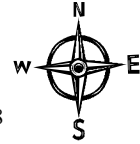


# TRIAL GROUND 2008 – Howells Field

OS Map Reference of field centre: TF 071018



Edamame Bean Varieties	18
Green Bean Flageolet Varieties	17
Green Bean Hand Pick Demonstration Varieties	16
Green Bean Varieties Main & Preliminary	15
Vining Pea Powdery Mildew Susceptibility	14
Vining Pea Herbicide	13
Vining Pea Screening Varieties	12
Vining Pea Preliminary Varieties	11
Vining Pea Main Varieties	10
Combining Pea Recommended List Varieties	9
Spring Field Bean Recommended \ National List Varieties	8
Spring Field Bean Confidential Varieties	7
	6
	5
Winter Field Bean Population Studies	4
Winter Field Confidential Varieties	3
Pulse Varieties Demonstration Plots	2
	1

Field Entrance ↑

Not to scale

## THE TRIAL GROUND: HOWELL'S FIELD

### Main Trial Ground

The trial ground is classified as a silty loam soil type. The pH is 7.4 and the soil status (ADAS Scale) is phosphorus index 3, potassium 1 and magnesium 1.

### Previous cropping

Previous crop    Winter wheat    2007

### Weed control

Broad-leaved weeds were controlled pre-emergence with Battalion in winter field beans and with Skirmish in spring sown peas and field beans. Broad leaf weed control in green beans was with Stomp pre-emergence.

### Seed treatments

For the variety trials all vining and marrowfat combining pea seed was treated with the fungicide Wakil XL to control downy mildew, *Ascochyta* and damping-off diseases, other varieties were treated with Hy-TL. Green bean seed was treated to protect against damping-off diseases and bean seed fly.

### Acknowledgements

Many trials are carried out under contract to agrochemical companies and seedsmen and their support is gratefully acknowledged. Thanks are also due to chemical companies and seedsmen for provision of materials for use in trials. We also thank farmers for their help in providing sites for off-site trials.

## LIST OF TRIALS AT THORNHAUGH

### Trial No.

#### **PEAS (*PISUM SATIVUM*)**

- 9 Combining pea Recommended List variety trial
- 10 Vining pea Main variety trial
- 11 Vining pea Preliminary variety trial
- 12 Vining pea Screening variety trial
- 13 Vining pea herbicide trial
- 14 Varietal susceptibility to pea powdery mildew

#### **FIELD BEANS (*VICIA FABA*)**

- 3 Winter field bean Confidential Screening variety trial
- 4 Winter field bean population studies
- 5, 6 & 7 Spring field bean Confidential screening variety trials
- 8 Spring field bean Recommended & National List variety trial

#### **PEAS & FIELD BEANS**

- 1 PCGIN

#### **GREEN BEANS (*PHASEOLUS VULGARIS*)**

- 15 Green bean Main & Preliminary variety trial
- 16 Hand picked demonstration of *Phaseolus* beans
- 17 Flageolet bean varieties

#### **EDAMAME BEANS (*Soya* spp.)**

- 18 Edamame bean varieties

#### **WINTER & SPRING BEANS & PEAS**

- 2 Demonstration area of pulse varieties

## TRIAL No. 1 (Fruit Cage)

### PCGIN (DEFRA FUNDED)

Sown: 19th March 2008

Object: To evaluate a range of vining pea, combining pea and field bean lines from the John Innes Gene Bank for useful traits that can be developed in future breeding programmes.

Design: Replicated micro plots of 1.2 m<sup>2</sup> twice were sown under full bird and mammal protection.

## TRIAL No. 2

### DEMONSTRATION AREA OF PULSE VARIETIES

Sown: 12th November 2007 (winter beans) & 18th March 2008 (spring beans & peas)

Object: Demonstration area of Recommended List and candidate varieties of winter and spring beans and spring peas, plus selected additional varieties.

Design: Single replicate. Plot size 10m x 1.80 m

#### Winter Beans – The PGRO RL trial is based off-site for 2008

Variety	RL status	Seed type	Agent
Clipper	R	Black hilum	Wherry
Wizard	R	Pale hilum	Wherry
Griffin	P2	Black hilum	Wherry
Arthur	P1	Black hilum	Wherry
Sultan	Year 1	Pale hilum	Wherry
Husky	Year 1	Pale hilum	LS Plant Breeding

#### Spring beans - The RL trial is trial number 8

Variety	RL status	Seed type	Agent
Syncro	R	Pale hilum	KWS
Fuego	R	Pale hilum	Nickerson-Advanta
Ben	R	Pale hilum	Nickerson-Advanta
Memphis	P1	Pale hilum	Nickerson-Advanta
Betty	P1	Pale hilum	KWS
Tattoo	Year 1	Pale hilum	KWS
CPBT SB11	Year 1	Pale hilum	KWS

#### Spring Peas – The RL trial is trial number 9

Variety	RL status	Seed type	Agent
Nitouche	R	LB	Nickerson-Advanta
Bilbo	R	W	Nickerson-Advanta
Prophet	P2	LB	Nickerson-Advanta
Venture	R	LB	Genesis
Paris	P2	LB	Nickerson-Advanta
Crackerjack	P1	LB	Daltons
Bluemoon	P1	LB	Dalgety
Raptor (DS 49639)	Year 1	LB	Dalgety
Rocket	R	W	Nickerson-Advanta
Mascara	P2	W	Senova
Ragtime	P2	W	Dalgety
Respect (DS49606)	Year 1	W	Dalgety
Gregor	Year 1	W	LS Plant Breeding
Avisio (05-Sch19)	Year 1	W	Nickerson-Advanta

Tonga (A2023.2)	Year 1	W	Nickerson-Advanta
Kahuna	R	MF	Nickerson-Advanta
Samson	R	MF	Nickerson-Advanta
Genki	P2	MF	Daltons
Falstaff	P1	MF	Nickerson-Advanta
Sakura	P1	MF	Daltons

### **TRIAL No. 3**

#### **WINTER FIELD BEAN CONFIDENTIAL SCREENING VARIETY TRIAL**

Sown: 12th November 2007

Object: To evaluate the usefulness of new winter bean varieties.

### **TRIAL No. 4**

#### **WINTER FIELD BEAN POPULATION STUDIES (PGRO Pulse Levy Funded)**

Sown: 14th November 2007

Variety: Wizard

Object: To evaluate the optimum plant population of the winter bean variety, Wizard. With the development of more determinate and higher yielding varieties of winter beans, it is necessary to re-evaluate the optimum sowing density. A second trial site is being carried out on heavier soil type at Baston, Lincs. This is the final year of the three year project.

Treatments:

<u>Plot No</u>	<u>Target population</u>
1	10 /m <sup>2</sup>
2	20 /m <sup>2</sup>
3	30 /m <sup>2</sup>
4	40 /m <sup>2</sup>

Design: Randomised complete block, 6 replications. Plot size 12 m x 1.80 m.

### **TRIAL Nos. 5, 6 & 7**

#### **SPRING FIELD BEAN CONFIDENTIAL SCREENING VARIETY TRIALS**

Sown: 6th March

Object: To evaluate the usefulness of new spring bean varieties.

### **TRIAL No. 8**

#### **SPRING FIELD BEAN RECOMMENDED & NATIONAL LIST VARIETY TRIAL**

Sown: 14th March

Object: To evaluate the usefulness of varieties at Recommended List & National List stage of evaluation. The Recommended List Trial is one of a series of nine nationally, all funded by PGRO Pulse Levy. NL varieties are evaluated on behalf of BSPB. Additional varieties are evaluated on a confidential basis.

Treatments: 6 NL & 7 RL varieties. Sown at 40 plants/m<sup>2</sup> target population in ten rows, 15 cm row width. Standard varieties Syncro and Fuego. Additional varieties are evaluated on a confidential basis.

Design: Complete block, 3 replications (restricted height design). Plot size 17 m x 1.80 m.

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>	<u>Stage/Status</u>
308	NPZ 5-7680	LS Plant Breeding	NL2
309	NPZ 5-7701	LS Plant Breeding	NL2
310	LAN 07934	Nickerson-Advanta	NL2
311	NPZ 7-7301	LS Plant Breeding	NL1
312	Fuego	KWS	RL
313	Syncro	Nickerson-Advanta	RL
314	Memphis	Nickerson-Advanta	RLP1
315	Tattoo	KWS	RL year 1
316	CPBT SB11	KWS	RL year1
317	LAN 08935	Nickerson-Advanta	NL1
318	Betty	KWS	RLP1
319	NPZ 5-7690	LS Plant Breeding	NL2
320	Ben	KWS	NL1

**Additional varieties of spring beans grown on behalf of seed companies**

321	Confidential	Confidential
322	Confidential	Confidential
323	Confidential	Confidential
324	Confidential	Confidential
325	Confidential	Confidential
326	Confidential	Confidential
327	Confidential	Confidential
328	Confidential	Confidential
329	Confidential	Confidential
330	Confidential	Confidential
331	Confidential	Confidential

**TRIAL No. 9**

**COMBINING PEA RECOMMENDED LIST VARIETY TRIAL (PGRO PULSE LEVY FUNDED)**

Sown: 19th March

Object: To evaluate the usefulness of the most promising varieties from National List Trials in a joint NIAB/PGRO National Series (9 sites) funded by PGRO Pulse Levy. PGRO sites are at Thornhaugh and Chatteris, Cambridgeshire.

Treatments: 20 varieties sown in ten rows, 15 cm row width, at a target population of 70 plants/m<sup>2</sup>. New varieties are high yielding and semi-leafless plant types. Additional varieties are evaluated on a confidential basis.

Design: Incomplete block, 3 replications. Plots 17 m x 1.83 m.

<u>Plot No.</u>	<u>Type</u>	<u>Variety</u>	<u>Source</u>	<u>Stage/Status</u>
201	LB	Nitouche	Nickerson-Advanta	RL
202	MF	Sakura	Daltons	RLP1
203	W	Tonga (A2023.2)	Nickerson-Advanta	Year 1
204	LB	Venture	Daltons	RL
205	W	Mascara	Senova	RLP2
206	W	Aviso	Nickerson-Advanta	Year 1
207	W	Bilbo	Nickerson-Advanta	RL
208	W	Respect	Dalgety	Year 1
209	W	Ragtime	Dalgety	RLP2
210	LB	Paris	Nickerson-Advanta	RLP2
211	MF	Genki	Daltons	RLP2

212	W	Gregor	LS Plant Breeding	Year 1
213	LB	Bluemoon	Dalgety	RLP1
214	LB	Prophet	Nickerson-Advanta	RLP2
215	LB	Crackerjack	Daltons	RLP1
216	LB	Raptor	Dalgety	Year 1
217	MF	Falstaff	Nickerson-Advanta	RLP1
218	MF	Samson	Nickerson-Advanta	RL
219	MF	Kahuna	Nickerson-Advanta	RL
220	W	Rocket	Nickerson-Advanta	RL

**Additional Varieties of spring peas grown on behalf of seed companies**

221		Confidential	Confidential
222		Confidential	Confidential
223		Confidential	Confidential
224		Confidential	Confidential
225		Confidential	Confidential
226		Confidential	Confidential
227		Confidential	Confidential
228		Confidential	Confidential
229		Confidential	Confidential
230		Confidential	Confidential
231		Confidential	Confidential

**TRIAL No. 10**

**VINING PEA MAIN VARIETY TRIAL**

Sown: 19th March

Object: To evaluate the most promising varieties in terms of field performance and suitability for processing, selected from the 2006 and 2007 Preliminary Trials. This trial is being repeated on a silt soil type near Holbeach, S. Lincolnshire area with funding from HDC.

Treatments: 10 varieties, including standards Avola, Bikini (yield) and Ambassador. Oasis is included as a possible future yield standard. Sown in ten rows, 15 cm row width, at a target population of 90 plants/m<sup>2</sup>.

Design: Thornhaugh: Randomised block, 3 replications. Plots 19 m x 1.83 m. Three harvest areas of 5 m x 1.5 m and maturity test areas.

Holbeach: Randomised block, 2 replications. Plots 19 m x 1.83 m. Four harvest areas of 4 m x 1.5 m and maturity test areas. Please see Off-Site trials information - Trial No. 20

**Thornhaugh**

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
01	Avola	Asgrow, USA
02	8530702	Asgrow, USA
03	-	-
04	Recital (D 84171)	S & G Seeds, France
05	Bikini	S & G Seeds, France
06	DS 89201	Danisco, Denmark
07	Boogie	van Waveren, Germany
08	Oasis	Sharpes, UK
09	Ambassador	van Waveren, Germany
10	Biktop	S & G Seeds, France

Note most petits pois varieties are now evaluated at a site away from PGRO, please see PGRO Off-Site trials information - Trial No. 19

## TRIAL No. 11

### VINING PEA PRELIMINARY VARIETY TRIAL

Sown: 16th April

Object: To evaluate new varieties of vining peas at National List stage of testing in an EU member country in terms of yield, performance and suitability for processing. Types with reduced foliage and petits pois alternatives to Waverex are still sought by the Industry

Treatments: 16 varieties including standards Avola, Bikini (yield) and Ambassador. Oasis is included as a possible future yield standard. Sown in ten rows, 15 cm row width at a target population of 90 plants/m<sup>2</sup>.

Design: Randomised block, 3 replications. Plots 19 m x 1.83 m. Three harvest areas of 5 m x 1.5 m and maturity test areas.

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
16	DS 89264	Danisco, Denmark
15	D 85051	S & G Seeds, France
24	Sh 0667.48	Sharpes, UK
19	Sh 8763.14	Sharpes, UK
23	D 164183	S & G Seeds, France
20	08530727	Asgrow, USA
17	Bikini	S & G Seeds, France
21	Oasis	Sharpes, UK
26	DS 89266	Danisco, Denmark
12	Pizarro	Asgrow, USA
18	Sh 0648.13	Sharpes, UK
13	Prevail	Pure Line Seeds, USA
14	CMG 407AF	Crites Moscow, USA
11	Avola	Asgrow, USA
22	Ambassador	van Wavern, Germany
25	CMG 415 AF	Crites Moscow, USA

## TRIAL No. 12

### VINING PEA SCREENING VARIETY TRIAL

Sown: 19th April

Object: To evaluate the commercial usefulness of new vining pea varieties.

Treatments: 13 varieties, including standards Avola Bikini, (Oasis) and Ambassador (from adjacent Preliminary Trial). Sown in ten rows, 15 cm row width, at a target population of 90 plants/m<sup>2</sup>.

Design: Randomised block, 2 replications. Plots 19 m x 1.83 m. Three harvest areas of 5 m x 1.5 m.

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
27	PLS-12	Pure Line Seeds, USA
28	PLS-286	Pure Line Seeds, USA
29	Wav 4057	van Wavern, Germany
30	Nun 5128	Nunhems, Holland
31	DS 89285	Danisco, Denmark
32	Wav 5307	van Wavern, Germany
33	PI 9703	PGG Wrightson Seeds, New Zealand
34	DS 89281	Danisco, Denmark
35	Wav 7952	van Wavern, Germany

## TRIAL No. 13

### VINING PEA HERBICIDE TRIAL

## TRIAL No. 14

### VARIETAL SUSCEPTIBILITY TO PEA POWDERY MILDEW

Sown: 23rd May 2008

Object: To evaluate vining pea varieties for their relative resistance to powdery mildew.

Design: Two rows of 100 seeds, two replications. The varieties sown are Biktop, Recital, CMG409AF, Ambience, Premio, Boogie, Noriot, Spandimo, Tiffany, Wav 9262, DS89201, 8530702. Planted late in the season to attract a natural infection of powdery mildew. Varieties will be assessed as susceptible or resistant at the full pod stage.

## TRIAL No. 15

### GREEN BEAN MAIN & PRELIMINARY VARIETY TRIALS

Sown: 22nd May 2008

Object: Evaluation of the most promising varieties from previous Preliminary trials in terms of field performance, processing quality and machine harvestability.

Treatments: 12 varieties in Main Trial including standards Laguna (intermediate), Lasso (fine short podded), 5 varieties in Preliminary have been entered this year. Sown in five rows, 25 cm width at a target population of 45 plants/m<sup>2</sup>.

Design: Randomised block, 3 replications. Maturity test area and 3 areas for machine harvesting. Harvest area 5 m x 3 rows.

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
<b>Standards</b>		
404	Lasso	Pop Vriend, Holland
414	Laguna	Pop Vriend, Holland
<b>Main Trial Varieties</b>		
401	Stanley	Holland Select
402	Venice(PV 695)	Pop Vriend, Holland
403	BX 6002	Crites Moscow
405	Orlando (PV 693)	Pop Vriend, Holland
407	BX 6011	Crites Moscow
408	Casher	S & G Seeds, France
409	PV 717 (Almaty)	Pop Vriend, Holland
410	BB 2195	Bakker Bros, Holland
411	BB 2196	Bakker Bros, Holland
412	BB 2200	Bakker Bros, Holland
<b>Preliminary Trial Varieties</b>		
406	PV 697	Pop Vriend, Holland
413	Scuba	Pop Vriend, Holland
415	Carana	Nunhems, Holland
416	Nun 6134	Nunhems, Holland
417	Nun 5009	Nunhems, Holland

## TRIAL No. 16

### HAND PICK DEMONSTRATION OF *PHASEOLUS* BEANS

Sown: 20th May 2008

Object: To try and create an interest in other types of beans and with the support of various seed houses. This is the fourth year of the demonstration of wax and flat podded varieties.

Treatments: 4 varieties grown in single plots for hand harvesting, sown in five rows, 25 cm width at a target population of 45 plants/m<sup>2</sup>.

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
1	Poseidon	Pop Vriend, Holland
2	Concador	Pop Vriend, Holland
3	Castore	van Waveren, Germany
4	Uranus	Bakker Bros, Holland

## TRIAL No. 17

### FLAGEOLET BEAN VARIETIES (HDC FUNDED)

Sown: 20th May 2008

Object: To evaluate a range of varieties of flageolet beans at two densities, in replicated small plot trials and to assess their suitability for UK commercial production. To develop crop growing and processing guidelines flageolet production.

Treatments: 4 varieties grown in replicated plots, sown in five rows, 25 cm width at Two target populations of 30 plants/m<sup>2</sup> and 45 plants/m<sup>2</sup>.

Design: Randomised block, 4 replications, for hand harvesting and threshed through static pea viner. Harvest area 5 m x 3 rows

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
001	Flavert	Nickerson Zwaan, Holland
002	Flaforte	Pop Vriend, Holland
003	Flagrano	Holland Select, Holland
004	Univert	Nickerson Zwaan, Holland

## TRIAL No. 18

### EDAMAME BEAN VARIETIES (HDC FUNDED)

Sown: 20th May 2008

Object: To evaluate a range of non-GM varieties of edamame beans at two densities, in replicated small plot trials and to assess their suitability for UK commercial production. To develop crop growing and processing guidelines for edamame production.

Treatments: 10 varieties grown in replicated plots, sown in five rows, 30 cm width at Two target populations of 30 plants/m<sup>2</sup> and 40 plants/m<sup>2</sup>

Design: Randomised block, 3 replications, for machine harvesting. Harvest area 5 m x 3 rows.

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
001	PVSL ED 5	ProVeg Seeds, UK
002	PVSL ED 6	ProVeg Seeds, UK
003	PVSL ED 1	ProVeg Seeds, UK
004	PVSL ED 9	ProVeg Seeds, UK
005	ED 30	Confidential

