	49	32	6	+1	66-	19	51	25	5	49	8	25	5.4	
Belvedere(Wav 1188)	vW	190	+3	73-	12	43	34	11	+2	78-	19	62	16	3	50	7	26	5.5	
PLS 11P42	(SL) PLS	154	+3	82	22	52	21	5	+2	83	31	52	14	3	54	5	26	5.5	
Marimba(Wav 1189)	vW	182	+7	94	11	47	39	3	+7	106	14	61	24	1	51	6	29	5.4	
Lyric(Wav 9913)	vW	195	+8	98	15	63	21	1	+8	99	16	68	15	1	52	6	29	5.2	
CS-467AF	(SL) CS	194	+8	70-	8	65	26	1	+8	64-	10	66	23	1	70	8	20	5.4	
CS-471AF	(SL) CS	193	+9	80	20	63	16	1	+8	80	23	63	13	1	58	8	27	5.3	
PLS 595-1	(SL) PLS	186	+9	90	29	66	5	0	+8	87	34	62	4	0	64	5	25	5.3	
PLS 602	(SL) PLS	164	+9	84	7	44	45	4	+8	81	9	57	32	2	66	4	23	5.5	
Querida(Wav 1555)	vW	192	+9	80	11	75	13	1	+9	81	18	73	9	0	54	1	24	5.3	
PLS 97018	PLS	188	+9	70-	12	72	15	1	+9	67-	18	70	12	0	66	2	19	5.4	
CS-463AF	(SL) CS	167	+9	69-	9	54	36	1	+9	72-	11	65	24	0	63	8	21	5.5	
<u>Oasis</u>	<u>LUK</u>	<u>206</u>	<u>+9</u>	<u>100</u>	<u>15</u>	<u>58</u>	<u>26</u>	<u>1</u>	<u>+9</u>	<u>100</u>	<u>21</u>	<u>62</u>	<u>16</u>	<u>1</u>	<u>64</u>	<u>1</u>	<u>27</u>	<u>5.3</u>	
				(9.97t/ha)						(10.43t/ha)									
Ambassador	vW	184	+11	78-	28	67	5	0	+11	78-	32	65	3	0	72	3	22	5.4	
Significance @ P=0.05				SD						SD									
LSD @ P=0.05				16.8						13.9									
CV %				12.9						10.5									

KEY: Yield: + Significantly greater than Oasis @ P = 0.05; - Significantly less than Oasis @ P = 0.05

Size grades: L = large > 10.2mm; M = medium 8.75 - 10.2mm; S = small 7.5 - 8.75mm; VS = very small < 7.5mm

SL = Semi-leafless; SF = Semi-fasciated

Source of varieties see Appendix

TABLE 14 - VINING PEA VARIETY STUDIES. Summary of quality data - Standard Vining Pea Screening Variety Trial, Nocton - 2017

Variety	Tenderometer Reading	Appearance				Brix %
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	
Avola	101.0	5.5	2.0	4.5	1.0	13.3
Sherwood	103.0	5.0	2.0	4.5	1.0	13.0
Bonfire(Wav 181)	101.0	5.5	2.0	4.5	1.0	14.7
Belvedere(Wav 1188)	96.0	5.5	2.0	4.5	1.0	13.4
PLS 11P42	100.0	5.5	2.0	4.5	1.0	13.2
Marimba(Wav 1189)	100.5	5.5	2.0	4.5	1.0	13.3
Lyric(Wav 9913)	108.0	5.5	2.0	4.0	1.0	13.1
CS-467AF	122.5	5.5	2.0	4.5	1.0	12.0
CS-471AF	106.0	5.0	2.0	4.5	1.0	11.9
PLS 595-1	99.5	6.0	2.0	5.0	1.0	11.3
PLS 602	98.5	5.0	1.0	4.5	1.0	13.1
Querida(Wav 1555)	104.5	5.0	2.0	4.5	1.0	12.4
PLS 97018	103.5	5.0	1.0	4.0	1.0	11.3
CS-463AF	106.5	5.0	2.0	4.5	1.0	13.4
Oasis	98.5	5.5	2.0	4.5	1.0	12.6
Ambassador	107.5	5.0	2.0	4.0	1.0	12.2

KEY: Uniformity; Uniformity; No. of blonds; (1-5) - a high figure indicates that the variety shows the character to a high degree

Colour: a high figure indicates a darker green; Brightness: 1 = bright, 2 = dull; Brix - measured using Atago pocket refractometer PAL-1 and gives an indication of sugar content

TABLE 15 - VINING PEA VARIETY STUDIES. Summary of agronomic data Vining Pea Petits Pois Main & Preliminary Variety Trials, Holbeach Hurn - 2017
 Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 11 April.
 Results are means of two replicates. Target population 90 plants per m² sown in ten 15 cm rows.

Variety	Source	1000 Seed Weight g	@ TR 100						@ TR 120						Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
			Maturity (± days) Waverex	Yield % of Waverex	% in size grades L M S VS				Maturity (± days) Waverex	Yield % of Waverex	% in size grades L M S VS							
Main Trial																		
Judith	vW	97	- 1	95	0	7	36	57	- 1	78	0	7	39	54	47	3	16	4.1
<u>Waverex</u>	<u>vW</u>	<u>91</u>	<u>0(5/7)</u>	<u>100</u>	<u>1</u>	<u>15</u>	<u>43</u>	<u>41</u>	<u>0(7/7)</u>	<u>100</u>	<u>2</u>	<u>26</u>	<u>50</u>	<u>22</u>	<u>52</u>	<u>2</u>	<u>14</u>	<u>4.6</u>
				(5.21t/ha)						(6.38t/ha)								
Lunanvert(D95389)	Syn	106	+ 2	78	2	23	49	26	+ 2	75	2	24	53	21	60	6	10	4.6
Festivert	(SL) Syn	84	+ 3	94	1	16	44	39	+ 3	77	2	22	50	26	58	8	12	4.5
Preliminary Trial																		
Norvert(D95387)	Syn	107	- 5	100	1	13	50	36	- 5	81	1	16	59	24	63	2	11	4.3
D175880	(SL) Syn	93	+ 3	52-	0	10	48	42	+ 2	43-	0	10	51	39	68	8	8	5.0
SV3946QB	SVS	113	+ 3	99	8	40	40	12	+ 2	81	11	51	31	7	66	2	11	4.9
SV6064QC	(SL) SVS	84	+ 4	78	0	5	34	61	+ 4	78	0	9	46	45	61	8	10	5.0
Significance @ P=0.05				SD						SD								
LSD @ P=0.05				45.4						34.8								
CV %				15.8						13.1								

KEY: Yield: + Significantly greater than Oasis @ P = 0.05; - Significantly less than Oasis @ P = 0.05

Size grades: L = large > 10.2mm; M = medium 8.75 - 10.2mm; S = small 7.5 - 8.75mm; VS = very small < 7.5mm

SL = Semi-leafless; SF = Semi-fasciated

Source of varieties see Appendix

TABLE 16 - VINING PEA VARIETY STUDIES. Summary of quality data - Petits Pois Main & Preliminary Variety Trials, Holbeach Hurn - 2017

Variety	Tenderometer Reading	Appearance				Brix %
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	
Main Trial						
Judith	98.0	5.0	2.0	4.5	1.0	12.8
Waverex	103.5	5.0	2.0	5.0	1.0	12.5
Lunanvert(D95389)	105.5	5.0	2.0	4.0	2.0	11.1
Festivert	105.5	5.5	2.0	4.0	1.0	12.9
Preliminary Trial						
Norvert(D95387)	97.0	4.5	2.0	5.0	1.0	11.6
D175880	115.5	5.5	2.0	4.5	1.0	11.6
SV3946QB	102.5	5.0	2.0	4.0	2.0	11.1
SV6064QC	106.5	5.5	2.0	5.0	1.0	12.3

KEY: Uniformity; Uniformity; No. of blonds: (1-5) - a high figure indicates that the variety shows the character to a high degree

Colour: a high figure indicates a darker green; Brightness: 1 = bright, 2 = dull; Brix - measured using Atago pocket refractometer PAL-1 and gives an indication of sugar content.

APPENDIX 1

KEY TO SOURCE OF VARIETIES

CS	Crites Seed Inc., USA
EI	Elsoms Seeds Ltd, UK
GA	General Availability
LUK	Limagrain UK Ltd, UK
Nun	Nunhems Zaden BV., Holland
PFR	The New Zealand Institute for Plant and Food Research Ltd
PLS	Pure Line Seeds Inc., USA
SVS	Seminis Vegetable Seeds, UK
Syn	Syngenta Seeds, UK
vW	van Waveren, Germany