PGRO Variety Trials Results 2020

Vining Peas

CONTENTS

WEATHER FOR THE 2020 SEASON.

Comments below are a summary taken from the meteorology website for the UK https://www.metoffice.gov.uk/research/climate/maps-and-data/summaries/index.

The winter months were generally warmer than average. Rainfall totals for February were well above average.

Spring 2020

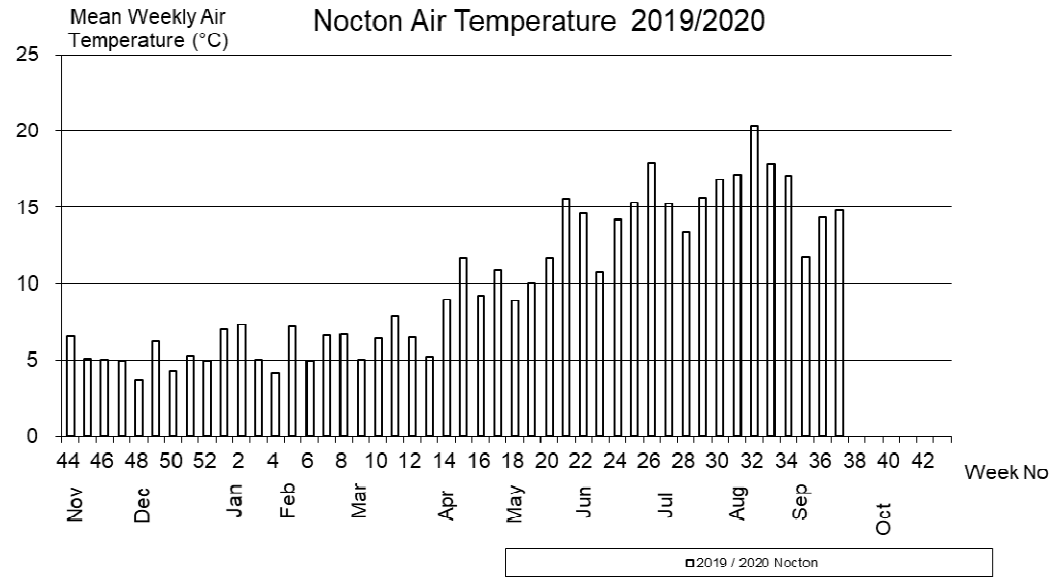
Spring 2020 was generally warmer than average. Following a very wet February, March, April and May were very dry months receiving only around 20% average rainfall for the area.

Summer 2020

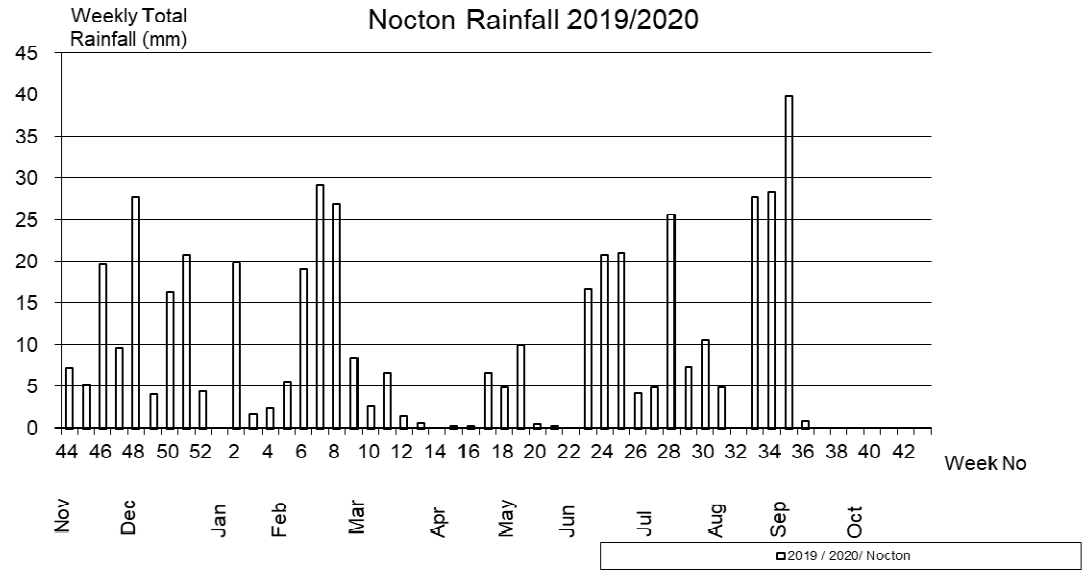
Most of June was wetter and cooler than average. The last week of June saw some high maximum temperatures peaking on 26 June at 29.9°. The end of July was even hotter with temperatures peaking at 33.4 °C on 31 July. Rainfall in August was well above average due to heavy thunderstorms and down pours.

METEROLOGICAL DATA - 2019 / 2020 season

Nocton weekly rainfall totals (mm) 2019/2020



Nocton weekly rainfall totals (mm) 2019/2020



Nocton monthly rainfall totals (mm) 2018/2019

Month	2019/2020 Monthly Rainfall (mm) Nocton
November	67.6
December	45.6
January	24.0
February	88.8
March	11.2
April	10.6
May	11.8
June	62.6
July	48.3
August	100.4
September	-
October	-

VINING PEAS

SUMMARY

2018 had an unsettled spring with frequent periods of rainfall. Temperatures were below average for much of March and the first half of April. May was one of the warmest on record. The summer months were warm and sunny with short periods of unsettled weather. Temperatures were well above average with long periods with no recorded rainfall. No rainfall was recorded between 17 June and 18 July (harvest period).

In **2019**, February 21 to 27 saw record-breaking temperatures and plenty of dry, sunny weather. Overall the spring was 2°C warmer than average in the South and East. The first half of March was wet with storms Freya and Gareth passing through. The second half of March was dry and the dry spell continued well into April. May was a little cooler than average and rainfall a little below average. Sunshine was well above average.

The first two-thirds of June was generally very wet in most areas, and cooler than average, but the latter part of June and most of July were more settled with some warm spells. The warmth peaked on June 29th, and again on July 25th with a new UK maximum temperature record being set. Numerous thundery outbreaks occurred during the second half of July too, making the month somewhat wetter than average overall. The majority of August was unsettled and showery, though there was a drier spell later on during which it became hot especially in south-eastern areas.

In 2020, the spring was generally warmer than average. Following a very wet February, March, April and May were very dry months receiving only around 20% average rainfall for the area.

Most of June was wetter and cooler than average. The last week of June saw some high maximum temperatures peaking on 26 June at 29.9°. The end of July was even hotter with temperatures peaking at 33.4 °C on 31 July. Rainfall in August was well above average due to heavy thunderstorms and down pours.

Standard Size Varieties, Nocton 2018 – 2020 Tables 1 & 2

Varieties were evaluated in Standard Preliminary Trial 2018 and Standard Main Trials 2019 and 2020.

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

Six varieties, Bonfire, Belvedere, Marimba, Lyric, Querida and Dancer completed 3 years of evaluation in 2020.

Yields from the yield standard Oasis were lowest in 2018 (5.86 t/ha) and highest in 2019 (9.91 t/ha) at TR100. Maturity of Oasis when compared to Avola ranged from +11 days in 2020/19 to +9 in 2018.

Sherwood, a possible replacement for Avola matured one day later than Avola at TR100 and gave significantly higher yields than Avola.

Bonfire (van Waveren) was semi-leafless and matured at the same time as Avola. Yields (59%) at TR100 and 61% at TR120 were a little higher than Avola. Produce was much smaller than Avola, medium-small size grade and a little smaller than Sherwood. Haulm was short and standing ability was good (7).

Belvedere (van Waveren) overall matured 4 days later than Avola. Overall yields (80 & 80%) were lower than Oasis, significantly so at TR120. The highest yielding year was 2018. Produce was smaller than Avola, medium size grade. Standing ability was average (5).

Marimba (van Waveren) matured 3 days earlier than Oasis. Yields (89 & 91%) were lower than Oasis, but not significantly so. Yields were the highest in 2019. Produce was a smaller than Oasis, medium-small size grade. Standing ability was similar to Oasis (3).

Lyric (van Waveren) matured 2/3 days earlier than Oasis. Yields (78 & 78%) were lower significantly lower than Oasis. Produce was similar size to Oasis, medium-large size grade. Standing ability was similar to Oasis (3).

Querida (van Waveren) matured at the same time as Oasis. Yields (79 & 80%) were significantly lower

than Oasis. Produce was a little smaller than Oasis, medium-large size grade at TR100. Standing ability was a little better than Oasis (4).

Dancer (van Waveren) was semi-leafless and matured one day later than Oasis. Yields (61 & 63%) were significantly lower than Oasis. Produce was smaller than Oasis, medium-small size grade. Haulm was similar in length to Oasis and standing ability better than average (6).

Petits Pois Varieties, Holbeach 2019 - 2020 Tables 3 & 4

One petits pois variety, Natalie completed trials in 2020.

Waverex the yield standard gave the highest yields in 2019 (7.28 t/ha at TR100) and the lowest in 2020 (3.66 t/ha) at TR100. Produce gave peas with 76% & 65% <8.75mm in diameter at TR100 and TR120 respectively. Standing ability was poor (3).

Natalie (Wav 1107) (van Waveren) matured 7 days earlier than Waverex. Yields (57 & 54%) were lower, but not significantly higher than Waverex. Yields (75%) were the highest in 2018. Produce was smaller than Waverex, small-very small size grade with 90% of the peas <8.75mm diameter at TR100. Standing ability (6) was better than Waverex.

TRIALS IN 2020

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. A trial of varieties selected by the vining pea grower groups and funded by the Agriculture and Horticulture Development Board (AHDB-Horticulture) was grown near Holbeach, Lincolnshire. Data from this trial will be presented in an AHDB report.

Promising varieties from 2018 and 2019 Preliminary Trials were assessed in the Main Trial. Preliminary Trial varieties were at National List stage of testing in an EU member country.

Seed of all varieties was treated to control damping off, downy mildew and *Ascochyta* diseases. Avola was the standard variety for maturity (Sherwood was also included as a potential replacement for Avola); 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 23 March and Holbeach trials on 27 April. At Nocton, the peas emerged with few losses, but early growth was slow in the dry conditions. At Holbeach drilling condition were dry and a little cloddy. Subsequent emergence was a little variable, but the small seeded petits pois varieties fared better than the larger standard size peas. At Nocton, broad-leaved weeds were controlled pre- and post-emergence. Weevil (*Sitona lineatus*) and field thrips (*Thrips angusticeps*) were controlled with an application of Hallmark (lambda-cyhalothrin). Aphid (*Acyrthosiphon pisum*) and pea moth (C*ydia nigricana)* were controlled with insecticide. At Holbeach inputs were the same the as the surrounding commercial crop, with the exception of a post-emergence herbicide.

The vining pea harvest started early about 9 days earlier than 2019 on the 15 June and was completed on 21 July. Pea colour for most varieties was very good and unless otherwise stated the uniformity of colour was also very good.

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

Standard Pea Main Trial, Nocton - Tables 5 & 6

Although emergence was a little uneven, growth at this site was adequate for the year. Periods of hot, cool and wet during the harvest period hastened or slowed maturity.

Yields from the standard Oasis (7.62 t/ha) were 2.29 t/ha lower than in 2019 at TR100, but good for the year.

Sherwood had establishment issues and was omitted from the trial.

Early variety Bonfire matured one day later than Oasis. Querida, CS-464AF and PFR 1601 matured at the same time as Oasis (+11). Dancer matured one day later. Ambassador was the latest variety to mature, 14 days later than Avola.

PFR 1601(102 & 98%) gave good yields, similar Oasis. Ambassador (92 & 94%) and Querida 90 &

82%) gave the next highest yields. All other varieties gave significantly lower yields than Oasis.

Marimba gave smaller peas than most varieties, medium-small size grade at both TR100 and TR120

Several varieties had very good or good standing ability, Bonfire (7), Marquis (8) and CS-464AF (7.3), all of these were semi-leafless. Ambassador also had good standing ability (7.0).

Standard Pea Preliminary Trial, Nocton – Tables 7 & 8

Eleven varieties were entered into the Preliminary Trial.

Eldorado was the first to mature 2 days before Avola. Avola matured 11 days before Oasis. Ambassador was the latest variety to mature 14 days later than Avola.

At TR100 DGL0066, Trinity, DGL0052 and Ambassador gave lower, but not significantly lower yields than Oasis. All other varieties gave significantly lower yields than Oasis.

SGL0062, DGL0050, Saltingo and Ambassador had good standing ability.

Agilar gave produce with very large size grade peas.

Standard Pea Screening Trial, Nocton – Tables 9 & 10

Five Screening trial varieties were evaluated.

Avola was the first variety to mature, 11 days before Oasis. Other varieties had maturities of +9 or more. Ambassador was the latest to mature 14 days later than Avola.

PFR-1705 (108%) gave higher, but not significantly higher yields than Oasis at TR120. PFR-1816 (97%) was a little lower yielding than Oasis at TR120.

Several varieties were lower, but not significantly lower yields than Oasis including, CS-494DAF, CS-498AF, PLS 602 and Ambassador. All other varieties gave significantly lower yields than Oasis.

Several varieties had good standing ability including, CS-494DAF, PLS 98-326, CS 498AF, PFR-1705, PLS 576, Darlin and Ambassador.

Petits Pois Main, Preliminary and Screening Trials, Holbeach – Tables 11 & 12

Waverex the yield standard gave lower yields (3.66 t/ha) than 2019 (7.28t/ha).

Natalie had early maturity, maturing 9 earlier than Waverex. Wav 287 matured 3 days before Waverex. Festivert, FDG0013 and Wav 7300 were the latest to mature 3 days later than Waverex.

Afivert and Wav 7297 gave similar yields to Waverex. Natalie disappointingly gave low yields.

Waverex gave produce with 81% of the peas <8.75mm diameter at TR100. Natalie (91%), Afivert (92%) and FDG0013 gave the produce with the greatest number of peas <8.75mm diameter.

Afivert, Festivert, FDG0013 Wav 287 and Wav 7300 had good standing ability.

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 52 varieties of vining peas were sown in disease observation trials at two locations in. 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.

Susceptible 1/2	Moderately Susceptible 3/4	Slightly Susceptible 5/6	Moderate Field Resistance 7/8	Good Field Resistance 9
Agilar	Avola CS-464AF Lyric PLS 98-293 PLS 98-326 Ashton CS-498AF DGL0062 PFR 1705 PFR 1816 PLS 576 PLS 602 PLS613 Avola	Anubis Boogie DGL0052 ELDORADO Marimba SV5795QE SV8112QH Trinity Aloha Bonfire Boston Contigo Ida Linnea Marquis Natallie Orient Songo SV6064QC Tomahawk Anubis	Belvedere CS-494DAF DGL0050 Ebba Querida Wav 7297 Dancer Festivert Idalgo Saltingo SV0823QG SV3946QB Wav 287 Wav 7300 Belvedere	Afivert Darlin FDG0013 Kengo

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

TABLE 1 - VINING PEA VARIETY EVALUATIONS. Summary of Standard Vining Peas - Nocton 2018 - 2020
Varieties placed in order of maturity. Standard varieties underlined

Variety		Source	1000 Seed Weight g	@ TR 100 Maturity (± days) Avola	@ TR 100 Yield % of Oasis	@ TR 100 % in size grades L	M	S	VS	@ TR 120 Maturity (± days) Avola	@ TR 120 Yield % of Oasis	@ TR 120 % in size grades L	M	S	VS	Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
Avola		SVS	207	0	53-	33	48	16	3	0	54-	57	39	4	0	56	3	18	5.0
Bonfire	(SL)	vW	176	0	59-	15	52	29	4	0	61-	25	64	10	1	44	7	19	4.8
Sherwood		SVS	179	+1	70-	27	55	16	2	0	68-	36	52	10	2	52	3	19	5.2
Belvedere		vW	188	+4	80	28	45	23	4	+3	80-	33	51	14	2	45	5	23	4.9
Marimba		vW	185	+7	89	12	53	30	5	+6	91	19	60	19	2	43	3	24	4.9
Lyric		vW	172	+8	78-	27	55	16	2	+7	78-	34	55	10	1	42	3	21	4.9
Oasis		LUK	197	+10	100 (7.80t/ha)	28	57	14	1	+9	100 (8.84t/ha)	40	54	6	0	52	3	24	4.9
Querida		vW	172	+10	79-	21	48	25	6	+10	80-	32	56	11	1	43	4	20	4.9
Dancer	(SL)	vW	175	+11	61-	18	52	25	5	+10	63-	26	56	17	1	52	6	16	4.8
Ambassador		vW	192	+13	84	25	54	18	3	+12	77-	35	57	7	1	63	4	18	4.8
Significance @ P=0.05					SD						SD								
LSD @ P=0.05					20.8						19.4								
CV %					16.8						16.6								

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 EVALUATIONS. Summary of quality data – Standard pea varieties – Nocton 2018 – 2020

Variety	Year	Tenderometer Reading	Appearance				Brix
			Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	%
Avola	18	99.0	5.0	2.0	4.3	2.0	12.5
	19	104.0	5.7	1.0	3.7	2.0	12.5
	20	100.5	5.8	2.0	5.0	1.0	11.8
Bonfire	18	98.0	5.8	1.5	4.5	2.0	13.6
	19	99.0	5.5	1.0	5.0	1.0	12.8
	20	96.0	5.7	1.7	5.0	1.0	12.5
Sherwood	18	97.0	5.3	2.0	4.3	2.0	13.8
	19	106.0	5.8	1.0	4.7	1.0	12.4
	20						
Belvedere	18	100.5	6.0	2.0	4.3	2.0	14.7
	19	102.0	6.2	1.0	5.0	1.0	13.3
	20	96.0	6.5	2.0	4.8	1.0	12.8
Marimba	18	98.0	5.8	2.0	3.5	1.0	13.9
	19	100.0	5.8	1.0	4.7	1.0	12.5
	20	101.0	6.5	2.0	4.8	1.0	13.0
Lyric	18	106.5	5.0	2.0	3.8	2.0	14.0
	19	101.0	5.2	1.0	4.3	1.0	12.1
	20	100.5	6.2	2.0	4.3	1.0	12.2
Oasis	18	99.0	5.8	2.0	3.8	1.5	15.0
	19	98.5	5.8	1.0	4.2	1.0	12.3
	20	97.0	6.7	2.0	4.2	1.0	11.9
Querida	18	104.0	4.8	1.0	2.8	1.0	15.0
	19	101.0	7.0	1.0	5.0	1.0	12.9
	20	96.0	6.2	2.0	4.0	1.0	11.6
Dancer	18	117.0	5.3	2.0	4.3	2.0	14.1
	19	94.5	6.0	1.0	5.0	1.0	13.8
	20	95.5	6.2	2.0	4.8	1.0	12.9
Ambassador	18	97.0	5.5	1.5	3.8	2.0	13.6
	19	97.5	5.5	1.0	3.0	3.0	12.6
	20	96.0	6.2	2.0	5.0	1.0	12.6

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 3 - VINING PEA VARIETY EVALUATIONS. Summary of Petits Pois Vining Peas - Holbeach 2018 - 2020
Varieties placed in order of maturity. Standard varieties underlined

Variety	Source	1000 Seed Weight g	@ TR 100 Maturity (± days) Waverex	@ TR 100 Yield % of Waverex	@ TR 100 % in size grades L	M	S	VS	@ TR 120 Maturity (± days) Waverex	@ TR 120 Yield % of Waverex	@ TR 120 % in size grades L	M	S	VS	Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
Natalie (Wav 1107)	vW	101	-7	57	1	9	46	44	-6	54	1	14	57	28	57	6	10	4.7
Waverex	vW	99	0	100 (5.02t/ha)	3	21	42	34	0	100 5.86(t/ha)	4	31	46	19	63	3	15	4.8
Significance @ P=0.05				NSD						NSD								
LSD @ P=0.05				22.6						29.5								
CV %				18.0						24.0								

KEY: Yield: + Significantly greater than Waverex @ P = 0.05; - Significantly less than Waverex @ 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 EVALUATIONS. Summary of quality data - Petits Pois Peas, Holbeach - 2018 - 2020

Variety	Year	Tenderometer Reading	Appearance				Brix
			Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	%
Natalie	18	110.5	5.0	2.0	4.5	2.0	13.6
	19	98.0	6.5	1.0	5.0	1.0	12.6
	20	96.0	4.5	2.0	5.0	1.0	13.2
Waverex	18	101.5	5.3	2.0	3.3	1.0	13.4
	19	99.0	5.7	1.0	3.7	2.3	13.3
	20	106.0	5.0	2.0	5.0	1.0	13.6

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

TABLE 5 - VINING PEA VARIETY EVALUATIONS. Summary of agronomic data Standard Vining Pea Main Variety Trial, Nocton - 2020
Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 23 March.
Results are means of three replicates. Target population 100 plants per m² sown in ten 15 cm rows.

Variety		Source	1000 Seed Weight g	@ TR 100 Maturity (± days) Avola	@ TR 100 Yield % of Oasis	@ TR 100 % in size grades L	M	S	VS	@ TR 120 Maturity (± days) Avola	@ TR 120 Yield % of Oasis	@ TR 120 % in size grades L	M	S	VS	Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
Avola		SVS	182	0(15/6)	43-	17	46	29	8	0(18/6)	43-	47	49	4	0	42	4.0	19	4.8
Bonfire	(SL)	vW	172	+ 1	47-	16	45	32	7	+ 1	45-	30	65	5	0	37	7.0	20	4.6
Belvedere		vW	158	+ 5	56-	50	33	12	5	+ 5	58-	54	31	13	2	36	5.7	20	4.8
Marimba		vW	185	+ 8	82-	7	44	44	5	+ 7	82-	11	59	27	3	32	5.0	27	4.7
Contigo (DGL0046)	(SL)	Syn	178	+10	57-	19	49	28	4	+ 9	54-	29	54	15	2	37	6.3	16	4.4
Marquis	(SL)	vW	150	+10	68-	25	55	18	2	+ 9	76-	33	60	6	1	42	8.0	22	4.4
Lyric		vW	156	+10	71-	36	51	11	2	+ 9	69-	47	45	7	1	34	5.7	22	4.5
Oasis		LUK	206	+11	100 (7.62t/ha)	29	56	13	2	+10	100 (8.30t/ha)	46	50	4	0	41	4.7	26	4.8
Querida		vW	161	+11	90	16	40	33	11	+11	82-	29	51	17	3	33	5.7	24	4.5
CS-464AF	(SL)	CS	206	+11	82-	31	51	16	2	+11	81-	42	50	7	1	46	7.3	22	4.5
PFR 1601		PFR	190	+11	102	21	54	22	3	+12	98	33	61	6	0	40	6.0	24	4.7
Dancer	(SL)	vW	177	+12	54-	29	58	12	1	+12	56-	42	51	6	1	43	5.7	16	4.6
Ambassador		vW	171	+14	92	14	48	32	6	+14	94	27	60	11	2	51	7.0	22	4.5
Significance @ P=0.05					SD						SD								
LSD @ P=0.05					15.6						17.2								
CV %					14.0						15.5								

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 6 - VINING PEA VARIETY EVALUATIONS. Summary of quality data - Standard Vining Pea Main Variety Trial, Nocton - 2020

Variety	Tenderometer Reading	Appearance				Brix
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	%
Avola	100.5	5.8	2.0	5.0	1.0	11.8
Bonfire	96.0	5.7	1.7	5.0	1.0	12.5
Belvedere	96.0	6.5	2.0	4.8	1.0	12.8
Marimba	101.0	6.5	2.0	4.8	1.0	13.0
Contigo (DGL0046)	100.5	6.2	2.0	4.5	1.0	11.8
Lyric	100.5	6.2	2.0	4.3	1.0	12.2
Marquis	105.5	6.5	2.0	5.0	1.0	11.8
Oasis	97.0	6.7	2.0	4.2	1.0	11.9
CS-464AF	96.0	6.2	2.0	4.8	1.0	13.4
Querida	96.0	6.2	2.0	4.0	1.0	11.6
PFR 1601	96.5	6.2	2.0	4.8	1.0	12.1
Dancer	95.5	6.2	2.0	4.8	1.0	12.9
Ambassador	96.0	6.2	2.0	5.0	1.0	12.6

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 7 - VINING PEA VARIETY EVALUATIONS. Summary of agronomic data Standard Vining Pea Preliminary Variety Trial, Nocton - 2020
Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 23 March.
Results are means of three replicates. Target population 100 plants per m² sown in ten 15 cm rows.

Variety		Source	1000 Seed Weight g	@ TR 100 Maturity (± days) Avola	@ TR 100 Yield % of Oasis	@ TR 100 % in size grades L	M	S	VS	@ TR 120 Maturity (± days) Avola	@ TR 120 Yield % of Oasis	@ TR 120 % in size grades L	M	S	VS	Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
Eldorado		Syn	202	- 2	29-	20	55	21	4	- 2	32-	31	59	9	1	47	3.3	14	4.5
Avola		SVS	182	0(15/6)	43-	17	46	29	8	0(18/6)	43-	47	49	4	0	42	4.0	19	4.8
SV5795QE		SVS	137	+ 4	55-	20	44	30	6	+ 4	52-	26	54	18	2	37	2.7	22	4.6
Orient		ZKI	174	+ 5	40-	12	51	30	7	+ 4	34-	20	61	17	2	44	6.3	16	4.5
DGL0062		Syn	215	+ 5	43-	19	51	26	4	+ 5	47-	23	63	13	1	46	7.0	15	4.8
DGL0050	(SL)	Syn	196	+ 8	46-	18	52	27	3	+ 6	52-	26	65	8	1	39	7.3	17	4.7
Saltingo	(SL)	Syn	179	+ 8	50-	44	48	7	1	+ 7	52-	52	43	4	1	37	7.3	17	4.6
Agilar		ZKI	155	+ 8	71-	63	30	6	1	+ 7	72-	81	15	3	1	41	5.3	24	4.8
Kengo	(SL)	Syn	180	+10	76-	15	44	33	8	+ 9	78-	30	52	15	3	33	6.0	22	4.6
Oasis		LUK	206	+11	100 (7.62t/ha)	29	56	13	2	+10	100 (8.30t/ha)	46	50	4	0	41	4.7	26	4.8
DGL0066	(SL)	Syn	189	+12	93	23	60	14	3	+11	93	33	60	6	1	47	5.0	24	4.6
Trinity		ZKI	167	+12	90	16	47	31	6	+11	91	20	60	17	3	41	3.3	26	4.7
DGL0052		Syn	187	+12	90	19	57	21	3	+12	84-	28	57	13	2	43	4.0	20	4.5
Ambassador		vW	171	+14	92	14	48	32	6	+14	94	27	60	11	2	51	7.0	22	4.5
Significance @ P=0.05					SD						SD								
LSD @ P=0.05					15.6						17.2								
CV %					14.0						15.5								

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 EVALUATIONS. Summary of quality data - Standard Vining Pea Preliminary Variety Trial, Nocton - 2020

Variety	Tenderometer Reading	Appearance				Brix
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	%
Avola	100.5	5.8	2.0	5.0	1.0	11.8
Eldorado	101.0	5.5	2.0	4.8	1.0	12.3
SV5795QE	97.0	6.2	2.0	4.8	1.0	11.8
Orient	102.5	5.5	2.0	4.3	1.0	10.9
DGL0062	108.5	6.8	2.0	5.0	1.0	12.6
DGL0050	98.0	6.5	2.0	4.7	1.3	11.4
Agilar	100.5	7.0	2.0	5.0	1.0	12.3
Saltingo	99.5	6.8	2.0	4.7	1.0	10.5
Kengo	102.5	6.5	2.0	4.8	1.0	12.9
Oasis	97.0	6.7	2.0	4.2	1.0	11.9
DGL0066	99.0	6.3	1.7	4.8	1.0	11.8
Trinity	95.5	6.0	2.0	4.3	1.0	12.1
DGL0052	98.0	6.3	2.0	4.7	1.0	12.4
Ambassador	96.0	6.2	2.0	5.0	1.0	12.6

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 9 - VINING PEA VARIETY EVALUATIONS. Summary of agronomic data Standard Vining Pea Screening Variety Trial, Nocton - 2020
Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 23 March.
Results are means of two replicates. Target population 100 plants per m² sown in ten 15 cm rows.

Variety		Source	1000 Seed Weight g	@ TR 100 Maturity (± days) Avola	@ TR 100 Yield % of Oasis	@ TR 100 % in size grades L	M	S	VS	@ TR 120 Maturity (± days) Avola	@ TR 120 Yield % of Oasis	@ TR 120 % in size grades L	M	S	VS	Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
Avola		SVS	182	0(15/6)	42-	63	30	6	1	0(18/6)	42-	80	16	3	1	43	4.5	18	4.7
PLS 98-293		PLS	216	+ 9	53-	29	55	14	2	+ 8	56-	36	59	5	0	35	3.0	18	4.6
PFR-1816		PFR	240	+ 9	76-	26	54	17	3	+ 8	97	38	57	4	1	30	6.5	28	4.5
CS-494DAF	(SL)	CS	165	+ 9	86	8	46	42	4	+ 8	80	14	59	25	2	30	7.5	24	4.8
PLS 613	(SL)	PLS	164	+10	66-	9	47	37	7	+ 8	68-	13	59	24	4	40	6.0	20	4.6
PLS 98-326	(SL)	PLS	153	+10	42-	8	48	34	10	+10	45-	13	62	24	1	42	8.0	12	4.4
Oasis		LUK	206	+11	100 (7.60t/ha)	35	52	11	2	+10	100 (8.30t/ha)	47	45	7	1	41	5.0	26	4.8
CS-498AF	(SL)	CS	162	+11	84	5	33	45	17	+10	77	5	38	45	12	49	7.0	21	4.4
PFR-1705		PFR	230	+11	94	26	55	17	2	+11	108	41	53	5	1	42	7.0	26	4.5
PLS 602	(SL)	PLS	181	+11	95	10	50	33	7	+11	87	13	61	22	4	46	5.5	25	4.6
PLS 576	(SL)	PLS	180	+12	64-	37	59	4	0	+10	80	41	56	3	0	42	7.0	24	4.6
Darlin (Wav 418)	(SL)	vW	150	+12	75-	3	28	49	20	+11	74-	5	41	47	7	42	7.0	18	4.1
Ambassador		vW	171	+14	91	30	53	14	3	+14	93	45	51	4	0	52	7.0	20	4.5
Significance @ P=0.05					SD						SD								
LSD @ P=0.05					19.9						23.8								
CV %					12.2						14.1								

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 EVALUATIONS. Summary of quality data - Standard Vining Pea Screening Variety Trial, Nocton - 2020

Variety	Tenderometer Reading	Appearance				Brix
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	%
Avola	104.0	5.7	1.0	3.7	2.0	12.5
CS-494DAF	104.0	6.8	2.0	4.5	1.0	13.7
PFR-1816	100.0	6.2	2.0	4.5	1.0	11.7
PLS 98-293	95.0	6.5	2.0	4.8	1.0	11.9
PLS 613	101.5	6.8	2.0	4.5	1.0	12.9
PLS 98-326	97.0	6.8	2.0	4.5	1.0	12.1
Oasis	97.0	6.7	2.0	4.2	1.0	11.9
CS-498AF	108.5	5.8	2.0	4.7	1.0	12.4
PFR-1705	97.0	6.3	2.0	4.8	1.0	13.7
PLS 602	95.0	6.3	1.7	4.8	1.0	12.6
PLS 576	104.0	6.3	2.0	4.0	1.3	10.8
Darlin (Wav 418)	100.5	6.0	2.0	4.8	1.0	12.8
Ambassador	96.0	6.2	2.0	5.0	1.0	12.6

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 EVALUATIONS. Summary of agronomic data Vining Pea Petits Pois Main, Preliminary & Screening Variety Trials, Holbeach - 2020
Varieties placed in order of maturity. Standard varieties underlined. All varieties sown on 27 April.
Results are means of two replicates. Target population 100 plants per m² sown in ten 15 cm rows.

Variety		Source	1000 Seed Weight g	@ TR 100 Maturity (± days) Waverex	@ TR 100 Yield % of Waverex	@ TR 100 % in size grades L	M	S	VS	@ TR 120 Maturity (± days) Waverex	@ TR 120 Yield % of Waverex	@ TR 120 % in size grades L	M	S	VS	Haulm length cm	Standing Ability 9=erect 1=lodged	Pea wt. as % of total weight	Raw pea colour 1=pale 6=dark
PP Standard																			
Waverex		vW	97	0(17/7)	100 (3.66t/ha)	2	17	40	41	0(20/7)	100 (4.24t/ha)	3	31	47	19	56	2.5	15	4.6
PP Main Trial																			
Natalie(Wav 1107)		vW	99	- 9	28	1	8	42	49	- 8	29	1	12	50	37	55	7.0	8	4.5
Afivert	SL	Syn	85	+ 2	94	0	8	48	44	+ 2	102	2	17	59	22	58	9.0	14	4.4
Festivert	SL	Syn	85	+ 3	70	1	10	40	49	+ 3	85	1	23	61	15	58	8.0	13	4.4
PP Preliminary Trial																			
FDG0013		Syn	80	+ 3	47	1	6	38	55	+ 3	61	1	14	52	33	60	7.5	13	4.3
PP Screening Trial																			
Wav 287	SL	vW	97	- 3	72	1	11	46	42	- 3	98	3	23	58	16	56	8.0	11	3.8
Wav 7297		vW	101	+ 1	106	0	13	63	24	+ 1	104	3	34	53	10	58	8.0	16	4.3
Wav 7300		vW	93	+ 3	80	2	15	49	34	+ 3	92	1	21	57	21	60	6.5	14	4.4

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 EVALUATIONS. Summary of quality data - Vining Pea Petits Pois Main & Preliminary Variety Trials, Holbeach - 2020

Variety	Tenderometer Reading	Appearance				Brix
		Colour (3-8)	Brightness (1-2)	Uniformity (1-5)	No. of blonds (1-5)	%
PP Standard						
Waverex	106.0	5.0	2.0	5.0	1.0	13.6
PP Main Trial						
Natalie(Wav 1107)	96.0	4.5	2.0	5.0	1.0	13.2
Afivert	95.0	5.3	2.0	5.0	1.0	12.7
Festivert	103.0	7.0	2.0	5.0	1.0	14.3
PP Preliminary Trial						
FDG0013	102.0	5.3	2.0	5.0	1.0	13.6
PP Screening Trial						
Wav 287	100.0	4.5	2.0	5.0	1.0	12.5
Wav 7297	103.5	5.0	2.0	4.3	1.5	13.2
Wav 7300	102.0	7.0	2.0	4.5	1.0	13.6

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

APPENDIX 1

KEY TO SOURCE OF VARIETIES

CS	Crites Seed Inc., USA
El	Elsoms Seeds Ltd, UK
GA	General Availability
LUK	Limagrain UK Ltd, UK
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
ZKI	ZKI, Hungary