

PGRO OFF-SITE TRIALS - 2008

Many trials and experiments are carried out off-site in commercial crops in the main production areas on a wide range of soils. This allows evaluation to be made where particular soil types, weeds, pests or diseases occur.

Combining pea Recommended List variety trial	(1 site) Chatteris, Cambs
Combining pea Recommended List variety trial	(1 site) Stubton, Notts
Winter Field Bean National / Recommended List variety trial	(1 site) Baston, Lincs
Winter Field Bean Population Studies	(1 site) Baston, Lincs
Spring Field Bean Recommended List variety trial	(1 site) Wicken, Bucks,
Vining pea petits pois variety trial	(1 site) Holbeach Hurn, Lincs
Vining pea standard pea Main variety trial	(1 site) Holbeach Hurn, Lincs
Carrot Chantenay baby whole variety trial	(1 site) Driffield, East Yorkshire
Carrot Nantes - Berlicum variety trial	(1 site) Driffield, East Yorkshire
Varietal susceptibility of peas to herbicides	(1 site) Holbeach, Lincs
Herbicide development in spring beans	(2 site) Northants, Cambs
Herbicide development in vining peas	(6 sites) Lincs,
Herbicide development in combining peas	(1 site) Lincs
Herbicide development winter beans	(3 sites) Northants, Lincs
Herbicide evaluation and direct drilling	(1 site) Rutland
Downy mildew - varietal susceptibility in peas	(2 sites) Lincs
Field bean fungicides	(1 sites) Northants
Bean bruchid control (Bruchid-LINK)	(3 sites) Lincs, Norfolk
Fungicide evaluation for Sclerotinia control in vining peas	(1 sites) Lincs
Volunteer potato control in vining peas	(2 sites) Lincs
Volunteer borage control in vining peas	(1 site) Lincs
Lupin varieties - descriptive list trial	(1 site) Waterbeach, Cambs
Lupin herbicides – LISA project	(2 sites) Cambs and Staffs
Vining pea precision drilling	(3 sites) Yorkshire
Edamame and Flageolet bean evaluations	(3 sites) Yorkshire, Lincolnshire and Norfolk
Parsnip variety trial	(1 site) Land of Nod, East Yorkshire.
Mustard herbicide, fungicide & fertiliser development	(2 sites) Cambs

TRIAL No. 19

VINING PEA PETITS POIS MAIN & PRELIMINARY VARIETY TRIAL – SEEDSMEN FUNDED

Location: Holbeach Hurn, Lincs. OS map Ref TF410276

Sown: 11th March

Object: To evaluate the most promising petits pois varieties in terms of field performance and suitability for processing, when grown on a soil type best suited to their production. Main Trial varieties were selected from 2006 and 2007 Preliminary Trials.

Treatments: 7 varieties, including standards Waverex and Bikini (yield). Sown in ten rows, 15 cm row width, at a target population of 90 plants/m².

Design: Randomised block, 2 replications. Plots 19 m x 1.83 m. Three harvest areas of 4 m x 1.5 m and maturity test areas.

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
Main Trial Varieties		
111	Wav 9262	van Waveren, Germany
112	Noroit	van Waveren, Germany
113	Waverex	van Waveren, Germany
114	Tiffany	van Waveren, Germany
115	CMG 409 AF	Crites Moscow, USA
116	Ambience (082 30741)	Asgrow, USA
Preliminary Trial Varieties		
117	RF 2087	Vilmorin, France

TRIAL No. 20

VINING PEA STANDARD PEA MAIN VARIETY TRIAL – HDC FUNDED

Location: Holbeach Hurn, Lincs. OS map Ref TF410276

Sown: 11 March

Object: This is a duplicate of the trial at PGRO. To evaluate the most promising standard varieties in terms of field performance and suitability for processing, when grown on a light silt soil type. Main Trial varieties were selected from 2006 and 2007 Preliminary Trials.

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/m².

Design: Randomised block, 2 replications. Plots 19 m x 1.83 m. Three harvest areas of 4 m x 1.5 m and maturity test areas.

<u>Plot No.</u>	<u>Variety</u>	<u>Source</u>
101	Avola	Asgrow, USA
102	8530702	Asgrow, USA
103	-	-
104	Recital (D 84171)	S & G Seeds, France
105	Bikini	S & G Seeds, France
106	DS 89201	Danisco, Denmark
107	Boogie	van Waveren, Germany
108	Oasis	Sharpes, UK
109	Ambassador	van Waveren, Germany
110	Biktop	S & G Seeds, France

TRIALS SPONSORED BY SEED COMPANIES

CARROT CHANTENAY - BABY WHOLE VARIETY TRIAL

Ongoing work looking at varietal suitability for both canning whole and baby fresh market carrots. With special attention paid to flavour and tolerance to Cavity Spot.

5 varieties are to be sown in 3 replicates by the 5th June at Driffield, East Yorkshire. By kind permission of Huntapac Ltd.

Contact for this project is Barrie Smith.

CARROT NANTES - BERLICUM VARIETY TRIAL.

Ongoing work looking at varietal suitability for both canning sliced and fresh market whole carrots. With special attention paid to flavour and tolerance to Cavity Spot.

20 varieties are to be sown in 3 replicates by the 5th June at Driffield, East Yorkshire. By kind permission of Huntapac Ltd.

Contact for this project is Barrie Smith.

TRIALS SPONSORED BY PGRO PULSE LEVY

Through an expert industry panel, with members nominated by the NFU, AIC, BEPA and BSPB a programme of R&D work is agreed each autumn that can be funded from PGRO pulse levy remittances. Staff can be contacted to discuss these projects or any aspect of pulse growing. The following work is being carried out in 2008:

RECOMMENDED LIST & SPRING LUPIN DESCRIPTIVE LIST VARIETY TRIALS

With all pulse crops being grown with low inputs, the evaluations of new varieties will always be a priority operation. Recommended Lists are produced for Spring Peas, Spring Beans and Winter Beans and trials are arranged in all the major production areas. For 2008, trials have also been arranged for Spring Lupins with the aim of producing a descriptive list of varieties for this crop.

Contractor & approximate location	RL Winter Beans	RLSpring Beans	RLSpring Peas	DLSpring Lupins
NIAB - Cambridge	*	*		
NIAB - Headley Hall, N.Yorks	*✓	*	*	
NIAB - Wye, Kent	*	*	*	
NIAB - Callow, S.Hereford	*	*	*	*
NIAB - Stetchworth, Cambs	*	*		
NIAB - Cockle Park, Northumberland		*		
NIAB - Itchen Stoke, Hamps			*M	
PGRO – Baston. Lincs	*✓			
PGRO - Thornhaugh, Cambs		*✓	*M	
PGRO - Chatteris, Cambs			*M	
PGRO - Stubton, Notts			*	
PGRO - Landbeach, Cambs				*
PGRO – Wicken, Bucks		*		
TAG – Taunton, Somerset		*		
SACCS - Oakley, Essex			*M	
Advanta - Docking, N. Norfolk			*M	
	6 Sites	9 Sites	9 sites	2 Sites

M=marrowfat sites, ✓= combined NL/RL

Our partners are NIAB, TAG, Nickerson-Advanta, and Suffolk and Cambridge Crops Station.

WINTER FIELD BEAN POPULATION STUDIES

Sown: 13th 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. This second trial site is being carried out on heavier soil type at Baston, Lincs., with a duplicate trial drilled at Thornhaugh This is the final year of the three year project.

Treatments:

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

Design: Randomised complete block, 6 replications. Plot size 10 m x 1.80 m.

LISA LINK - LUPINS IN SUSTAINABLE AGRICULTURE - sponsored through the Defra Sustainable Arable Link Programme (IBERS, UNIVERSITY OF NEWCASTLE, TAG, PGRO)

This five year project is the first comprehensive evaluation of the advantages and disadvantages of this crop for organic and conventional use in the UK. Comparisons with other grain legumes will analyse on farm nutrient budgets, feed utilisation, emissions from animal wastes and agronomic factors. Molecular markers for key traits will be identified and brought together as a 'breeder's toolkit' available for Lupin improvement.

In the final year of the project, PGRO is carrying out two off-site trials in Staffordshire (angustifolius type) and in Cambridgeshire (albus type) to evaluate and compare pre-emergence herbicides and to develop data for a post emergence option.

Contact for this project is Dr. Michael Abberton at IGER and Paul Armitage at PGRO.

BRUCHID LINK – INTEGRATED CONTROL OF BRUCHID BEETLE IN SPRING AND BROAD BEANS - sponsored through the Defra Sustainable Arable Link Programme (PGRO, Rothamsted Research, NIAB)

Damage by the pest devalues the beans for export or other premium markets. Control is often erratic and following the high levels of damage experienced last year, a re-appraisal of control strategy is required. This series of trials, at locations with a history of Bruchid damage, is concerned with correlating insect activity with temperatures and the optimum timing of insecticide sprays. Other areas of work being carried out include the evaluation of insecticides, spray application methods and semiochemicals activity for a monitoring system. In addition, a screen of germplasm of exotic and commercial lines is being done at Cambridge to evaluate varietal resistance.

This is part of a three year project. Contact for this project is Dr. Anthony Biddle.

TRIALS SPONSORED BY HDC

PARSNIP VARIETY TRIAL

An evaluation of a range of new and existing Parsnip varieties, with emphasis on yield, quality, disease tolerance, field storability and winter hardiness.

Contact for this project is Barrie Smith.

EDAMAME and FLAGEOLET BEANS: EVALUATION OF VARIETIES and GROWING TECHNIQUES

As a new opportunity, Edamame and Flageolet beans could be of particular interest to:

- a. existing vining pea or combining pea growers and also green bean producers who have the necessary machinery for drilling and harvesting.
- b. existing fresh market growers of green beans and garden peas.
- c. organic growers.

To evaluate selected non GM varieties in small farm trials with commercial growers in Yorkshire, Lincolnshire and Norfolk using commercial harvesting equipment. To develop crop growing and processing guidelines for both fresh market producers and processed crops.

Contact for this project is Barrie Smith.

TRIALS SPONSORED BY PGRO LEVY

VINING PEAS: EVALUATION OF PRECISION DRILLING

There is little published information on the value of precision type drills for vining peas to justify its use in preference to conventional drilling systems. Following initial research funded by HDC, PGRO is continuing the work to determine the benefits of precision drilling and an evaluation of the optimum seed rates in this system with three vining pea varieties at three locations in Yorkshire.

Contact for this project is Barrie Smith.

YIELD TENDEROMETER RELATIONSHIP

Yield data from current commercial vining pea varieties are being correlated with Tenderometer values to produce a series of comparative charts to update the information on the yield relationship with maturity. The varieties Waverex, Ambassador and Bikini are being grown at Thornhaugh.

Contact for this project is Steve Belcher.

TENDEROMETER/TEMPERATURE RELATIONSHIP

A small investigation on the effects of temperature on the TR readings of vined peas is being undertaken for the second year.

Contact for this project is Mark White.

VOLUNTEER POTATO CONTROL IN VINING PEAS

Volunteer potato control continues to be a problem in the vining pea crop since the withdrawal of Fortrol (cyanazine). This work examines UK cleared material at various doses and in combinations to hopefully control/suppress the plant or prevent berry formation.

Contact for this project is Jim Scrimshaw.

VOLUNTEER BORAGE CONTROL IN VINING PEAS

Volunteer borage is becoming an increasing problem and a specific means of control is unrecognised using the chemicals available. Experiences from New Zealand have pointed at a bentazone + MCPB mix being effective, this is being investigated along with the possibility of using oil + herbicide in the pea crop at the post-emergence timing.

Contact for this project is Jim Scrimshaw.