

1/1986

PROCESSORS & GROWERS RESEARCH ORGANISATION

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Registered Office
The Research Station
Great North Road,
Thornhaugh, Peterborough PE8 6HJ
Telephone: Stamford (0780) 782585

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T H E S E A S O N

The very severe temperatures during February caused a near perma-frost for four weeks. There was no appreciable precipitation and as the ground thawed during March, early drilling conditions were very good. However towards the end of the month and all through April, rain fell very frequently and this coupled with temperatures which were often four degrees below the monthly average, delayed the growth of early sown crops and severely hampered the maincrop drillings. An improvement in the weather occurred during early May and early June, but temperatures remained low and rainfall was above average at the end of the month.

Temperatures rapidly increased in the last week of June and remained very high all through July, making the month one of the warmest and driest for many years. Vining pea crops matured rapidly during this time. All was set for a good harvest of combining peas in August, but the rain began early in the month and it continued to be rather wet with a corresponding fall in temperature. Gales occurred late in the month, caused by Hurricane Charlie.

Meteorological Data - Thornhaugh

Month	1986 Average Temperature °C		Long-term Average Temperature °C	
	Maximum	Minimum	Maximum	Minimum
March	9.3	0.9	9.1	1.8
April	9.8	1.5	11.9	4.0
May	16.4	6.5	15.8	6.6
June	20.2	8.9	19.2	9.5
July	21.8	10.9	20.5	11.5
August	19.0	9.6	20.3	11.3

Month	1986 Monthly Rainfall mm.	Long-term Average Rainfall mm.
March	44.8	43.2
April	60.2	42.5
May	112.6	41.8
June	14.3	46.3
July	47.3	52.3
August	90.7	60.9

4/1986

S U M M A R Y

V I N I N G P E A S

M A I N T R I A L V A R I E T I E S T E S T E D 1 9 8 4 - 8 6

These varieties were evaluated under contrasting weather conditions. In 1984 the weather during harvest was hot and dry, the 1986 harvest was similar but following a very cold wet spring. 1985 was wetter and cooler than average throughout the pea season.

Seed of all varieties was treated with fungicide to control downy mildew and damping off diseases. Varieties included quality standard Sprite (breeder's stock in 1984 and 86) and commercially available stocks of Scout (still the most widely grown variety in the UK), and Dark Skinned Perfection (DSP) a yield standard. Waverex is now included as a standard for petits pois to compare yield and size grades.

Waverex, fine foliated Uniroy and the semi-leafless type Rampart were small seeded. Uniroy and Rampart however could not be considered as petits pois types having only 60 per cent of peas in the small and very small size grade. Uniroy gave a more uniform sample and was slightly smaller than Rampart. Three year mean yields for Rampart and Uniroy were similar to Waverex and significantly lower than DSP, but in 1985 Rampart and Uniroy yielded well and significantly better than Waverex.

Stampede, a semi-leafless type erect and easily harvested performed consistently well over the three years. Peas are of similar size grade to Sprite and like semi-leafless Bikini are outstanding for good even colour for freezing even under conditions of little sunlight in 1985.

T R I A L S I N 1 9 8 6

Four vining pea trials this year included the Main, Preliminary and Screening Trials at Thornhaugh, and a trial at Gosberton, S. Lincolnshire for varieties chosen for evaluation on fertile silt soils.

Seed of all varieties was treated with fungicide to control downy mildew and Ascochyta this year. Seed of the quality standard Sprite was obtained from the breeder, but Dark Skinned Perfection (DSP), the yield standard, and Scout were from generally available stocks. The first trial was sown on 11th March and peas took 6 weeks to emerge under the very cold conditions. Subsequent drillings were carried out under difficult conditions - the weather was wetter and colder than average. The trials appeared free from pest and disease attack throughout the season.

Initial growth was slow and a late start to harvest was anticipated, but the weather became hot and dry during the third week in June and vining started on 1st July. The harvest period was very short.

5/1986

It is important to note that maturity differences between varieties may be less than normal. Some varieties, particularly the small-seeded types became difficult to vine under dry conditions and some yield loss due to unopened pods occurred - hence yields may be lower than normal. The colour of samples was good this season and maturity even. Some varieties in trials (and commercially) produced peas with split skins, but this was thought to be a seasonal factor due to high rainfall after dry weather, rather than a varietal effect.

Samples from Main Trial were canned with and without colour additive, since there is considerable interest in 'additive free' products.

MAIN TRIAL, THORNHAUGH - 1986

The trial was affected by hot dry conditions during the harvest period, premature ripening occurred for some varieties and others proved difficult to vine, for example Uniroy and Rampart.

The highest yielding variety was Sprite, the earliest to mature, and Scout also performed well.

Waverex, grown as a standard petits pois variety, has proved unreliable in commercial situations in the last two years. Waverex in trial gave average yields of 70% of DSP (67% Scout).

Uniroy, an early maincrop variety, matured one day later than Scout and as in 1985 gave low yields but was not easy to vine. Peas were of even, small size grade (but not petits pois) with dark uniform colour.

Wavertop did not yield as well as in 1985. It is an early maincrop variety with dark foliage and the size grade of produce was smaller than Sprite.

Dark Skinned Perfection normally has a +12 maturity, but this season was +6. Yields of this large seeded long haulmed variety were good.

Manuela, of maincrop maturity gave disappointing yields but peas were of uniform medium size grade and smaller than Scout. This variety appears very herbicide tolerant as assessed in a varietal reaction trial.

Sherbourne, another maincrop variety, has heavy haulm and is very vigorous. Although produce is rather large seeded (larger than DSP) the yields were low.

Stampede, bred from Tristar, is a semi-leafless variety which is more erect and less prone to lodging and offers the advantage of minimising contamination of produce with stones at harvest. Yields were low this year but peas were of similar size grade to Sprite, of even size grade and a uniform colour for freezing. It matured later than DSP this year, possibly because it seemed to withstand dry conditions better.

6/1986

Rampart (coded XPF 151 in 1985 trial) is a late, semi-leafless variety. Produce was not as small-seeded as Waverex and size was uneven but dark.

There is a need for maincrop pea varieties which mature later than DSP but are of smaller size grade than DSP.

SILT SOILS EXTENSION TRIAL,
GOSBERTON - 1986

The trial series was begun in 1985 in consultation with MAFF and growers on fertile silt soils, (sandy silt loam (new 1985 classification)) with high water table. Varieties chosen were determinate, short strawed, and either fine foliated or semi-leafless with a high pea : haulm ratio.

Growth at this site is normally vigorous and the dull wet season of 1985 highlighted the problems of long haulm, rotting at the base of the plant where heavy foliated varieties such as Scout and Dark Skinned Perfection lodged early. The 1986 season although initially cool and wet, became hot and dry and plants were determinate with haulm length similar to that at Thornhaugh. Stampede (semi-leafless) and Skinado (fine foliated) gave dark evenly coloured samples of peas for freezing, whilst there were several pale peas in samples of other varieties and a high proportion in Puget.

In terms of yield, Puget and Tristar performed significantly better than DSP, the standard in trial, and yields of semi-leafless Stampede were good. The earlier flowering varieties may have been affected by the dry conditions and were lower yielding than later ones. In the early maincrop maturity however, Markado outyielded Scout, Bikini and Skinado gave similar yields to Scout. Orcado produced peas of larger size grade than Markado or Skinado but gave low yields. Waverex, the petit pois variety, yielded well (81% DSP).

PRELIMINARY TRIAL - 1986

Varieties in this trial are at National List stage of testing and fewer were entered this year compared with last. Many were small seeded, but only one, Citadel, was as small as Waverex in the petits pois category, others would require size grading. Some of the tight pods with small seeds were difficult to vine, for example Argona, and this was reflected in low yields.

FR 2272 had a determinate growth habit and matured one day before Sprite. Yields were good and produce a little smaller and darker than Sprite with an attractive appearance when frozen. The standard, Sprite was one of the highest yielding varieties in trial this season. Candi and Cobalt, also early varieties had fine dark foliage and yielded lower than Sprite but were difficult to vine. Produce from Cobalt was dark, slightly darker than Candi, and both had an attractive appearance with uniform small size grade (but not petits pois) peas.

7/1986

There are few second early varieties commercially available. FR 2434 and XPF 176 (Flair) were in this maturity group. Both had determinate plant habits with a high pea : haulm ratio. FR 2434 peas were darker and similar size to Sprite and yielded well. XPF 176 outyielded other varieties in trial and produced peas which were of similar colour to Sprite and uniform medium/small size grade. XPF 175, with peas smaller than Sprite and similar in plant habit to XPF 176, matured a day later and also yielded well. Bayard, (semi-leafless) and Clio (long haulmed) were low yielding second early/early maincrop varieties. Clio was rather uneven in colour and size. Produce from Bayard had an attractive dark colour for freezing and size was uniform, in the small/medium grade.

Citadel was the only new true petits pois variety with the majority (96%) of peas in the small/very small category and would not require size-grading. The sample was dark and uniform for freezing. Citadel is longer strawed and more vigorous than Waverex and gave acceptable yields and appeared very promising.

EB2 gave yields and size grade of peas similar to Scout; it is a short strawed semi-leafless variety, but prone to lodging. Wav F 521 and 492 PaH 2.2, also early maincrop maturity, gave low yields of small/medium size grade peas. Argona, another early maincrop variety had vigorous plant habit and fine leaves and stood well, but was difficult to vine. Peas were particularly attractive for freezing being small and dark, and although not as small as Waverex, were more uniform in size.

In the maincrop class Wav F 522 gave low yields of unevenly sized peas. Yields of Ceb 1642, a semi-leafless variety with good standing ability were poor, but quality was excellent. Peas from DSP were very large but uniform this year. Two varieties matured later than DSP - Wav F 31/82 which yielded well, and gave a very good sample of produce slightly larger in size than Sprite. Length of haulm of Wav F 31/82 was greater than DSP. Yields of the other variety AK 1/1/1/2 were disappointing.

SCREENING TRIAL, THORNHAUGH - 1986

Numbers entered were fewer than last year and the 30 plots were replicated and data statistically analysed. The trial was sown on 23rd April (which was early in terms of AHU's this season). Some of these varieties had been tested in previous PGRO trials, but further information was sought by seed companies.

Although market trends are towards smaller peas than Scout and DSP, many varieties in trial were of similar or larger size grade, and some had poor colour.

8/1986

Among the more promising varieties were FR 108, yielding better than Sprite, a day later and producing medium sized peas. Challis, tested in 1985, was appreciably earlier this year (some pods set as early as the fifth node) but yields were disappointing. Semi-leafless GZ 8/1, and Bounty, early maincrop yielded well, but were larger than Sprite. Headliner was a short strawed determinate variety of similar maturity to Scout with attractive medium size-grade peas and outyielded all varieties in trial. Freezer 726, of similar type did not yield as well. Yields of HF 1 were good. RS 2260 (difficult to vine) and Rivera of similar small/medium size, and CF 1/3/1 medium, gave even attractive produce but low yields. Maincrop varieties Wav F. 132, with medium/small but rather uneven sized peas yielded well and F 79-152 and FR 2318, smaller than Sprite, performed similarly. Triad was the latest maturing variety.

Pale canning varieties in trial were Wav C 295, a second early, and maincrop maturity Wav C 434 (difficult to vine) and Wav 733. All were low yielding with small size grade produce (but not petits pois).

EDIBLE - PODDED PEAS :

OBSERVATION TRIAL - 1986

The interest in flat podded mange-tout peas, hand harvested and grown for fresh market is increasing. A very small quantity of frozen product (hand harvested in Taiwan) is also available. Current flat-podded varieties have string and some parchment in the pods.

The sugar snap peas are a different type having thick fleshy parchment free pods with string, or semi-stringless. Two new completely stringless varieties, Sugar Gem and Sugar Luv, grown in 1984 at PGRO have been bred by Gallatin Valley, USA. The latter types have potential for quick-freezing, and a commercial product was launched in 1985 and grown on a wider scale in 1986. The sugar-snap full podded types have very sweet flavour, and may be eaten raw in salads but are not grown for fresh market sales as yet.

Samples of both types were grown and quick-frozen for evaluation, and PGRO is maintaining an interest in this area.

DEMONSTRATION AREA - SCOTLAND

Main Trial varieties were sown by the East of Scotland College of Agriculture at Castle Huntley, Dundee, and acknowledgements are due to ESCA staff.

Varieties placed in order of maturity. Standard varieties underlined. Results are mean of three replicates. Target population 90 plants per m² sown in ten 15cm rows.

Variety	Source	Seeds /kg	At Practical Freezing Stage						At Practical Canning Stage						Raw pea colour		
			Maturity relative to Sprite (+ days)	Yield of shelled peas as % of DSP @ TR 100	L	M	S	VS	Maturity relative to Sprite (+ days)	Yield of shelled peas as % of DSP @ TR 120	L	M	S	VS		Haulm length cm.	Pea wt. as % of total wt.
Sprite	As	4763	0(8/7)	92	38	50	11	1	0(11/7)	100	46	47	6	1	67-	18	4
Scout	Hu	4824	+ 7	94	49	40	9	2	+ 8	99	56	36	7	1	86	20	5
Maverex	VW	8082	+ 8	71-	3	15	40	42	+ 9	82-	3	23	51	23	63-	17	5
Uniroy (80RS2242)	RS	9035	+ 9	77-	6	34	47	13	+10	84-	8	50	37	5	83-	15	5
Stampede	As	5498	+10	102	39	49	11	1	+ 9	108	54	36	8	1	77-	19	5
DSP	Sh	3852	+11	100	55	36	8	1	+10	100	67	26	6	1	87	19	5
				(7.5t/ha)						(8.1t/ha)							
Rampart (XPF 151)	As	7132	+12	78-	10	30	46	14	+10	84-	13	46	38	3	68-	15	4
Significance @ P = 0.05				SD						SD					SD		
LSD @ P = 0.05				9.4						10.0					3.0		
C of V %				11.1						11.1					4.2		

KEY: Yield and haulm length: +Significantly greater than DSP @ P = 0.05

-Significantly smaller than DSP @ P = 0.05

Size grades: L = Large > 10.3mm, M = Medium 8.75 - 10.3mm, S = Small 7.5 - 8.75mm, VS = Very Small < 7.5mm
 † = semi-leafless

Varieties placed in order of maturity. Standard varieties underlined. Results are mean of three replicates. All varieties sown on 11th March at target population 90 plants per m² in ten 15cm rows.

Variety	Source	Seeds /kg	At Practical Freezing Stage					At Practical Canning Stage					Haulm length cm.	Pea wt. as % of total wt.	Raw pea colour 1=pale 5=dark
			Maturity relative to Sprite (+/- days)	Yield of shelled peas as % of DSP @ TR 100	% in size grades L M S VS	Maturity relative to Sprite (+/- days)	Yield of shelled peas as % of DSP @ TR 120	% in size grades L M S VS							
Sprite	As	4731	0(2/7)	110	27 59 13 1	0(4/7)	110	35 61 4 0	19	53-	4				
Scout	Hu	5234	+ 5	105	46 47 6 1	+ 5	100	52 44 3 1	19	67	5				
Waverex	VW	7609	+ 5	70-	0 5 43 52	+ 5	72-	1 20 62 17	15	44-	5				
Wavertop	VW	6106	+ 5	70-	16 58 23 3	+ 5	69-	45 47 6 2	14	64-	5				
Uniroy	RS	8764	+ 5	66-	2 16 66 16	+ 5	63-	5 49 44 2	13	63-	5				
DSP	Sh	3933	+ 6	100	48 46 6 0	+ 6	100	66 30 3 1	19	70	5				
				(5.5t/ha)			(6.0t/ha)								
Stampede	As	5781	+ 7	88	35 60 5 0	+ 7	91	56 40 4 0	18	60-	5				
Sherbourne	Sh	4917	+ 7	89	51 43 5 1	+ 7	91	69 28 3 0	19	68	5				
Manuela	VW	5649	+ 7	85-	22 68 10 0	+ 7	81-	32 63 5 0	14	48-	5				
Rampart	As	8056	+ 8	61-	3 13 63 21	+ 8	65-	6 40 50 4	13	50-	5				
				SD			SD								
				14.9			16.2								
				10.3			11.2								

KEY: Yield and haulm length: +Significantly greater than DSP @ P = 0.05
 -Significantly smaller than DSP @ P = 0.05
 Size grades: L = Large > 10.3mm, M = Medium 8.75 - 10.3mm, S = Small 7.5 - 8.75mm, VS = Very Small < 7.5mm
 † = Semi-leafless

Varieties placed in order of maturity. Standard varieties underlined. Results are mean of three replicates. All varieties sown on 11th April at target population 90 plants per m² in ten 15cm rows.

At Practical Freezing Stage At Practical Canning Stage

Variety	Source	Seeds /kg	At Practical Freezing Stage				At Practical Canning Stage				Haulm length cm.	Pea wt. as % of total wt.	Raw pea colour 1=pale 5=dark
			Maturity relative to Sprite (+/- days)	Yield of shelled peas as % of DSP @ TR 100	% in size grades L M S VS	Maturity relative to Sprite (+/- days)	Yield of shelled peas as % of DSP @ TR 120	% in size grades L M S VS					
Hurst Beagle	Hu	4875	- 3	63-	22 52 22	4	- 3	76-	35 55 9	1	19	4	
Span	Sh	4431	- 1	66-	40 44 14	2	- 1	71-	55 37 7	1	21	4	
Sprite	As	4371	0(8/7)	64-	45 37 17	1	0(10/7)	66-	66 29 4	1	18	4	
Galaxie	Rog	5320	+ 4	73-	46 41 11	2	+ 4	85-	69 26 4	1	19	4	
Scout	Hu	5234	+ 6	84-	55 36 8	1	+ 6	81-	68 25 5	2	22	5	
Markado	S&G	6356	+ 8	94	24 57 16	3	+ 7	92	31 57 10	2	24	4	
Skinado	S&G	6423	+ 8	79-	36 49 12	3	+ 7	79-	48 46 4	2	23	5	
Bikini	Rog	4912	+ 8	85-	40 43 15	2	+ 8	97	56 38 6	0	23	5	
Waverex	vW	7609	+ 8	81-	3 17 45 35	3	+ 8	81-	3 25 54 18	18	22	4	
Orcado	S&G	4730	+ 9	64-	55 40 4 1	1	+ 9	63-	58 39 3 0	0	20	4	
Tristar	As	5602	+10	113+	53 42 5 0	0	+ 9	113+	58 39 3 0	0	26	5	
DSP	Sh	3933	+10	100	65 31 4 0	0	+10	100	77 20 3 0	0	23	5	
				(8.8t/ha)				(9.2t/ha)					
Stampede	As	5781	+10	102	53 42 5 0	0	+10	101	63 44 3 0	0	24	5	
Puget	Sh	4316	+11	117+	41 52 6 1	1	+10	114+	54 43 3 0	0	25	4	

Significance @ P = 0.05 SD
 LSD @ P = 0.05 12.1
 C of V % 8.5

KEY: Yield and haulm length: +Significantly greater than DSP @ P = 0.05
 -Significantly smaller than DSP @ P = 0.05
 Size grades: L = Large > 10.3mm, M = Medium 8.75 - 10.3mm, S = Small 7.5 - 8.75mm, VS = Very Small < 7.5mm
 † = Semi-leafless

VINING PEA VARIETY STUDIES

Summary of Agronomic Data - Preliminary Trial, Thornhaugh - 1986

Varieties placed in order of maturity. Standard varieties underlined. Results are mean of three replicates. All varieties sown on 14th March at target population 90 plants per m² in ten 15cm rows.

Variety	Source	Seeds /kg	At Practical Freezing Stage					At Practical Canning Stage					Haulm length cm.	Pea wt. as % of total wt.	Raw pea colour 1=pale 5=dark
			Maturity relative to Sprite (+ days)	Yield of shelled peas as % of DSP @ TR 100	% in size grades L M S VS	Maturity relative to Sprite (+ days)	Yield of shelled peas as % of DSP @ TR 120	% in size grades L M S VS							
FR 2272	PLS	3976	- 1	117	21 52 24 3	- 1	108	30 65 5 0	53-	18	4				
Sprite	As	4731	0(2/7)	124+	24 61 14 1	0(4/7)	106	37 59 4 0	58-	20	4				
Cobalt (Cl 2110S)	Cl	10225	0	84	2 21 61 16	0	75-	3 34 58 5	56-	17	5				
FR 2434	PLS	4428	+ 1	112	18 50 28 4	+ 1	100	34 60 5 1	51-	20	5				
Candi (Cl 218 S)	Cl	11075	+ 1	82	2 20 56 22	+ 1	68-	4 27 60 9	59	14	4				
Flair (XPF 176)	As	6289	+ 2	125+	8 57 34 1	+ 2	105	9 60 30 1	53-	22	4				
Citadel	As	10668	+ 2	77-	0 4 45 51	+ 3	71-	6 12 55 27	61	14	5				
XPF 175 (Conf 1)	As	6055	+ 3	109	9 48 41 2	+ 2	97	18 67 14 0	64	21	4				
Clio (Cl 2111 S)	Cl	7262	+ 3	63-	22 55 20 3	+ 3	63-	23 67 10 0	73	11	4				
Bayard (Cl 219 Saf)	Cl	6298	+ 3	78-	10 51 37 2	+ 4	69-	24 70 4 2	55-	13	5				
EB 2	Hu	6352	+ 4	94	22 56 21 1	+ 4	85	34 53 13 0	52-	16	5				
Scout	Hu	5234	+ 4	90	25 58 17 0	+ 4	79-	43 54 3 0	60	17	5				
Wav F 521	vW	7631	+ 5	72-	3 27 55 15	+ 5	63-	7 41 48 4	60	13	4				
Pippin (492 PaH)	Sh	7260	+ 5	71-	4 35 52 9	+ 6	64-	8 55 35 1	51-	12	4				
Argona	Nun	10848	+ 5	36-	0 12 73 15	+ 6	37-	3 17 70 10	62	9	5				
Wav F 522	vW	5198	+ 6	77-	30 34 34 2	+ 5	69-	41 35 21 3	65	14	4				
Ceb 1642 (Pasja)	Ceb	5142	+ 6	59-	28 48 20 4	+ 6	65-	36 50 12 2	51-	12	5				
DSP	Sh	3933	+ 6	100	73 22 3 2	+ 6	100	73 25 2 0	69	16	4				
				(4.6t/ha)			(5.5t/ha)								
Wav F 31/82	vW	5403	+ 7	103	28 60 11 1	+ 6	92	42 55 3 0	75	17	5				
AK 1/1/1/2	Hu	6699	+ 7	70-	25 56 19 0	+ 7	72-	30 57 11 2	56-	15	4				
Significance @ P = 0.05				SD			SD								
LSD @ P = 0.05				21.2			19.3								
C of V %				14.7			14.6								

KEY: Yield and haulm length: +Significantly greater than DSP @ P = 0.05
 -Significantly smaller than DSP @ P = 0.05

Size grades: L = Large > 10.3mm, M = Medium 8.75 - 10.3mm, S = Small 7.5 - 8.75, VS = Very Small < 7.5mm
 † = Semi-leafless
 †† Conf 2 in 1985 Screening Trial

VINING PEA VARIETY STUDIES

Summary of Agronomic Data - Screening Trial - Thornhaugh, 1986

Varieties placed in order of maturity. Standard varieties underlined. Results are mean of two replicates. All varieties sown on 23rd April at target population 90 plants per m² in ten 15cm rows.

Variety	Source	Seeds /kg	At Practical Freezing Stage					At Practical Canning Stage					Haulm length cm.	Pea wt. as % of total wt.	Raw pea colour 1=pale 5=dark			
			Maturity relative to Sprite (- days)	Yield of shelled peas as % of DSP @ TR 100	% in size grades	L	M	S	VS	Maturity relative to Sprite (- days)	Yield of shelled peas as % of DSP @ TR 120	% in size grades				L	M	S
320 PaH 7	Sh	3742	- 1	88	48	47	4	1	1	- 1	96	64	33	3	0	67	21	5
Daybreak	Rog	4802	0	91	70	26	4	0	0	- 1	89	77	20	3	0	56-	22	5
Sprite	As	4731	0(10/7)	80-	46	45	8	1	1	0(12/7)	89	65	30	4	1	54-	18	4
FR 108	PLS	5336	+ 1	91	22	59	18	1	1	0	90	40	51	8	1	47-	19	4
Challis	CM	5576	+ 1	78-	36	52	11	1	1	+ 1	90	49	41	10	0	52-	19	5
4HE 3	Hu	4993	+ 1	73-	46	44	10	0	0	+ 1	74-	64	29	6	1	54-	15	3
Granada	CM	4856	+ 2	98	46	43	10	1	1	+ 2	97	85	12	2	1	55-	21	4
FR 4020	PLS	4515	+ 3	85	60	38	2	0	0	+ 3	90	60	38	2	0	58-	19	5
Wav C 295	vW	9438	+ 3	59-	6	25	54	15	15	+ 3	66-	7	43	41	9	55-	13	2
4317 PaH 2	Sh	5703	+ 4	92	67	30	3	0	0	+ 4	95	77	20	2	1	48-	21	5
341 PaH 11	Sh	4825	+ 4	80-	80	14	4	2	2	+ 4	85	84	13	3	0	69+	21	4
Alpine (AVX 339)	Sun	5148	+ 4	83	48	46	6	0	0	+ 4	69-	58	38	4	0	63	15	4
Wav F 504	vW	4593	+ 4	78-	58	39	2	1	1	+ 4	83-	75	23	2	0	53-	17	5
336 PaH 13	Sh	4941	+ 5	97	53	45	2	0	0	+ 5	97	61	36	3	0	53-	20	4
4GZ 8/1	Hu	5142	+ 5	97	55	36	8	1	1	+ 5	105	63	32	4	1	58-	21	5
Bounty	Rog	4267	+ 6	108	59	33	7	1	1	+ 5	107	75	22	3	0	51-	20	4
Freezer 726	Bro	6528	+ 6	87	28	58	11	3	3	+ 5	86	29	64	7	0	46-	20	4
Headliner	Rog	5224	+ 6	114	29	52	16	3	3	+ 5	119+	31	53	15	1	46-	21	4
HF 1	Hu	6103	+ 6	95	49	43	7	1	1	+ 5	95	64	30	6	0	56-	19	4
Scout	Hu	5234	+ 6	80-	58	36	6	0	0	+ 5	79-	70	26	4	0	58-	18	5
RS 2260	RS	11254	+ 6	57-	2	26	58	14	14	+ 6	56-	0	25	68	7	55-	14	5
CF 1/3/1	Hu	6478	+ 7	64-	21	58	17	4	4	+ 6	64-	22	69	7	2	59	15	3
Rivera	Vil	9514	+ 7	60-	2	26	58	14	14	+ 6	68-	8	58	31	3	47-	16	5
Wav F 132	vW	7214	+ 7	94	13	59	24	4	4	+ 6	92	15	66	18	1	54-	18	4
DSP	Sh	3933	+ 7	100	68	27	5	0	0	+ 7	100	71	26	3	0	63	20	5

(5.9t/ha) (6.0t/ha)

Continued

VINING PEA VARIETY STUDIES (CONT)

Summary of Agronomic Data - Screening Trial - Thornhaugh, 1986

Varieties placed in order of maturity. Standard varieties underlined. Results are mean of two replicates. All varieties sown on 23rd April at target population 90 plants per m² in ten 15cm rows.

Variety	Source	Seeds /kg	At Practical Freezing Stage					At Practical Canning Stage					Haulm length cm.	Pea wt. as % of total wt.	Raw pea colour		
			Maturity relative to Sprite (+/- days)	Yield of shelled peas as % of DSP @ TR 100	% in size grades	L	M	S	VS	Maturity relative to Sprite (+/- days)	Yield of shelled peas as % of DSP @ TR 120	% in size grades				L	M
F 79-152	Rog	7004	+7	86	23	55	19	3	+ 8	103	31	53	15	1	43-	18	4
FR 2318	PLS	4536	+ 8	82-	29	56	12	3	+ 8	82-	32	56	10	2	58-	17	4
Wav C 434	vW	10044	+ 8	55-	2	30	53	15	+ 8	64-	3	36	50	11	54-	14	2
Wav C 733	vW	11638	+ 9	54-	2	15	59	24	+ 8	62-	2	18	61	19	47-	12	3
Triad	Ya	5789	+ 9	88	21	58	18	3	+ 9	99	39	56	5	0	44-	18	5
				SD						SD							
				16.7						15.2							
				9.8						8.6							

KEY: Yield and haulm length: +Significantly greater than DSP @ P = 0.05
 -Significantly smaller than DSP @ P = 0.05

Size grades: L = Large > 10.3mm, M = Medium 8.75 - 10.3mm, S = Small 7.5 - 8.75mm, VS = Very Small < 7.5mm
 † = Semi-leafless

VINING PEA VARIETY STUDIES

Disease Resistance Tests - Main Trial, 1986

Results for downy mildew susceptibility are the mean of tests carried out at 2 sites. Scores in brackets are means of three years' data.

Results of pea wilt tests are not available for 1986.

Variety	Downy Mildew (<i>Peronospora Viciae</i>) Susceptibility Rating *	
Dark Skinned Perfection		(GFR)
Manuela	MS	
Scout		(GFR)
Sherbourne	MS	
Sprite		(S)
Stampede	SS	(MS)
Rampart	GFR	
Uniroy	SS	(MS)
Waverex		(SS)
Wavertop	GFR	

* Key: GFR = Good field resistance
 SS = Slightly susceptible
 MS = Moderately susceptible
 S = Susceptible

S U M M A R Y
C O M B I N I N G P E A S

T R I A L S I N I 9 8 6

In 1986 PGRO again had a large programme of variety trials, consisting of 5 replicated trials testing 62 varieties, including the standards Vedette, Finale, Birte, Maro and Progreta. Of the new varieties, 27 were semi-leafless and 4 were tare-leaved.

The Screening, Preliminary and Main trials were carried out on the relatively light soil at Thornhaugh. The two other Main trials were on clay loam soil at Hadstock, Essex, and on organic silt loam soil at Chatteris, Cambs. All three Main trials are part of the NIAB/ADAS/PGRO co-ordinated system, from which the NIAB Recommended List is produced. Varieties in these trials include candidates jointly selected from the most promising registered varieties, plus some already on the List. Since numbers are limited, those varieties on the Recommended List which have been extensively tested were omitted this year. The small blue varieties for human consumption, Conquest, Vedette, Polaris and Printana, were evaluated at Thornhaugh and Chatteris for a second year.

This year all seed used in the trials was treated to control both damping-off diseases and Ascochyta. The trials were drilled between 13th March and 3rd April. The soil was cold and the weather showery, so seedbeds at the outside sites were less satisfactory and crop establishment was a little irregular, although excellent at Thornhaugh. There was little thrips damage this year despite slow emergence.

A hot, dry spell in June resulted in a short flowering period but there were no signs of drought stress. Later weather was much cooler with rainy spells, so harvest was difficult at times. Overall lodging was about average and staining of produce was minimal.

There was very little downy mildew (Peronospora viciae) at any site. Bacterial blight (Pseudomonas syringae) was confirmed in two varieties at Thornhaugh, but visual effects were insignificant.

Samples of possible human consumption varieties were canned and dry produce sent for evaluation by the canning industry. A large-seeded, high-yielding, easily harvested marrowfat variety and a replacement for the imported Alaska small blue type are being sought. Samples from the Main and Preliminary Thornhaugh trials were sent for determination of protein content by the Near Infra Red (NIR) method.

17/1986

MAIN TRIAL, THORNHAUGH - 1986
(NIAB/ADAS/PGRO)

Overall, yields were similar to 1985, but the small blues did relatively better apart from Polaris, which yielded significantly lower than Maro. Helka, a new semi-leafless variety of moderate standing ability, yielded similarly to Maro.

Two of the large blue varieties, Solara and Progolt (Agri 54/78), yielded significantly better than Maro. Progolt was early, long-strawed and lodged. Solara was later but stood well and was easy to harvest. Calypso had the shortest straw in this group.

In the large group of white peas, Belman, Katrin, Miranda and Bohatyr all significantly outyielded Maro. Belman was the earliest variety, while the two marrowfat-shaped peas, Crown and Countess, both semi-leafless, were the latest. Both of these produced very large peas, but their yield was only similar to Maro. Rigel, another semi-leafless variety, yielded well (despite having the smallest seed), as did Belinda and Birte. Rigel, Katrin and Bohatyr all had significantly longer straw than Maro, Belinda and Miranda significantly shorter. Bohatyr produced vertical growth after early lodging, and this remained erect until harvest. In this group Belman, Katrin, Birte, Belinda and Miranda all had a similar plant habit, lodged early and were difficult to harvest.

Brandon was the earliest-maturing marrowfat variety but had the smallest seed. Princess was significantly taller than Maro, but yielded well and produced seed nearly as large as Maro. Progreta also yielded well, unlike 1985. All the marrowfats were quite easy to harvest this year.

MAIN TRIAL, CHATTERIS, CAMBS. - 1986
(NIAB/ADAS/PGRO)

Growth and yields were extremely good (some exceeding 8 tonnes/ha) at this fertile site. As usual, lodging was more severe here.

All the small blue human consumption varieties yielded significantly lower than Maro. Helka yielded at least as well as Maro, and appeared to be earlier than at Thornhaugh.

Progolt was the earliest large blue but had the lowest yield. Solara and Calypso both significantly outyielded Maro, and like Finale had very short straw. Calypso matured only 1 day earlier than Maro. Solara had the best standing power, but lodged more than at other sites.

18/1986

The white - seeded varieties appeared to be less successful at this site, since none yielded significantly better than Maro, Belman, Cilla, Consort, Bohatyr and Crown all gave yields significantly lower. As at Thornhaugh Belman was earliest, maturing 12 days before Maro. Belinda appeared to have the highest yield, whilst Birte was rather disappointing. Bohatyr, Cilla, Katrin and the 3 semi-leafless varieties Consort, Crown and Countess all had long straw. Bohatyr and Countess stood well and were easy to harvest.

Among the marrowfat varieties, Brandon was again the earliest, but gave a significantly lower yield than Maro. All the other varieties yielded similarly to Maro. Princess had the best standing ability, and it and Progreta were easy to harvest.

MAIN TRIAL, HADSTOCK, ESSEX - 1986
(NIAB / ADAS / PGRO)

The human-consumption small blue varieties were omitted from this trial, and also Progolt (Agri 54/78) because of seed shortage. This site probably suffered most from drought, and the hard, uneven surface made combining difficult. Helka matured 10 days earlier than Maro and had a similar yield.

Among the large blues Solara was the highest yielding and appeared to be as early as Finale. All were very short strawed, but Solara was still easy to harvest.

All the white pea varieties yielded well and at a similar level except Bohatyr and Belman, the latter being the only one in the trial to yield significantly lower than Maro. Belman was again the earliest variety, and Crown and Countess the latest. Belinda was extremely short-strawed, while Bohatyr, Rigel, Katrin and Countess had the longest straw. Crown was the largest-seeded variety, followed by Countess and Miranda. Bohatyr and the 4 semi-leafless varieties, Rigel, Consort, Crown and Countess, were the easiest to harvest.

Princess and Progreta were the highest-yielding marrowfat varieties, and Brandon was the lowest, though no differences were significant. Although tallest, Princess was the most erect variety at harvest.

19/1986

P R E L I M I N A R Y T R I A L , T H O R N H A U G H - I 9 8 6

This trial provides data additional to National List sites, which are used to select candidate varieties for the Recommended List. 21 new varieties were tested in this trial, including many in the National List trials. 11 were semi-leafless and there were 4 tare-leaved varieties besides Progreta. This was the first trial to be drilled. No variety yielded significantly less than Maro, which suggests the latter did less well than usual.

All the small blue varieties except Vedette were semi-leafless. P 69 appeared to give the best yield, but Radley and Vedette also yielded well. Vedette and Tiara both matured 14 days earlier than Maro, closely followed by CJ 2/3 and Orb. P 69 and Radley were a week earlier than Maro. Radley and Vedette had rather long, weak straw but the other 4 varieties all stood well and combined easily. Tiara produced extremely small peas, and those of CJ 2/3 were not so much larger.

There were only two new varieties of large blue peas, and neither were particularly early-maturing. Ceb 1116 (Bolero), the semi-leafless variety, yielded significantly better than Maro. Ceb 115 (Agora) was similar to Finale in yield and plant habit.

Among the white peas, Osmo (semi-leafless) and Progalba (tare-leaved) yielded significantly better than Maro. Esa, Gitana (Ceb 414) and HM 1880 also yielded well. Santa did not perform well and gave a low yield, had very long straw, lodged early and was extremely late. Birte was the earliest variety of the group. HM 1880 had quite long straw with similar plant habit to Bohatyr, and was easily harvested. Gitana was as short-strawed as Finale.

There were 8 varieties in the marrowfat group, of which Progreta and Ceb 211 (Matador) significantly outyielded Maro. Ceb 210 and Bunting both gave disappointing yields, although both looked well in the field. The seed produced by Ceb 210 was the largest of any variety this year. The 3 semi-leafless varieties, DE 1/1/3, Duchess and Empress all stood well and were easy to harvest. DE 1/1/3 was the earliest variety, maturing five days before Maro, and Bunting was the latest.

The two coloured-flowered varieties, Progine and Ceb 305 (Attica) were very similar in most respects, but Progine has a green cotyledon colour while that of Ceb 305 is yellow. Progine was easier to harvest and appeared to be slightly higher yielding.

SCREENING TRIAL, THORNHAUGH - 1986

17 new varieties were tested in this trial, but 5 were included only as single plots because insufficient seed was available. This was the last trial sown, but yields were similar to the other trials at Thornhaugh. There were no significant yield differences.

Altella was the earliest small blue, one day earlier than Vedette, and was short-strawed but rather low yielding. It also had the smallest seed, similar in size to Tiara in the Preliminary Trial. Two semi-leafless varieties, FT 2/6/1 and 971 PaH 38, appeared to give the highest yields; and both were easy to harvest. W 133/1 was quite small-seeded and very short-strawed but lodged. Vedette was easily the longest-strawed variety.

Both large blue varieties, Finale and DP 2/84, were short-strawed and gave indifferent yields. However DP 2/84, a semi-leafless variety, was 3 days earlier and stood very well to harvest.

Among the white peas the 3 semi-leafless varieties, DP 37/84, DP 28/84 and Ceb 1415, all yielded well and were easy to harvest, but DP 37/84 had the best standing ability and was earliest. 56/1, 34/1 and 31/4 all had parchmentless pods and were about as late-maturing as Maro. Two of these lodged badly, while 34/1 was easier to harvest, although extremely long-strawed and rather low yielding. Birte only yielded about the same as Maro.

There were no new marrowfat varieties. Progreta harvested easily and yielded very similarly to Maro.

There were two brown-seeded varieties. An unusual type, coded Confidential, although having a small dappled seed and pigmented axils on a fasciated stem, had a white flower. Its yield was rather low and the straw was very long, but it was not unduly difficult to harvest. The other variety, Ceb 304, had very large seeds and was similar to Maro in maturity and yield.

COMBINING PEA VARIETY STUDIES
Standard varieties underlined.

Summary of Agronomic Data - Main Variety Trial, Thorpehaugh - 1986
All varieties sown on 18th March. Results are means of three replicates.

Variety	Source	Seed 1000 grain weight (g)	Maturity days earlier(-) or later (+) than Maro	Yield % of Maro @ 16% MC	Straw length (cms)	Standing ability 9=erect 1=lodged	Ease of harvest 9=easy 1=difficult	1000 grain weight (g)	Protein content % of DM	% water uptake
Small Blues:										
<u>Polaris</u>	Sh	191	-17	83-	66	3	5	245	26.4	97
<u>Vedette</u>	Sh	226	-16	97	76+	4	5	273	26.3	97
<u>Printana</u>	Ha	222	-15	96	58	4	5	223	27.3	94
<u>Conquest</u>	Hu	180	-15	90	75+	2	3	214	27.9	100
<u>Helka</u>	Ni	224	-8	101	62	3	5	254	25.5	92
Large Blues:										
<u>Progolt (Agri 54/78)</u>	Sem	225	-13	112+	68	2	5	292	25.1	87
<u>Finale</u>	Ni	293	-5	105	54-	1	2	344	26.6	88
<u>Solara</u>	D	341	-4	119+	60	6	8	325	25.3	100
<u>Calypso</u>	FSF	313	-1	101	51-	1	2	357	26.3	93
Whites:										
<u>Belman</u>	Don	306	-12	111+	63	2	3	323	26.1	97
<u>Birte</u>	Ni	199	-8	108	60	2	3	294	25.5	88
<u>Consort</u>	Hu	243	-8	104	65	6	8	320	24.9	100
<u>Cilla</u>	Don	297	-8	100	64	2	4	318	26.2	93
<u>Rigel</u>	D	191	-7	109	75+	6	7	254	24.5	97
<u>Katrin</u>	Twy	313	-6	115+	72+	2	4	348	26.9	97
<u>Miranda</u>	D	355	-5	111+	55-	2	3	342	25.4	97
<u>Belinda</u>	Ni	290	-5	108	53-	1	3	297	26.9	97
<u>Bohatyr</u>	Ni	264	-4	115+	73+	5	6	283	24.9	102
<u>Crown</u>	Hu	389	-3	99	63	5	6	393	25.6	106
<u>Countess</u>	Hu	317	-2	102	67	6	8	384	26.4	102
Marrowfats:										
<u>Brandon</u>	Sh	291	-5	104	65	4	6	321	25.2	102
<u>Princess</u>	Hu	311	-2	106	71+	5	5	378	25.8	108
<u>Progreta</u>	Prog	310	0	106	65	4	6	351	25.9	107
<u>Maro</u>	GA	304	0	100	62	2	5	383	27.1	110
			(8/8)	(5.1t/ha)						21/1986
			SD	SD	SD					
			10.0	7.0						
			5.8	6.6						

Significance @ P = 0.05
LSD @ P = 0.05
C of V %

KEY: Yield and straw length: + Significantly greater than Maro @ P = 0.05
- Significantly smaller than Maro @ P = 0.05
(SL) = Semi-leafless
(T) = Tare-leaved

Variety	Source	Seed 1000 grain weight (g)	Maturity days earlier (-) or later (+) than Maro	Yield % of Maro @ 16% MC	Straw length (cms)	Standing ability 9=erect 1=lodged	Ease of harvest 9=easy 1=difficult	1000 grain weight (g)	Protein content % of DM	% water uptake
Small Blues: Target population 95 plants/m²										
<u>Polaris</u>	Sh	191	-13	66-	64	1	3	269	26.5	
Printana	Ha	222	-12	83-	64	3	5	253	26.0	
<u>Vedette</u>	Sh	226	-12	77-	76+	2	4	291	27.6	
<u>Helka</u>	Ni	224	-11	102	66	2	4	260	24.0	
Conquest	Hu	180	-11	74-	66	3	4	220	26.4	
Large Blues: Target population 70 plants/m²										
<u>Progolt (Agri 54/78)</u>	Sem	225	-7	96	68	2	5	304	23.9	
<u>Finale</u>	Ni	293	-6	101	47-	1	2	370	25.6	
<u>Solara</u>	D	341	-4	111+	52-	3	4	352	24.5	
Calypso	FSF	313	-1	109+	54-	2	3	377	25.5	
Whites: Target population 70 plants/m²										
<u>Belman</u>	Don	306	-12	84-	57	2	4	333	25.1	
Cilla	Don	297	-8	86-	68	2	3	341	24.0	
<u>Birte</u>	Ni	199	-7	95	62	2	3	304	24.5	
<u>Belinda</u>	Ni	290	-6	103	49-	1	3	327	25.4	
Katrin	Twy	313	-5	97	67	2	4	353	24.4	
Miranda	D	355	-5	97	50-	2	3	378	24.6	
<u>Rigel</u>	D	191	-4	99	63	3	5	232	23.0	
Consort	Hu	243	-4	93-	67	3	5	345	25.7	
Bohatyr	Ni	264	-4	90-	81+	5	6	284	24.5	
Crown	Hu	389	-3	90-	71+	3	5	428	27.1	
Countess	Hu	317	-2	101	70	5	7	381	25.7	
Marrowfats: Target population 65 plants/m²										
<u>Brandon</u>	Sh	291	-6	86-	66	3	4	338	25.2	
Princess	Hu	311	-2	98	68	5	7	372	25.1	
Progreta	Prog	310	0	102	65	3	6	353	26.9	
<u>Maro</u>	GA	304	0	100	62	3	5	401	27.3	
			(16/8)	(7.6t/ha)						
			SD	SD	SD					
			6.5	6.5	7.5					
			4.2	4.2	7.2					
Significance @ P = 0.05										
LSD @ P = 0.05										
C of V %										

KEY: Yield and straw length: + Significantly greater than Maro @ P = 0.05
 - Significantly smaller than Maro @ P = 0.05
 (SL) = Semi-leafless
 (T) = Tare-leaved

Variety	Source	Seed 1000 grain weight (g)	Maturity days earlier (-) or later (+) than Maro	Yield % of Maro @ 16% MC	Straw length (cms)	Standing ability 9=erect 1=lodged	Ease of harvest 9=easy 1=difficult	1000 grain weight (g)	Protein content % of DM	% water uptake
<u>Small Blues:</u>	Target population 95 plants/m ²									
Helka	Ni	224	-10	102	57	5	6	260	22.9	
<u>Large Blues</u>	Target population 70 plants/m ²									
Solara	D	341	-7	112	45-	6	7	336	22.9	
Finale	Ni	293	-7	101	41-	1	2	353	23.9	
Calyпсо	FSF	313	-2	103	43-	2	2	345	23.7	
<u>Whites:</u>	Target population 70 plants/m ²									
Belman	Don	306	-11	84-	51	2	3	321	24.2	
Rigel	D	191	-9	108	59+	4	6	252	24.0	
Cilla	Don	297	-9	106	55	3	5	337	23.7	
Birte	Ni	199	-8	108	54	2	3	302	24.0	
Belinda	Ni	290	-8	105	39-	3	4	322	23.2	
Katrin	Twy	313	-7	109	59+	2	4	355	23.9	
Miranda	D	355	-7	109	45-	2	3	377	24.8	
Consort	Hu	243	-7	108	56	5	7	341	24.4	
Bohatyr	Ni	264	-4	96	68+	4	6	290	23.3	
Crown	Hu	389	-2	108	57	4	6	419	25.5	
Countess	Hu	317	-1	104	61+	4	7	385	25.5	
<u>Marrowfats</u>	Target population 65 plants/m ²									
Brandon	Sh	291	-7	93	57	3	5	322	23.5	
Princess	Hu	311	-2	113	59+	6	8	374	25.2	
Progreta	Prog	310	0	113	55	4	6	348	25.7	
Maro	GA	304	0	100	54	3	5	394	26.9	
	(12/8)	(4.9t/ha)								
	SD	SD								
		13.7			4.6					
		7.9			5.2					

Significance @ P = 0.05

LSD @ P = 0.05

C of V %

KEY: Yield and straw length: + Significantly greater than Maro @ P = 0.05
- Significantly smaller than Maro @ P = 0.05

(SL) = Semi-leafless (T) = Tare-leaved

COMBINING PEA VARIETY STUDIES
 Summary of Agronomic Data - Preliminary Variety Trial, Thornhaugh - 1986
 Standard varieties underlined.
 All varieties sown on 13th March. Results are means of three replicates.

24/1986

Variety	Source	Seed 1000 grain weight (g)	Maturity days earlier(-) or later (+) than Maro	Yield % of Maro @ 16% MC	Straw length (cms)	Standing ability 9=erect 1=lodged	Ease of harvest 9=easy 1=difficult	1000 grain weight (g)	Protein content % of DM	% water uptake
Small Blues:										
<u>Velette</u>	Target population	95 plants/m ²								
	Sh	226	-14	110	-	4	5	271	26.4-	99
<u>Tiara</u>	(SL)	149	-14	103	57	6	7	168	25.4-	98
CJ 2/3	(SL)	173	-12	106	61	6	7	199	24.9	95
Orb (DI 1/1/1/1)	(SL)	241	-12	101	63	7	8	233	25.6	93
Echo (P 69)	(SL)	175	-8	114	66	7	7	263	25.5-	90
Radley	(SL)	205	-7	110	75+	3	5	212	28.1	100
Large Blues:										
	Target population	70 plants/m ²								
Ceb 115 (Agora)	Ceb	283	-5	101	55-	2	4	333	25.1	93
<u>Finale</u>	Ni	279	-4	116+	55-	1	3	343	26.4-	91
<u>Bolero (Ceb 1116)</u>	Ceb	244	-3	117+	60	5	6	296	25.9-	86
Whites:										
	Target population	70 plants/m ²								
<u>Birte</u>	Ni	199	-8	104	-	2	3	281	26.5-	
<u>Esa</u>	(SL)	213	-5	114	62	2	4	227	26.2-	
Osmo	(SL)	190	-4	122+	68	3	5	220	25.0-	
HM 1880 (Romeo)	Ni	279	-3	110	83+	4	6	351	25.3-	
<u>Gitana (Ceb 414)</u>	Ceb	284	-2	111	54-	2	4	353	26.3-	
<u>Progalba</u>	(T)	318	0	120+	73+	4	6	361	25.7-	106
<u>Santa</u>	P&B	300	+8	89	112+	1	2	396	26.9	
Marrowfats:										
	Target population	65 plants/m ²								
<u>DE 1/1/3</u>	(SL)	313	-5	103	64	6	8	345	26.7	104
<u>Progeta</u>	(T)	310	-2	119+	70	5	7	353	25.6-	104
<u>Duchess</u>	(SL)	326	-2	101	66	7	8	361	25.8-	111
Ceb 211	(T)	327	-1	117+	75+	4	6	355	24.6-	104
<u>Empress</u>	(SL)	319	-1	102	75+	6	8	365	25.5-	108
Ceb 210	Ceb	416	-1	86	61	3	5	439	27.1	110
<u>Maro</u>	Hu	304	0	100	64	2	4	395	27.4	108
			(7/8)	(4.9t/ha)						
Bunting	Bat	368	+1	88	65	3	5	394	27.5	105

Continued

COMBINING PEA VARIETY STUDIES (CONT) Summary of Agronomic Data - Preliminary Variety Trial, Thornhaugh - 1986
 Standard varieties underlined. All varieties sown on 13th March. Results are means of three replicates.

Variety	Source	Seed 1000 grain weight (g)	Maturity days earlier(-) or later (+) than Maro	Yield % of Maro @ 16% MC	Straw length (cms)	Standing ability 9=erect 1=lodged	Ease of harvest 9=easy 1=difficult	1000 grain weight (g)	Protein content % of DM	% water uptake
<u>Coloured-flowered:</u>	<u>Large-seeded:</u>	Target population 65 plants/m ²								
<u>Progine (T)</u>	PP	324	0	111	69	5	7	362	25.0-	
<u>Attica (Ceb 305) (T)</u>	Ceb	288	0	107	70	3	4	381	26.0-	
Significance @ P = 0.05				SD	SD				SD	
LSD @ P = 0.05				15.5	7.3				0.77	
C of V %				8.8	6.6				1.8	

KEY: Yield and straw length: + Significantly greater than Maro @ P = 0.05
 - Significantly smaller than Maro @ P = 0.05
 (SL) = Semi-leafless (T) = Tare-leaved

Variety	Source	Seed 1000 grain weight (g)	Maturity days earlier(-) or later (+) than Maro	Yield % of Maro @ 16% MC	Straw length (cms)	Standing ability 9=erect 1=lodged	Ease of harvest 9=easy 1=difficult	1000 grain weight (g)	% water uptake
<u>Small Blues:</u> Target population 95 plants/m ²									
Altella*	P&B	128	-12	88	53	2	4	176	99
Vedette	Sh	226	-11	100	78+	3	4	267	95
FT 2/1/1	Hu (SL)	222	-9	103	62	4	6	253	90
FT 2/6/1	Hu (SL)	188	-7	109	65	4	6	232	94
971 PaH 38	Sh (SL)	174	-7	109	68	4	6	207	88
FT 1/4/1	Hu (SL)	213	-7	99	60	3	5	251	95
W 133/1	NFC	163	-7	96	49-	1	2	195	95
G 26/2a*	P&B	229	-6	102	57	2	5	279	97
<u>Large Blues:</u> Target population 70 plants/m ²									
DP 2/84	Uc (SL)	266	-8	95	48-	7	8	272	84
Finale	Ni	293	-5	94	44-	3	5	333	94
<u>Whites:</u> Target population 70 plants/m ²									
DP 37/84	Uc (SL)	248	-8	111	64	6	7	282	
DP 28/84	Uc (SL)	249	-7	109	70+	4	6	297	
CR 2-354	Twy	230	-7	101	58	3	5	287	
Birte	Ni	199	-7	99	55	2	5	286	
Ceb 1415	Ceb (SL)	251	-4	107	61	3	6	324	
56/1*	P&B	223	-1	98	59	1	2	241	
34/1*	P&B	209	0	80	127	2	5	242	
31/4*	P&B	197	+1	100	61	1	2	252	
<u>Marrowfats:</u> Target population 65 plants/m ²									
Progreta	Prog (T)	310	-1	99	57	5	7	334	105
Maro	GA	304	0	100	59	3	5	377	105
<u>Coloured-flowered:</u> Small-seeded: Target population 95 plants/m ² (5.0t/ha)									
Confidential	-	238	-4	93	102+	2	5	260	
<u>Coloured-flowered:</u> Large-seeded: Target population 65 plants/m ²									
Ceb 304	Ceb	443	-1	98	62	2	4	426	
Significance @ P = 0.05									
LSD @ P = 0.05									
C of V %									
NS									
16.8									
7.8									
SD									
9.6									
7.3									

KEY: Yield and straw length: + Significantly greater than Maro @ P = 0.05 (SL) = Semi-leafless
 - Significantly smaller than Maro @ P = 0.05 (T) = Tare-leaved
 *Denotes varieties replicated only once due to seed shortage - not included in statistical analysis

COMBINING PEA VARIETY STUDIES

Disease Resistance Tests, Main Trial - 1986

Results for downy mildew susceptibility are the mean of tests carried out at two sites. Scores in brackets are the means of three years' data. Results of pea wilt tests are not available for 1986.

Variety	Downy Mildew (<i>Peronospora Viciae</i>) Susceptibility Rating *	
Belinda	GFR	(GFR)
Belman	SS	
Birte	GFR	(GFR)
Bohatyr	GFR	
Brandon	S	
Calypso	GFR	
Cilla	GFR	
Conquest	GFR	(GFR)
Consort	GFR	(GFR)
Countess	MS	
Crown	MS	
Finale	SS	(SS)
Helka	GFR	
Katrin	GFR	
Maro	GFR	(GFR)
Miranda	SS	(SS)
Polaris	MS	
Printana	MS	(MS)
Princess	MS	
Progreta	MS	(MS)
Rigel	GFR	
Solara	GFR	
Vedette	MS	(SS)

* Key: GFR = Good field resistance
 SS = Slightly susceptible
 MS = Moderately susceptible
 S = Susceptible

A P P E N D I X

Full Postal Address

<u>Code</u>		
As	Asgrow Seed Company, Kalamazoo, Michigan, 49001,	U.S.A.
Bat	Batchelors Foods Ltd., Claylands Avenue, Worksop, Notts. S81 7AY	U.K.
Bro	W. Brotherton Seed Co. Inc., P.O. Box 1136, Moses Lake, Washington 98837	U.S.A.
Ceb	Cebeco-Handelsraad, 31 Blaak, Postbus 182, 3000 AD, Rotterdam,	Holland
Cha	Chaldean Ltd., c/o A.J. van Engelen, Chaldean Farm, Much Hadham, Herts. SG10 6HU,	U.K.
Cl	Societe Clause, Compatabilite, 1 Avenue Lucien Clause, 91220 Bretigny, Cedex,	France
CM	Crites-Moscow Growers Inc., Box 8912, Moscow, Idaho, Idaho 83843,	U.S.A.
D	Dalgety Agriculture Ltd., Dalgety House, Works Lane, Setchey, King's Lynn, Norfolk,	U.K.

Full Postal Address

<u>Code</u>		
Do	Donath Seeds, Priory Industrial Estate, Tetbury, Gloucester, GL8 8HZ,	U.K.
DPF	Dansk Planteformaedling A/S, Boelshøj, 4660 Store Heddinge,	Denmark
FSF	Farmers Seeds Federal, Midland Bank Chambers, Leominster, Herefordshire,	U.K.
GA	General availability	U.K.
GV	Gallatin Valley Seed Co., P.O. Box 167, Twin Falls, Idaho 83301,	U.S.A.
Ha	Harlow Agricultural Merchants Ltd., Latchmore Bank, Little Hallingbury, Bishop's Stortford, Herts., CM22 7PJ.,	U.K.
Hu	Hurst Gunson Cooper Taber Ltd. (now Booker Seeds Ltd.) Boston Road, Sleaford, Lincs., NG34 7HA,	U.K.
NFC	New Farm Crops Ltd., Market Stainton Hall, Market Stainton, Lincoln, LN3 5LJ,	U.K.
Ni	Nickersons RPB Ltd., Rothwell, Lincoln, Lincs. LN7 6DT,	U.K.

Full Postal Address

Code

P&B	Peas & Beans Ltd., 15 Cambridge Road, Girton, Cambridge CB3 OPN,	U.K.
PLS	Pure Line Seeds Inc., P.O. Box 8866, Moscow, Idaho 83843,	U.S.A.
PP	Progress Pulses Ltd., 1A Wharfside Mews, Carre Street, Sleaford, Lincs.,	U.K.
Prog	Progeta Ltd., 1A Wharfside News, Carre Street, Sleaford, Lincs.,	U.K.
Rog	International Group, Rogers Brothers Seed Co., P.O. Box 4727, Boise, ID 83711-0727,	U.S.A.
RS	Royal Sluis BV, P.O. Box 22, 1600 AA, Enkhuizen,	Holland
Sem	Semundo Ltd., Unit 55, Clifton Road, Cambridge CB1 4FR	U.K.
Sh	Charles Sharpe & Co. plc., (now Booker Seeds Ltd)., Boston Road, Sleaford, Lincs. NG34 7HA	U.K.
S&G	Sluis & Groot BV, P.O. Box 13, 1600 AA, Enkhuizen,	Holland

Full Postal Address

<u>Code</u>		
Sun	Sunseeds, 9531 West 78th Street, 229 Eden Prairie, Minnesota,	U.S.A.
Twy	Twyfords Seeds Ltd., Scotts Farm, Kings Sutton, Banbury, Oxon OX17 3QW	U.K.
Uc	Unicorn Plant Breeders Ltd., Marsh Lane, Boston, Lincs.,	U.K.
Uni	Unilever Research Laboratory, Colworth House, Sharnbrook, Beds.,	U.K.
vW	Van Waveren Pflanzenzucht GmbH, 3405 Rosdorf, Uber Gottingen,	W. Germany
Ya	Yates Research, Old West Coast Road, Courtenay, R.D. 1 Christchurch,	New Zealand
Vil	Vilmorin-Andrieux, 4 Quai de la Megisserie, 75001 Paris,	France

