

Potatoes in Practice 2009

Field Trials & Demonstrations

SCRI (Scottish Crop Research Institute)

Contact Details:

Invergowrie, Dundee DD2 5DA

Tel: +44 (0) 1382 562 731

Fax: +44 (0) 1382 562 426

The application of new developments to potato breeding at SCRI.

Contact Details:

Finlay Dale and Glenn Bryan

Email: Finlay.Dale@scri.ac.uk, Glenn.Bryan@scri.ac.uk

Genetics and breeding of potatoes at SCRI uses the latest methods of gene discovery to find the genes required for the genetic improvement of the potato; and then uses efficient breeding methods to transfer these genes into potatoes that can be used as parents in the breeding of new cultivars in a number of breeding programmes. Desirable genes are sought in the wide range of germplasm held at SCRI, including accessions of the wild and cultivated potatoes of Latin America in the Commonwealth Potato Collection (CPC), and long-day-adapted *Phureja* potatoes derived from the CPC.

The breeding of cultivars is commercially funded and success requires producing new cultivars with the qualities demanded by processors and supermarkets. We have developed a potato breeding strategy at SCRI which avoids the ineffective practice of intense early-generation visual selection between seedlings in a glasshouse and spaced plants at a seed site (Bradshaw et al., 1998, 2003), with emphasis on progeny tests (seedling tests for disease and pest resistance and visual assessment of tubers; and tuber tests for fry colour and further visual assessment) being used to discard whole progenies before starting conventional within-progeny selection at unreplicated small-plot stage and to place selection pressure within the superior families.

However, potato breeding is now entering a new phase that promises much. Molecular markers have been developed for selection of several important disease resistance and quality traits in potato. We are now starting to deploy such markers within breeding programmes here at SCRI. This is coupled to research at SCRI and others in a world-wide consortium Potato Genome Sequencing Consortium (PGSC), aiming to elucidate the entire potato DNA sequence by the end of the year 2010. This will greatly facilitate gene isolation and allow molecular geneticists to use candidate gene approaches for trait gene discovery. This in turn will have radical effects on potato breeding. Examples of the application of molecular markers to potato breeding programmes and their benefits will be discussed at Potatoes in Practice 2009.

Genes for Breeding: Where do they come from?

Contact Details:

Gavin Ramsay and Gaynor McKenzie

Email: Gavin.Ramsay@scri.ac.uk, Gaynor.Mckenzie@scri.ac.uk

The ultimate origin of the cultivated potato has been located in S Peru using DNA techniques which

revealed a strong affinity to wild species there. What has happened since that first domestication event? This display will chart the movement of cultivated potato along the Andes and show some of the possible involvement of wild species as potato adapted to new areas of South America after that initial domestication. More recently modern breeders have been making planned crosses and sampling the genetic riches found in the related wild species. For example, resistance to late blight has been introgressed into cultivated potato from a number of wild species in Mexico and Argentina. *S. demissum* was the first and most important of these, donating a series of R-genes to cultivated potato. Resistance to potato cyst nematode has also come from wild species, including *S. vernei* and *S. spgazzinii*, these from a different part of South America where this pest has applied selecting pressure to natural populations. Virus resistance has been contributed by *S. chacoense* and *S. acaule*. These species, together with further ones under active exploitation such as *S. bulbocastanum*, will be on display to show the diversity of wild potato species and their origins.

SAC (Scottish Agricultural College)

Contact Details:

Stuart Wale

SAC, Ferguson Building, Craibstone Estate, Aberdeen AB21 9YA

Tel: +44 (0) 1224 711 213

Email: stuart.wale@sac.co.uk

POTATO: A15674A best use for the control of a range weeds and RETRO dose justification (in conjunction with Syngenta Crop Protection Ltd.)

This trial focuses on Syngenta's continuing development of A1412A as a contact herbicide in potatoes with the aim of seeking registration for the higher 4.0lt/ha rate for the 2010 growing season. The trial also demonstrates A1412A at different rates and in sequence with different residual herbicides. Also demonstrated is the development herbicide A145674 for efficacy.

Treatments

	Treatment	Rate	Treatment	Rate	Timing
1	UT				
2	A15674A	4			Pre-em
3	A15674A	5			Pre-em
4	LIN + MTZ	1.2+0.5			Pre-em
5	LIN + DEFY	1.2+4			Pre-em
6	A15674A	4	<i>fb</i> A1412A + Activator 90	2 + 0.1%	Pre-em <i>fb</i> 40%em*
7	A15674A	4	<i>fb</i> A1412A + Activator 90	3 + 0.1%	Pre-em <i>fb</i> 40%em*
8	A15674A	4	<i>fb</i> A1412A + Activator 90	4 + 0.1%	Pre-em <i>fb</i> 40%em*
9	LIN + MTZ	1.2+0.5	<i>fb</i> A1412A + Activator 90	2 + 0.1%	Pre-em <i>fb</i> 40%em*
10	LIN + DEFY	1.2+4	<i>fb</i> A1412A + Activator 90	2 + 0.1%	Pre-em <i>fb</i> 40%em*
11	A15674A	4	+ A1412A	2	40% emergence*
12	LIN + MTZ	1.2+0.5	+ A1412A + Activator 90	2 + 0.1%	40% emergence*
13	LIN + DEFY	1.2+4	+ A1412A	2	40% emergence*
14	LIN + DEFY	1.2+4	+ BASTA	2	40% emergence*
15	LIN + DEFY	1.2+4	+ SHARK	0.33	40% emergence*

fb = Followed by

A1412A = RETRO, LIN = Linuron (ALPHA LINURON = 1.2lpr/ha),

Evaluation of Basta for weed control in potatoes (in conjunction with Bayer

CropScience Ltd.)

Basta offers an alternative contact weed option for use with a residual herbicide for broadleaved weed and annual meadow grass control. It has a wide weed spectrum with few gaps. In this trial it is demonstrated in combination with different rates of residual herbicides at the pre-emergence timing. The treatments are compared with an unplanted bed to demonstrate the importance of crop competition to weed control.

Treatments

		Rate	Pre-em
1	UNTREATED		
2	BASTA	2.0 Lt	Pre-em
3	BASTA	3.0 Lt	Pre-em
4	BASTA	2.0 Lt	Pre-em
	SENCOSEX WG	0.75Kg	Pre-em
5	BASTA	2Lt	Pre-em
	SENCOSEX WG	0.5 KG	Pre-em
6	BASTA	2.0Lt	Pre-em
	ARTIST	1.5 Kg	Pre-em
7	BASTA	2.0 Lt	Pre-em
	ARTIST	2.0Kg	Pre-em
8	SHARK	0.33 Lt	Pre-em
9	RETRO	2.0 Lt	Pre-em
	ACTIVATOR 90	0.2 0Lt	Pre-em

Linuron positioning in pre-emergence programmes (in conjunction with Makhteshim Agan (UK) Ltd.)

The 2009 season saw the introduction of a new label for Linuron as Alpha Linuron 50 SC marketed by Makhteshim Agan (UK) Ltd. The maximum dose of 1.2lt/ha effectively positions Linuron as a mixer product with other residual herbicides such as Defy and Metribuzin, (Shotput in this trial). This trial also looks at the development of Hurricane as a long term development herbicide in potatoes should the industry lose existing products under EU directive 91/414.

Treatment Number		Rates Lt/ha
	Pre emergence of weed/crop	
1	untreated	
2	Alpha Linuron	1.2
3	Alpha Linuron + Shotput	1.2 + 0.5
4	Alpha Linuron + Shotput + Gamit	1.2 + 0.5 + 0.15
5	Alpha Linuron + Shotput + MAUKPendimethalin400CS	1.2 + 0.5 + 2
6	Alpha Linuron + MAUK PDM400CS	1.2 + 2
7	Defy	4
8	Defy + Alpha Linuron	4.0 + 1.2
9	Defy + Shotput	4.0 + 0.5
10	Hurricane	0.10
11	Hurricane	0.20

12	Hurricane + Alpha Linuron	0.1 + 1.2
-----------	---------------------------	-----------

New Roundup Approval for Post Planting Application of Potatoes (in conjunction with Monsanto UK Ltd.)

Roundup formulations sold by Monsanto as Roundup Ace, Roundup Energy and Round Klik were approved in time for the 2009 planting season for use pre-emergence in “potatoes”. This recommendation provides useful control of annual weeds and grasses that have emerged after planting but prior to crop emergence. It can be tank mixed with all the approved residual herbicides or the contact Shark, (Carfentrazone-ethyl), to increase the speed of action. SAC Consulting have used Roundup formulations widely in Eastern Europe where other contact herbicide options are limited. It goes without saying that Roundup applications should not be made after ridges start to crack.

Treatments

- 1. Untreated**
- 2. Roundup Energy @ 1.2lt/ha in 100lt water**
- 3. Roundup Energy 1.2lt/ha + Shark 0/33lt/ha in 200lt water**
- 4. Roundup Energy 1.2lt/ha + Linuron 50% 1.2lt/ha in 200lt water**

Best practice for soil pest control

As part of SAC’s Scottish Government funded ‘Success through Knowledge’ programme, the topic chosen in the ‘Best Practice’ series for PIP 2009 has been soil pest control focussing on slug and wireworm treatments using Maris Piper (resistance rating 2 for slugs). The efficacy of Mocap 10G for wireworm control will be compared to the untreated control. Various sequences and doses of Draza Forte slug pellets will be evaluated in comparison with a single metaldehyde product programme and the untreated control.

Treatment No.	Treatment	Application	
		Timing	Dose
1	Untreated control		Nil
2	Wireworm control – Mocap 10G	Broadcast during final soil preparations before planting (i.e. broadcast appropriate quantity over beds in plot and rake into soil prior to planting)	60kg/ha
3	Slug control 1 Full dose Draza Forte	a. Just before canopy closure b. Flowering c. Haulm destruction	Full dose (3.75kg/ha) Half dose (1.875 kg/ha) Half dose (1.875 kg/ha)
4	Slug control 2 Half dose Draza Forte	a. Just before canopy closure b. Flowering c. Haulm destruction	Half dose (1.875 kg/ha) Half dose (1.875 kg/ha) Half dose (1.875 kg/ha)
5	Slug control 3 Single dose Draza Forte	a. Just before canopy closure	Full dose (3.75kg/ha)
6	Slug control 4 Metaldehyde	a. Just before canopy closure b. Flowering	Full dose Half dose

	product	c. Haulm destruction	Half dose
--	---------	----------------------	-----------

Seed rate/uniformity (in conjunction with Potato Council Ltd.)

This trial highlights the new CUF seed rate recommendations for both Maris Piper and Estima. The trial also demonstrates the benefit of planting at the correct seed rate and examines the impact of different seed rates and irregular spacing.

Maris Piper

Treatment No.	Seed rate	Spacing
1	CUF/SAC rate	43cm (15 tubers per drill giving plot length of 6.45m – allowing for each tuber to sit in the middle of a 43cm space)
2	CUF/SAC rate less 20%	36cm (18 tubers per drill giving a plot length of 6.48m)
3	CUF/SAC rate – irregular spacing	43cm (15 tubers per drill but different numbers of tubers placed in each of the 4 drills)

Seed rate for treatment 1 based on: Tuber count is 780/50kg. Bed width is 1.73m (SAC plot planter) and expected yield would be 50t/ha

Estima

Treatment No.	Seed rate	Spacing
1	CUF rate	42cm (15 tubers per drill giving plot length of 6.3m – allowing for each tuber to sit in the middle of a 42cm space)
2	SAC rate	34cm (19 tubers per drill giving a plot length of 6.46m)
3	CUF rate – irregular spacing	42cm (15 tubers per drill but different numbers of tubers placed in each of the 4 drills)

Seed rate for treatment 1 based on: Tuber count is 695/50kg. Bed width is 1.73m (SAC plot planter) and expected yield would be 50t/ha. PCL/CUF seed rate guide for Estima suggests 28,000 seed tubers/ha = 42cm spacing

Variety Comparison – IVT variety demonstration

This trial will demonstrate the benefits of knowing disease resistance ratings in eight varieties (Estima, Gemson, Harmony, King Edward, Maris Piper, Maris Peer, Mozart and Nicola) and highlight the importance of the work of National List and Independent Variety Testing.

Nitrogen fertiliser Trial (in conjunction with the Potato Council Ltd)

The aim of this trial is to determine the optimum N rate for ware crop production for a crop of Harmony and to compare with recommended Nitrogen rates from Scottish and RB209 recommendations. This is a repeat trial of the nitrogen fertiliser trial at PIP in 2008.

Treatment	Scottish N applied (kg/ha)
------------------	-----------------------------------

0 N	0
0.5 N	80
0.75 N	120
1.0 N	160
1.25 N	200

N = Normal dose recommended from 2009 Scottish recommendations

Trial to evaluate a new formulation of FTC-1 (Kicka) (in conjunction with Masstock Arable UK Ltd.)

A new formulation of FTC-1 (Kicka) is being examined to determine the effect on both tuber numbers and yield on a crop of Harmony. The trial will also give information on the effect of FTC-1 on nitrogen requirements of the crop. In this trial, five nitrogen doses as applied in the nitrogen fertiliser trial are tested with and without the application of FTC-1 in furrow.

Sequence of Maxim and Amistar (Syngenta Crop Protection)

This trial examines whether using a sequence of Maxim and Amistar will reduce the incidence of black dot on tubers of Maris Piper. The effect on both seed- and soil-borne inoculum (at various inoculum levels) is being investigated in trials across a range of sites. The efficacy of Syngenta crop protection brands of fungicide are also compared with Sublime.

Seed tuber treatments for black dot (Syngenta Crop Protection) – Evaluation of Maxim 100FS for the efficacy of control of Helminthosporium and Colletotrichum in potato

This trial investigates the efficacy of Maxim 100FS against seed-borne Silver scurf and Black dot in potatoes compared to Monceren DS and RhiNo.

Compost Trial 2009 (in conjunction with Branston Ltd.)

For the second year, Branston Ltd. is working in conjunction with WRAP (Waste and Resources Action Programme) to evaluate the commercial use of compost for growing pre-packing potatoes. This year the compost used is derived from a combination of food and green waste. The material is produced by TEG Environmental Ltd. to PAS100 standard. We set the trial up to establish whether food safety is compromised by using this type of compost. The volume of compost applied is higher than is currently permissible under NVZ rules but we are keen to test at a level where very significant inorganic fertiliser savings could be made.

The plots (1 to 4) are a copy of the fully replicated trials planted in a commercial field in Perthshire.

Variety: Maris Peer	
Spacing: 4 rows with 20cm tuber	Date Planted: Wed 29th April 2009
Plot Four Full Rate, Conventional Fertiliser (standard)	Plot Three Half Rate, Conventional Fertiliser plus Compost Applied @ 50t/ha
Plot Two Compost Applied @ 100t/ha	Plot One Compost Applied @ 50t/ha

CSC Crop Protection Ltd.

Contact Details:

Jim Rennie, Technical Director
CSC Crop Protection Ltd., Glenearn Road, Perth, PH2 0NL
Tel: +44(0) 1738 623201
Fax: +44 (0) 1738 630 360
Web: www.csccrop.co.uk

Herbicide

The aim of this trial is to demonstrate different herbicide mixes looking at programmes without Linuron due to the reduced rate and the likely reduction in the efficacy of the product.

Indian Mustard

The aim of this trial is to show how a crop can be used to give some PCN control or suppression through bio fumigation, and as a green manure.

Foliar nutrition trial – Variety: Maris Piper

The aim of this trial is to demonstrate foliar applied plant nutrients P and K designed to boost yield and quality in a crop of Maris Piper. With comparisons to trials with no P and K and combinations of reduction with them both, on a prolific variety.

Foliar nutrition trial – Variety: Marfona

The aim of this trial is to demonstrate foliar applied plant nutrients P and K designed to boost yield and quality in a crop of Marfona. With comparisons to trials with no P and K and combinations of reduction with them both, on a non prolific variety.

Common Scab Reduction Demo

Carrying on our work from last year we are looking at improving our best treatment and seeing by how much the extra treatment can improve the poorest of our trials, where no irrigation is used.

Agrico (UK) Ltd.

Contact Details:

Archie Gibson, Executive Director; Graeme Currie, Production & Quality Control
Agrico UK Ltd., Castleton of Eassie, Forfar, Angus DD8 1SJ
Tel: +44 (0) 1307 840 551
Fax: +44 (0) 1307 840 245
Email: archiegibson@agrico.co.uk, graemecurrie@agrico.co.uk

Agrico UK Ltd., in conjunction with Agrico Global, specialise in bringing forward new seed varieties, bred for table and processing markets. Agrico UK Ltd. have a proven reputation for supplying quality Scottish, English and Dutch seed and are committed to working with established and new growers to optimise consistency and quality for home and export trade. This year we have the following varieties on display and look forward to discussing their characteristics and merits with delegates: Arnova, Armada, Novella, Almera, Madeleine, Toluca, Kuroda, Amorosa, Rudolph, Manitou, Premiere, AR 99 1200, Agria, Fontane, AR 98 0851 (Arsenel) and Mustang.

Agrovista Ltd.

Contact Details:

Andy Stevens, Agronomist
Agrovista Ltd., Hill of Orbliston, Fochabers, Moray IV32 7LN
Tel: +44 (0) 1343 880 259
Fax: +44 (0) 1343 880 259
Email: Andy.Steven@agrovista.co.uk

Agrovista are demonstrating trials on potato herbicides and seed treatments this year. Over the last eight years Agrovista have developed the concept of mixing residual herbicides to improve the control of difficult weeds, and to cope with the loss or reduction in dose rate of herbicides. Most residual herbicides need to be applied pre-emergence, and Artist offers a robust control of annual meadow grass and key broadleaved weeds. In this trial an Artist + Gamit mixture applied with contact herbicides is evaluated against other standard herbicides. A sequence of residual followed by contact herbicide is compared to a single application of contact + residual, and the benefit of mixing Shark with Quad (diquat) when applied with a residual is also tested.

The seed treatment trial evaluates two developmental seed treatments on either clean or infected seed. The first is a development seed treatment with activity on rhizoctonia and black dot and is tested on either clean or Rhizoctonia infected seed. The second experimental seed treatment A8348G, (for which registration has also been applied for) with activity against seed-borne Rhizoctonia, silver scurf & black dot, plus reduction in common scab is evaluated on either clean or common scab infected seed.

Branston Ltd.

Contact Details:

Peter Hewett, Seed Manager
Branston Ltd., Mere Road, Branston, Lincoln LN4 1NJ
Tel: +44 (0) 1522 794411
Fax: +44 (0) 1522 793204
Email: phewett@branston.co.uk

The Branston plot showcases several exclusive potato varieties, including Lanorma and Sapphire, Piccolo Star, Safari, Tebina, and some new additions from Branston's own breeding programme, which have been selected for their flavour, texture and storability.

It also features a number of crops that have been specially developed as beneficial alternatives to chemical pest and disease control, including: Foil-sis - an ideal trap crop for PCN; and Fumigro - a hot mustard biofumigant for the control of soil borne diseases relevant to potato growers.

Caithness Potatoes Ltd.

Contact Details:

Andrew Lorimer/George Nicoll
Caithness Potatoes Ltd., 26 York Place, Perth PH2 8EH
Tel: +44 (0)1738 633 571
Fax: +44 (0)1738 628 124
Email: andrewlorimer@caithnesspotatoes.com

Seater: Brand new salad variety bred single-mindedly for top quality flavour. The newest variety

from Dr Jack Dunnett.

Apache: Bred from *Solanum phureja*, this distinctive variety has excelled in consumer taste panels.

Golden Nugget: High tuber number, high dry matter variety with good storage and cooking quality. Also has excellent *G. pallida* resistance.

Harmony: Harmony is becoming one of Caithness' main UK varieties for supermarket use. High yields, high baker fractions and high resistance to storage skin blemishes are some of its assets.

Osprey: High baker fraction, high yields and high packouts make Osprey one of Caithness' main varieties for retail use. Now very widely grown both in the UK and overseas.

SM 01-81-01: A new seedling in 1st year National List trials, this is a variety for French fry and supermarket sales. High dry matter with good fry colours, it has also shown up well in consumer taste panels.

CA 99-1: An early French fry variety with good fry colour and bright skin for pre-pack sales. An Innovator cross, it has the advantage of good *G.Pallida* resistance.

Cygnnet PB Ltd.

Contact Details:

Matthew Smallwood, Technical Director

Cygnnet PB Ltd., Blairfield Farm, Milnathort, Kinross-shire KY13 OSG

Tel: +44 (0) 1577 862 929

Fax: +44 (0) 1577 865 486

Email: matt@harleys.co.uk

Cygnnet PB Ltd., Milnathort, Scotland currently operates the UK's largest British controlled breeding programme with exclusive rights to many popular UK varieties.

Plots demonstrate a range of table, export and early processing varieties designed to meet current and future market requirements.

Varieties on display include:

Bonnie - a new white variety with an attractive red splash of colour, setting new standards as a 2nd early baker with excellent black dot resistance and storage quality. Bonnie's nutrient usage efficiency is also demonstrated.

Bounty - a high yielding early maincrop baker developed in the UK in association with Branston. It has good black dot resistance and long term skin finish with excellent heat and drought tolerance and has potential as an export variety.

Casablanca - a first early variety suitable for loose new, chipping and early bakers. Casablanca has excellent Blackleg resistance and sets new standards for earliness and taste.

Rubesse - an attractive red variety producing bold deep red tubers for export and is being developed in the UK in association with Branston.

Excalibur - a new maincrop pre-pack white with good blight, PCN resistance and powdery scab

resistance.

00C 133-020 - a new bold early maincrop variety with good blight, PCN and black dot resistance.

The Glenside Group

Contact Details:

The Glenside Group, Block 2, Unit 4, Bandeath Ind Estate, Throsk, Stirling, FK7 7XY

Tel: +44 (0) 1786 816 655

Fax: +44 (0) 1786 816 100

Email: enquiries@glensidegroup.com

Profitable potatoes from better informed soil and fertiliser management.

Glenside work with Growers and their Advisors to increase the profitability of potato growing. Using their Albrecht® Soil Survey, Glenside identify the factors on a field-by-field basis which are limiting yields and affecting marketable quality. Detailed recommendations are provided which are matched to variety and market quality requirements. Inputs are carefully targeted to optimise margins and meet required environmental standards.

The benefits of Glenside's approach can clearly be seen on their demonstration plots:

- higher percentage of marketable quality
- improved skin finish and storability
- reduced hidden costs.

Glenside plots are managed by SCRI and the results are monitored and reported on by Aberdeen University.

Glenside's clients are located throughout the UK, Ireland, Southern Europe and the Middle East. As one of the UK's leading proponents of sustainable soil management, Glenside welcomes enquiries from Growers and their Advisors interested in improving their margins by using Glenside's advanced soil and fertiliser management techniques.

Greenvale AP Ltd.

Contact Details:

Gail Robertson, Customer Services Manager

Greenvale AP Ltd., Springfield, Burrelton, Blairgowrie PH13 9PJ

Tel: +44 (0) 1828 626 078

Fax: +44 (0) 1828 670 636

Email: gail.robertson@greenvale.co.uk

VALES MONARCH is a new pre-pack variety suitable for the general bakers market. Although not being commercially grown at the moment, it is likely to be available in the supermarket in the next few years.

VALES EVEREST is a very high yielding variety suitable for processing. It is drought resistant with good tolerance to Black Scurf and Powdery Scab. Vales Everest has a particularly high level of tolerance and resistance to PCN Pallida.

VALES SOVEREIGN is grown for general bakers pre-pack market with low waste levels. It is an early maturing main crop with a high resistance to Black Dot, drought, PCN RO1 and good Common Scab resistance.

SYLVANNA is a high yielding variety suitable for the washed fresh market. It has a high resistance to PCN RO1 and virus Y and high tuber number.

SOFIA is an attractive second early perfect for pre-pack. It has high tuber numbers, attractive appearance, good resistance to Black Dot and is highly resistant to PCN Rostochiensis. Bred by Agrico, it is exclusively marketed by Greenvale AP.

Grimme (UK) Ltd. / Belchim Crop Protection Ltd.

Contact Details:

Ralph Powell, Sales Manager – Scotland

Grimme (UK) Ltd., Gallowmyre House, Pitroddie, Perth PH2 7NH

Tel: +44 (0) 7766 443 471

Fax: +44 (0) 1738 860 676

Email: r.powell@grimme.co.uk

Peter Ingram

Belchim Crop Protection Ltd., 1B Venice Court, Phoenix Park, Eaton Socon, St Neots, Cambridgeshire PE19 8EP

Tel: +44 (0) 1480 403 333

Fax: +44 (0) 1480 403 444

Email: Peter.Ingram@belchim.com

“Flail and Spray – The System”

The final date for use of sulphuric acid for plant protection will be 5th June 2010. So effectively 2009 is the last year for acid. To highlight new techniques in potato haulm desiccation Grimme (UK) Ltd. in conjunction with Belchim Crop Protection Ltd. exhibit with the up-to-date flail and spray system available. The restrictive control of active chemical in spray products continues the pressure on growers. Under these regimes, the introduction of new techniques must be adopted and with them, the possibility of reducing input costs must now and in the future be a bonus. Thanks go to Cygnet PB for supplying the variety Saxon for the trial.

There will be an opportunity to discuss correct spray application rates and the correct flail configurations, as the plot will show three sequences:

- the growing crop
- the flailed crop only
- the flailed and sprayed crop.

Higgins Agriculture Ltd.

Contact Details:

Stephen North, UK Seed Sales Co-ordinator

Higgins Agriculture Ltd., Seed Office, Longhillock Store, Alves, Elgin, Morayshire IV30 8UZ

Tel: +44 (0) 1872 862 822

Fax: +44 (0) 1872 870 098

Mobile: +44 (0) 7768 866 810

Email: snorth@higgins.co.uk

Higgins Agricultural Ltd. is directly involved in breeding and selecting new varieties for their growing seed business. With trial sites in several countries across Europe and the Middle East, the Higgins seed business is able to select and list material at a very early stage. Consequently, since 2000, Higgins Agricultural Ltd. has already successfully listed 3 varieties, Moulin Rouge, Olympus and Horizon from their own breeding programme, as well as being involved in the introduction of Courage, Ramos, Zorba and Smile from European partners.

[HZPC UK Ltd.](#)

Contact Details:

Ron Reiss, Sales Manager

HZPC UK Ltd., Curlbank, Meigle Road, Alyth, Blairgowrie PH11 8EX

Tel: +44 (0) 1828 633 223

Fax: +44 (0) 5601 530 330

Email: ron.reiss@hzpc.com

HZPC UK Ltd. has six varieties on display, all now commercially successful internationally and now expanding in the UK. The company is committed to expanding seed production in Scotland and an extensive programme of prebasic seed is now in the system, of varieties originating from the HZPC breeding station. The varieties are being shown for the first time, from this programme.

The display is in two halves, comprising three chipping varieties; Innovator, Challenger and Sagitta, which are also multi functional; and three prepack varieties, Annabelle (early set skin salad), Oriana (2nd early prepack table potato) and Mozart (maincrop red skin prepack).

Further production will be geared to the UK, where we also have an extensive seed production in England, and also for the growing demand from our International markets.

[Irish Potato Marketing Ltd.](#)

Contact Details:

Sandy McGowan, Agronomist

Irish Potato Marketing Ltd., East Den Brae, Letham, Angus, DD8 2PJ, Scotland.

Tel: +44 (0)1307 818 121

Fax: +44 (0)1307 818 131

Email: sandy@ipmscotland.co.uk

Web: www.ipm.ie

What do you want in a potato?

If you are a grower, the ideal potato variety will produce high yields, have resistance to diseases and acceptability in market outlets.

For the packer, it will be a differentiated product, will have no waste and will keep bringing satisfied customers back for more and more.

For consumers, it will be delicious, healthy and bursting with nutrition.

At IPM our objective is to develop the right varieties for the different requirements of our customers worldwide and to supply the highest quality seed at the start of the production chain.

IPM can boast a vast portfolio of varieties that can meet the demands of many different markets worldwide. Whether it's the marketing success story that is Rooster, or the high yielding, low waste Banba, right through to new market players Electra and Romeo, IPM will have a variety that can cater to your needs.

So whether you are looking for a new growing opportunity or a new variety to expand your business come and pay a visit to the IPM plot today.

From potato breeding to contract production through to marketing, the keynote is quality: "Quality in the breed and Quality in the seed".

K+S UK & Eire Ltd.

Contact Details:

Jerry McHoul – Technical Manager

K+S UK & Eire Ltd., Unit 13, Watermark Way, Foxholes Business Park, Hertford, SG13 7TZ

Tel: +44 (0) 1283 711 615

Fax: +44 (0) 1992 535 733

Mobile: +44 (0) 7986 090 570

Email: Jeremy.mchoul@ks-ukeire.co.uk

Potash and Magnesium trial

Potash and magnesium are two highly important nutrients for potatoes and the field trial this year demonstrates the benefit of using the nutrients in the correct ratio and crucially in the right form. In the last four years, six such large scale replicated field trials have been conducted and the results show that where Patentkali was used in place of straight muriate of potash, not only was yield improved by an average of over 2 tonnes/ha but positive effects on tuber quality were also recorded. Applications of EPSO Top or EPSO Microtop (foliar bittersalz) also resulted in cost-effective yield increases in all trials.

K+S UK & Eire Ltd. are key suppliers of potash, magnesium, sodium and sulphur fertilisers with products such as Korn-Kali, Patentkali, ESTA Kieserite, EPSO Top and EPSO Microtop.

Visit www.ks-ukeire.co.uk for more details

Omex Agriculture Ltd.

Contact Details:

David Booty, Product Manager

Omex Agriculture Ltd., Bardney Airfield, Tupholme, Lincoln, Lincolnshire LN3 5TP

Tel: +44 (0) 1553 760 011

Fax: +44 (0) 1526 396 001

Email: foliars@omex.com

Web: www.omex.co.uk

Omex are demonstrating how our unique portfolio of biostimulants, precision fertiliser applications and foliar nutrition products can be used in combination to promote crop growth and plant health, helping to boost yield and to meet challenging quality targets, both for seed and ware crops.

The two plot areas showcase carefully targeted input regimes aimed at producing optimum tuber size, numbers and quality for a seed crop, and yield, crop health and skin finish for a ware crop.

The demonstrations include precision base fertiliser placement, the use of Biomex biostimulants to promote root growth, the use of phosphites and foliar nutrition to promote plant health, CalMax for skin finish, and Sluggo, the new molluscicide which combines efficiency with safety to beneficial species and the wider environment.

Promoting plant health with biostimulants and targeted nutrition has been shown to make crops more tolerant to stress from pests, diseases, drought and other factors. This can enable reductions in other inputs and less dependence on pesticides, in tune with the current drive for integrated crop management and sustainable agriculture.

Specialty Fertilizer Products

Contact Details:

Specialty Fertilizer Products, 11550 Ash Suite 220, Leawood, KS66211 USA

Tim Kerr, Speciality Fertiliser Manager

Carrs Fertilisers, Old Croft, Stanwix, Carlisle CA3 9BA

Tel: +44 (0) 1228 554 610

Fax: +44 (0) 1228 592 207

Email: tim.kerr@carrs-fertiliser.co.uk

Field research and tests indicate crops fertilised with phosphorus protected by AVAIL® phosphorus fertiliser enhancer showed 10 to 15 percent greater yields compared to crops treated with phosphate alone. AVAIL acts as a shield, protecting phosphorus fertiliser from elements that normally would render the fertiliser unavailable in the soil. This form of protection is significant because the phosphate remains available for plant uptake throughout the growing season, including during early development, which is the most crucial time for creating optimal yield potential. AVAIL has been shown to work on any crop, in any soil and climate type.