



Opportunities for Growth

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Eddie Doyle
IFA Potato Chairman



Michael Hennessy
Tillage Specialist Teagasc

IFA/Teagasc National Potato Conference 2016

Welcome to this year's National Potato Conference organised by the Irish Farmers' Association and Teagasc in association with Bord Bia.

Ireland's potato industry continues to face difficult challenges. 2015 saw the lowest area planted on record, which reflects the loss of confidence in the sector as a result of consecutive years of poor market returns. With some improvement this season and prospects remaining positive, the challenges of food deflation, retailer dominance, consumer trends and decline in fresh potato consumption continue to overshadow the industry.

The average farm gate price is up on last year but the grower still continues to be the poor relation within the supply chain. Retailers and facilitators continue to reap profits while the primary producer is left with the remainder, often at below the cost of production.

Current farm gate potato prices are only on the margins of sustainability. As storage costs increase into the spring, grower returns need to move in tandem, just to cover overheads incurred.



Other issues such as unjust tare levels and below cost selling, also jeopardise the viability of potatoes on farms.

The main theme of this year's conference centres on the EU Potato promotion campaign, *More Than A Bit On The Side*. In the first session Kantar Worldpanel will reveal a comprehensive market analysis of consumer trends. This will be followed by presentations on the promotion campaign and the nutritional and health benefits of potatoes.

The afternoon session will focus on crop agronomy, with speakers from Cambridge University Farms and Teagasc, to include details of the Irish salad potato initiative.

IFA and Teagasc acknowledge the presence and valued support today of industry associated exhibitors and conference sponsors.

We hope that you find this year's conference proceedings of benefit to you as you make decisions going forward in your business.

Eddie Doyle
IFA Potato Chairman

Michael Hennessy
Head of Knowledge Transfer Crops, Teagasc



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Web: www.meadepotato.com





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Conference Programme

9.00 am Registration. Tea / Coffee
Chairman: Andy Doyle, Tillage Specialist, Irish Farmers' Journal

10.00 am **Messages from Conference Hosts:**
Jer Bergin, IFA Chairman
Gerry Boyle, Director, Teagasc
Opening Address:
Tom Hayes TD, Minister of State at the Department of Agriculture, Food & the Marine

Session I

10.15 am **Chairman: Eddie Doyle**, IFA Potato Chairman
Potato Trends in a Modern Market -
Cliona Lynch, Client Manager, Kantar Worldpanel
Making Potatoes More than a Bit on the Side -
Chris Linsell, Client Service Director, Kindred
A New Chapter for Potatoes -
Lorcan Bourke, Horticulture Division, Bord Bia

11.45 *Changing Perceptions - The Nutritional Benefits of Potatoes -*
Aoife Hearne – Dietitian

12.30 **Lunch** – experience *potato.ie* recipes for EU Potato Promotion

Session II

2.00 pm **Chairman: Andy Doyle**, Tillage Specialist, Irish Farmers' Journal
Salad Potato Initiative -
Michael Hennessy, Head of Knowledge Transfer Crops, Teagasc
Virus prevalence in the Irish Potato Crop -
Fiona Hutton, Potato Programme Teagasc
Yield formation and Nitrogen Interaction -
Dr Marc Allison, Cambridge University Farms

3.30 pm - 4.30pm Workshops with main speakers – to run concurrently (15 minutes each)

1. Viruses in Potatoes - Fiona Hutton & Michael Gaffney Teagasc
2. Yield formation and Nitrogen Interaction – Marc Allison
3. Potato Promotions & Social Media - Lorcan Bourke Bord Bia, Kate Cox AHDB Potatoes, Conor Lynch Connector

Trade Show on-going throughout the afternoon from 12.30pm

Tea / Coffee at Trade Show in the afternoon

Tea & Coffee sponsored by





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National Potato Committee – 2016



| COUNTY | CONTACT | MOBILE |
|----------------------|---|--------------|
| CHAIRMAN | Eddie Doyle, Luffany, Mooncoin, via Waterford | 087 2787472 |
| VICE-CHAIRMAN | Larry Whelan, Rospile, Foulksmills | 087 2324189 |
| CARLOW | Neville Caldbeck, Tullowphelim, Tullow | 087 2252836 |
| CORK (N) | Nora Sheehan, Lisnagourneen, Castletownroche | 087 6534787 |
| CORK (C) | John Griffin, Boycetown, Carrigaline | 087 6876293 |
| DONEGAL | Desmond Harkin, Carrowreagh, Bridgend | 086 8552533 |
| DONEGAL | Charles Doherty, Moness, Burt | 086 8220247 |
| DUBLIN | David Garrigan, Baldurgan Farm, Ballyboughal | 086 8553581 |
| GALWAY | Barry Stephens, Corofin, Tuam | 087 9416363 |
| KERRY | Neilius O'Connor, Killbaha, Moyvane | 087 6773345 |
| KILDARE | Bart Maertens, Loughanure, Clane | 087 6780990 |
| KILKENNY | Eddie Doyle, Luffany, Mooncoin, via Waterford | 087 2787472 |
| LOUTH | John Carroll, Paughanstown, Dunleer | 086 2489212 |
| MEATH | Thomas Sheridan, Hollybrook House, Carlanstown, | 086 2464018 |
| MEATH | Paddy Reynolds, Gerrardstown, Garlow Cross, Navan | 086 8315636 |
| MEATH | Thomas McKeown, Laggagh, Castletown, Navan | 087 2625831 |
| OFFALY | Shane Howell, Killurin, Killeigh, Tullamore | 086 3018525 |
| TIPP.NORTH | Michael Healy, Coolcree, Two-Mile-Borris, Thurles | 087 260 4271 |
| WATERFORD | Michael O'Keeffe, Roseville, Tallow | 086 8462300 |
| WEXFORD | Larry Whelan, Rospile, Foulksmills | 087 2324189 |
| WICKLOW | Tom Delahunt, Ballinacloy, Wicklow | 087 9878428 |

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Contact: Lorcan Bourke, Bord Bia

Clanwilliam Court, Lower Mount Street, Dublin 2, Ireland

T: 00 353 1 6142263 F: 00 353 1 6687521 E: lorcan.bourke@bordbia.ie

www.bordbia.ie



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Bord Bia Contacts

| Name | Title | Telephone | Email |
|------------------------------|--|-----------------------------|---------------------------|
| Horticulture Division | Bord Bia, Clanwilliam Court, Lower Mount Street, Dublin 2 | 01 6142286 01 6685155 HQ | info@bordbia.ie |
| Mike Neary | Manager Horticulture | 01 - 6142219 | mike.neary@bordbia.ie |
| Gary Graham | Bloom Project Manager & Amenity Exports | 01 - 6142289 | gary.graham@bordbia.ie |
| Carol Marks | Business Development & Amenity Sector Programmes | 01 - 6142266 | carol.marks@bordbia.ie |
| Lorcan Bourke | Market Information & Potato/ Field Vegetable Sector | 01 - 6142263 | lorcan.bourke@bordbia.ie |
| Michal Slawski | Industry Development, Protected Food Crops & Fruit Sector | 01 - 6142274 | michal.slawski@bordbia.ie |
| Alice McGlynn | Quality Programme | 01 - 6142217 | alice.mcglynn@bordbia.ie |

Teagasc Potato Advisors



| | | |
|--------------------------|--|-------------|
| Michael Hennessy | Head of Crops and Energy Knowledge Transfer, Teagasc, Oak Park, Carlow. | 059 9183427 |
| John Pettit | Teagasc, Advisory Centre, Johnstown Castle, Wexford. | 053 9171350 |
| Shay Phelan | Teagasc, Kinsealy Centre, Malahide Road, Dublin 17. | 01 8459000 |
| Ciaran Collins | Teagasc, Advisory Centre, Moorepark, Fermoy, Co Cork. | 025 42244 |
| Martin McCullough | Teagasc, Carnamuggagh, Letterkenny, Co Donegal. | 074 9121555 |
| Conor Dobson | Teagasc, Slane Road, Drogheda, Co. Louth. | 041 9833006 |



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Phone

051 643152

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Department of Agriculture, Food and the Marine



Potato Seed Certification

Crop Policy, Production and Safety Division

Department of Agriculture, Food and the Marine
Administration Building
Backweston Campus
Celbridge
Co Kildare
W23 X3PH

Tel: +353 1 5058895

Email: potatoonline@agriculture.gov.ie

Website:

<http://www.agriculture.gov.ie/farmingsectors/crops/potatoes/seedpotatocertificationscheme/>

Ware Potato quality, labelling and associated plant health issues

The Department has a team of Inspectors based in its Horticulture & Plant Health Division that are involved in controls relating to the quality and labelling of ware potatoes as well as dealing with plant health issues that may arise in relation to the crop. In the event of concerns, queries or complaints regarding these matters please contact:

Horticulture & Plant Health Division

Department of Agriculture, Food and the Marine
Administration Building
Backweston Campus
Celbridge
Co Kildare
W23 X3PH

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Irish Potato Federation Contacts

| Name | Address | Contact Details |
|-------------------------|---|--|
| See website for details | Sam Dennigan & Co Palmerstown, Old Town North Co Dublin | www.samdennigan.ie Tel: 01 8010500 |
| Michael Kennedy | K&K Packs Limited Broughan Lane, The Ward Co Dublin | kkpack@eircom.net Tel: 01 8347586 |
| Mark Beatty | Gold City Produce 13/17 Little Britain Street Dublin 7 | mbeatty@totalproduce.com Tel: 01 8730581 / 01 8721100 |
| Colm McDonnell | Irish Potato Marketing Ltd. Unit 412, Q House Sandyford Industrial Estate Dublin 18 | colm@ipm.ie Tel: 01 2135410 |
| Neil McBride | Donegal Potatoes Limited Colehill, Newtowncunningham Co Donegal | neil.mcbride@donegalpotatoes.ie Tel: 074 9156309 |
| John Rankin | Donegal Seed Merchants Cloon, Carrigans Lifford Co Donegal | rankincloon@hotmail.com Tel: 074 9140137 |
| Michael Hoey | Country Crest Ltd. Rathmooney Lusk Co Dublin | Michael@countrycrest.ie Tel. 01 8437061 |
| Maurice Matthews | Seed Potato Company of Ireland Unit E3, Ballymun Industrial Estate Dublin 11 | mauricematthews@eircom.net Tel: 01 8425431 |
| Peter Keogh | Peter Keogh & Sons Ltd. Westpalstown, Old Town Co Dublin | peter@creamofthecrop.ie Tel: 01 8433175 |
| Derek Leonard | Leonard Potato Merchants Limited Old School House, North Anne Street Dublin 7 | derek@jackieleonards.com Tel: 01 8726293 / 01 8733055 |
| Philip Meade | Meade Potato Company Limited Braystown, Lobbinstown Navan, Co Meath | philipmeadejr@meadepotato.com Tel: 046 9053198 |
| John O'Shea | O'Shea Farms Limited Piltown Co Kilkenny | marie@osheabros.ie Tel: 051 643733 |



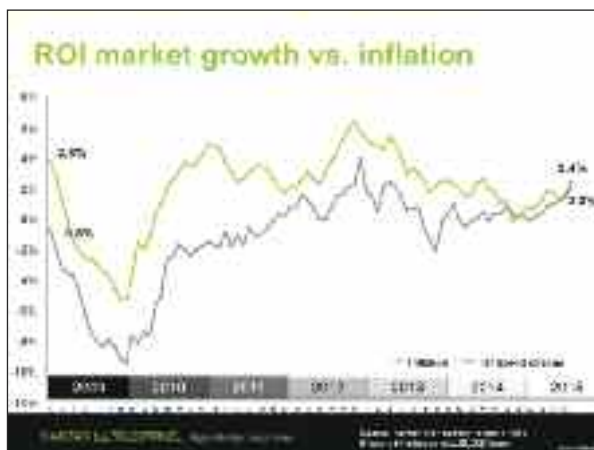
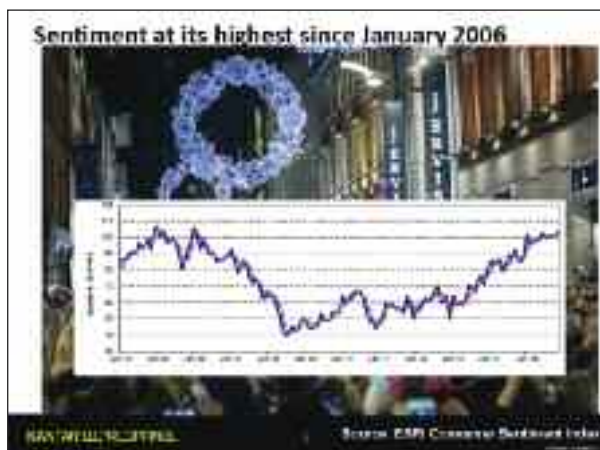
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Conference Presentations

Session I

Potato Trends in a Modern Market

Cliona Lynch, Client Manager, Kantar Worldpanel



Shoppers relaxed the purse strings this Christmas

| | 2015 | 2016 |
|---------------|-----------|-----------|
| More Trips? | +0.8 trip | +0.2 trip |
| Average spend | +2.2% | +3.6% |
| Volume Bought | +2% | +1% |
| Trip Spend | +2.3% | +5.5% |
| Price Paid | NC | +2.6% |

Kantar Worldpanel, data to 2nd Jan 2016





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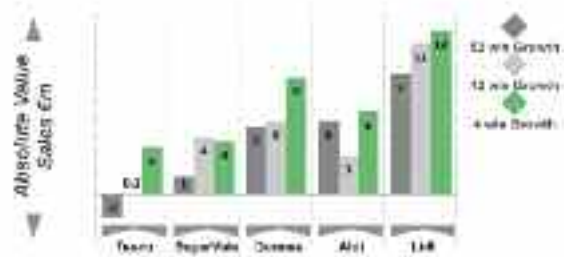
Battle between treat and health categories...



KANTAR WORLDWIDE

Source: Kantar Worldpanel, 3 Oct 15 to 26 Jan 16

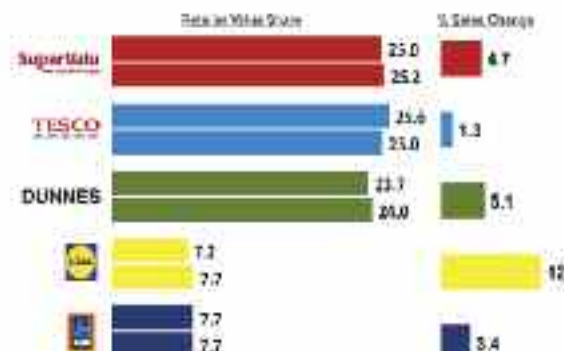
Strong momentum across the retail sector



KANTAR WORLDWIDE

Source: Kantar Worldpanel, 3 Oct 15 to 26 Jan 16

SuperValu claimed top spot at Christmas with a slight edge over Tesco



Agenda

1. Close up on a Modern Consumer
2. Potatoes still central to Irish meals
3. How are Potatoes performing?
4. Where can we address challenges?

143 million* packs of potatoes sold in 2015

Potatoes are bought once every 2 seconds in Irish Retailers



1.65 million households purchasing annually

KANTAR WORLDWIDE

11% of all shopping trips feature potatoes. These trips contribute 23% of all sales. When potatoes are included in the basket, these grocery trips are worth more than average highlighting the importance of the potato category to retailers.



KANTAR WORLDWIDE

% of households buying (penetration)...



From a shopper perspective Potatoes are the 8th most important category in store

KANTAR WORLDWIDE

Source: Kantar Worldpanel, 3 Oct 15 to 26 Jan 16

Potatoes and French Fries Products together account for 44% of most meals bought



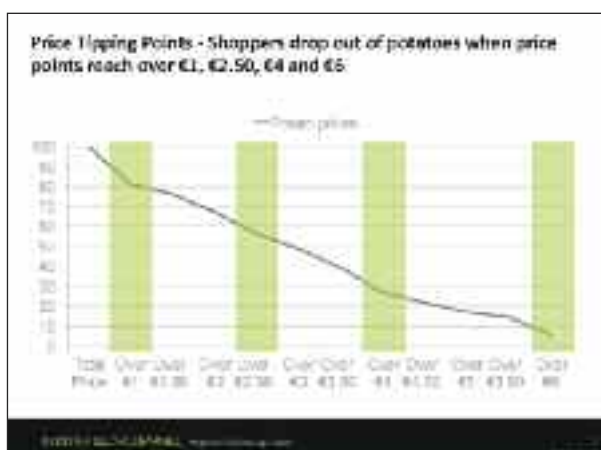
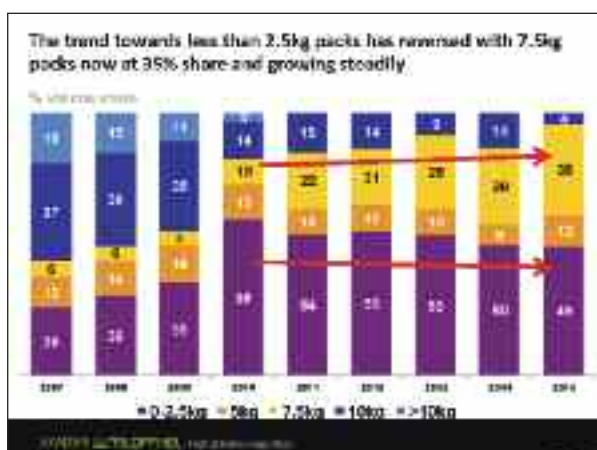
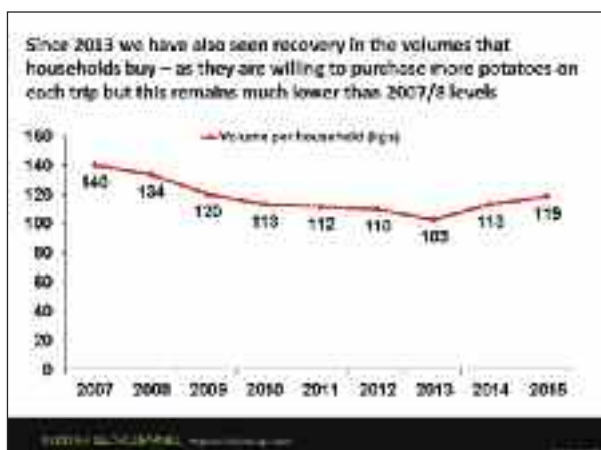
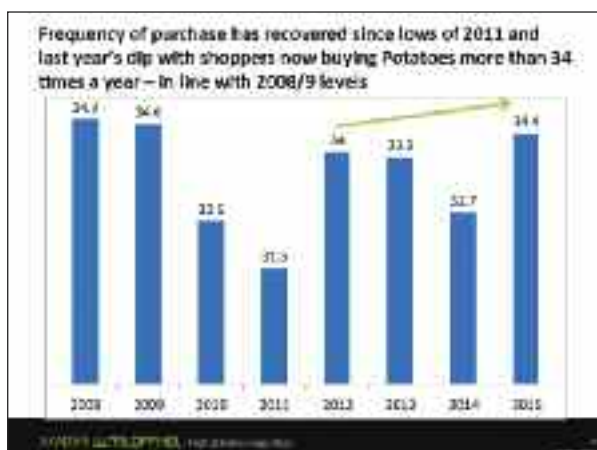
KANTAR WORLDWIDE



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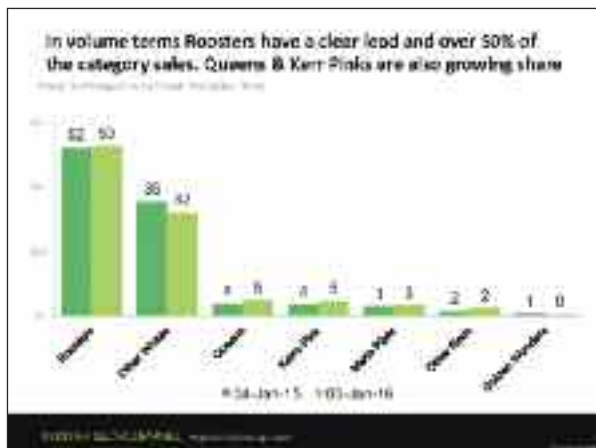
Agenda

1. Close up on a Modern Consumer
2. Potatoes still central to Irish meals
3. How are Potatoes performing?
4. Where can we address challenges?





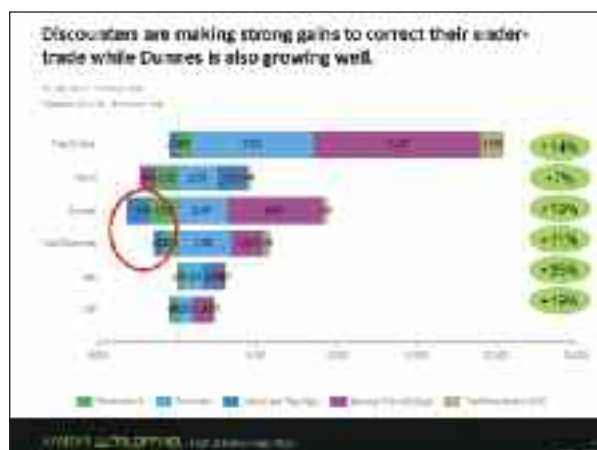
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Agenda

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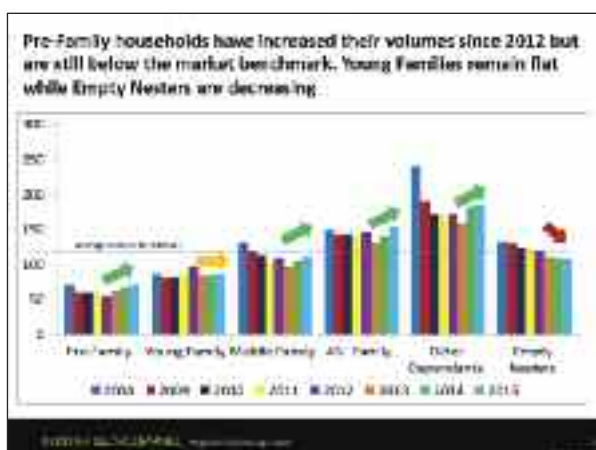
Where are the retailer opportunities?



What are the opportunities for Potatoes?

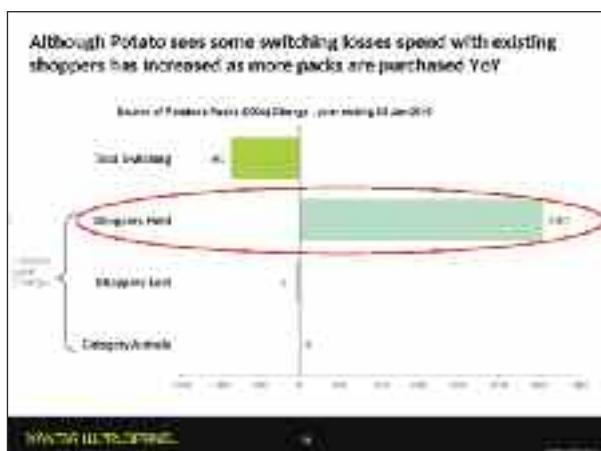
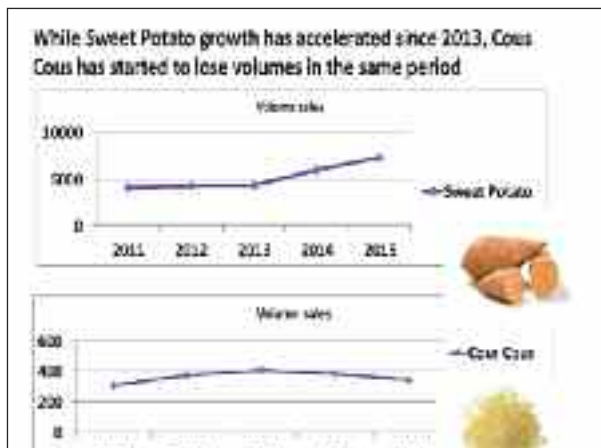
- DUNNES STORES**: Recruit back lost shoppers & improve volumes per trip
- SuperValu**: Under-trading vs Fruit & Veg overall – win back shoppers & increase volume per trip
- TESCO**: Under-trading vs Total Grocery – win back shoppers & look at increasing prices
- LIDL**: Under-trading vs Fruit & Veg – focus on shopper conversion
- ALDI**: Under-trading vs Fruit & Veg – focus on shopper conversion

Where are Potatoes losing volumes?





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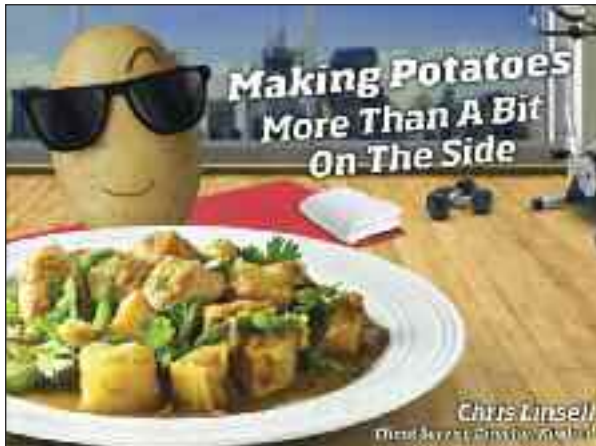




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Making Potatoes More than a Bit on the Side

Chris Linsell, Client Service Director, Kindred



The next thirty minutes...

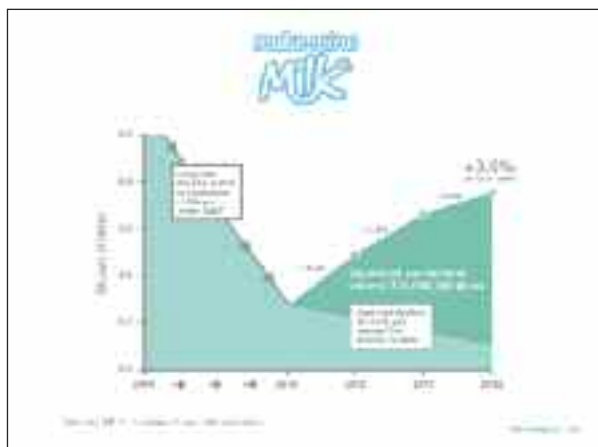
- Why the Englishman Is Here
- The campaign plan
- Year 1 activity update
- Early days evaluation

Quick introduction to Kindred

- Behaviour change specialists
- One of the 10 creative advertising agencies on GB government website
- Target audience at heart of our work
- Delivery capabilities across advertising, PR, social media and digital
- Proven success in food sector (brands & generic marketing)
- In depth understanding of requirements of EU co-funded campaigns



Clients we help to connect to their audiences





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Objectives

- Emotional engagement
 - To re-engage consumers with potatoes
 - To make potatoes relevant to modern lifestyles
- Rational (education):
 - Challenge misconceptions around being unhealthy / fattening and inconvenient
 - Show off versatility

Target Audience

- Mothers and pre-family women aged 22-44 years old in Ireland and GB

Target Audience

Strategy & behaviour change

- Strategy: Promote potatoes as healthy and delicious source of inspiration and at the heart of contemporary and relevant meals (not just a bit on the side)
- Behaviour change: +1 potato based recipe in our target audience's mid-week repertoire

Budget

- Total campaign budget Ireland & GB across 3 years €4.6m
- Total Ireland budget €1m
- Total Ireland annual budget €334,000 (50% EU contribution € 167,000 p.a.)



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Year 1 activity update

Two Heroes...




Meet 'Bud'



Introducing a character with a friendly face to help us promote the benefits of potatoes. Bud is a potato who loves to eat, drink and have fun. He's also a bit of a hero, saving the world from a bad potato.

For more information about Bud, visit www.potatoheroes.co.uk or contact your local potato grower.

The Potato Heroes campaign is a joint venture between the potato growers and the potato processors.

The campaign is a joint venture between the potato growers and the potato processors.

For more information about Bud, visit www.potatoheroes.co.uk or contact your local potato grower.



More Than A Bit On The Side

More Than A Bit On The Side

Chips

Mash

Crisps

Other potato products




More Than A Bit On The Side

Chips

Mash

Crisps

Other potato products



POTATOES

More Than A Bit On The Side

Chips

Mash

Crisps

Other potato products



More Than A Bit On The Side

Chips

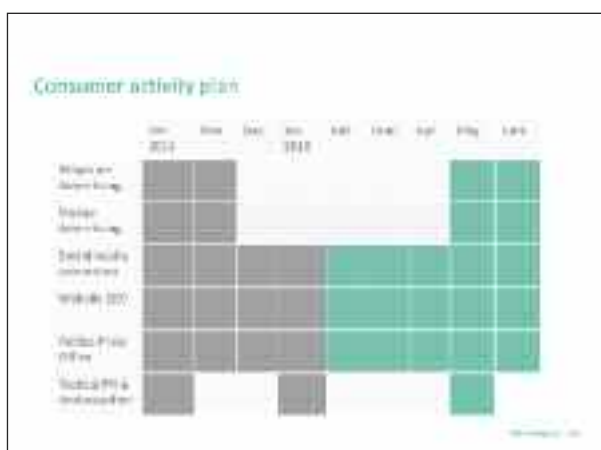
Mash

Crisps

Other potato products

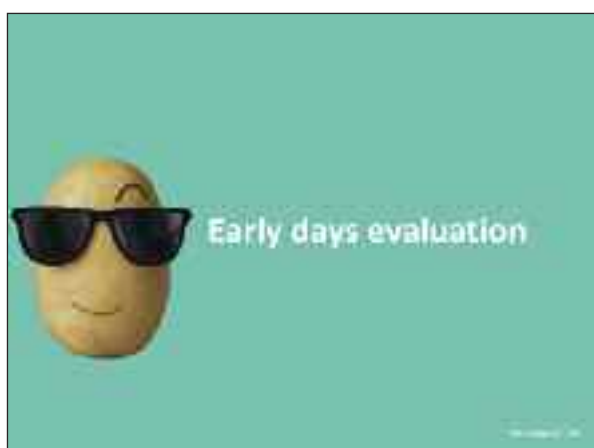
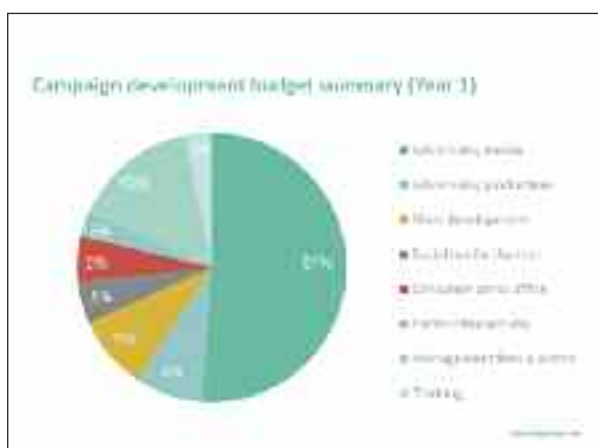


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Addressing Market Challenges Opportunities for Growth



Expectations

- Over three years:
 - Increase of 28,000 tonnes
 - Increase frequency of purchase by 6%
 - Increase health perceptions by 5%
- Campaign measurements:
 - Kantar (sales and behaviour)
 - Independent tracking, Media publishers reporting data, Google Analytics, Bitstream, SocialMedia Symptom

Independent tracking

- Key parameter for initial campaign impact
- Campaign tracking by Public Knowledge
- Pre-launch survey September 2015, post-launch survey December 2015

Two key aspects for now...

- Are the right messages being communicated?
- How many people in the target audience are we able to reach?

1. Are the right messages being communicated?

- Promising results:
 - Advertising is communicating core messages around health, taste and versatility
 - Advertising helps show that potatoes can fit into a modern, healthy lifestyle
 - 55% believed potatoes can be used in more recipes than they thought
 - 88% agreed they would eat more potatoes
 - 57% said the campaign prompted them to try new recipes with potatoes

2. Reach (awareness) is our greatest challenge...

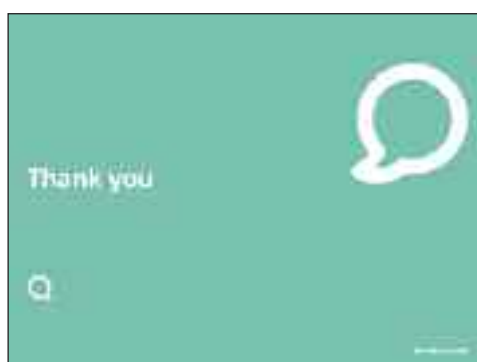
- Reached 6% audience at launch
- 6% above benchmark given campaign spend
- However lots of people out there still
- Collective challenge to create awareness of the messages and the website
- More exposure = more potatoes consumed

Additional campaign measurement headlines

- Website visits: 35k people (25% regular)
- PR coverage: 65 pieces
- Social media: Facebook community: 50k people



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We've extended the family... Say hello to our new multipacks!





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A New Chapter for Potatoes

Lorcan Bourke, Horticulture Division, Bord Bia



A New Chapter – ‘a new way of looking at them’

- ✓ Potatoes are cool and fun
- ✓ Potatoes are my friend in the home – **Bud (the Spud)** = “Friens” – versatile
- ✓ Using potatoes traditionally is second nature – lots learn to use them differently – discover exciting foods & cultures from around the World
- ✓ Potatoes are healthy – naturally fat & gluten free (sport)
- ✓ Potatoes are much “more than a bit on the side”

Working in partnership with the National Potato Council

Bord Bia
Food & Drink Ireland

Our Single Greatest Task – Amplify the Campaign

Shout about potatoes!

Create awareness of www.potato.ie

Working in partnership with the National Potato Council

Bord Bia
Food & Drink Ireland

Amplifying the Campaign

- Bud and the healthy recipes are the real heroes of the campaign
- www.potato.ie website is the cornerstone of the campaign
- Early feedback from the campaign suggests that once consumers are exposed the campaign they will respond positively in interest and behaviour
- We need to amplify the ‘reach’ of the campaign

Working in partnership with the National Potato Council

Bord Bia
Food & Drink Ireland

Everyone can help to drive awareness...

- Spread the word ... Family, friends, clubs...
- Media opportunities
 - website banners
 - Retail stickers (other POS material)
 - events – use campaign assets/collateral
- PR coverage opportunities (local/regional)
- Supporting the campaign in social media

Working in partnership with the National Potato Council

Bord Bia
Food & Drink Ireland

Best In Season
vfresh v tasty v healthy

POTATO.ie
Ireland's First-Class Potato

bloom
brought to you by Bord Bia

Working in partnership with the National Potato Council

Bord Bia
Food & Drink Ireland

Working in partnership with the National Potato Council

Bord Bia
Food & Drink Ireland

A photograph of two men in a potato field. The man on the left, wearing a blue and white checkered shirt, is holding a large bunch of harvested potatoes. The man on the right, wearing a white and grey checkered shirt, is holding a shovel. They are standing in a field of green potato plants under a cloudy sky.

Men outstanding in their field.

Country Crest has a great, true story. One that really is about authenticity and local heritage, dedication, innovation and ultimately, a leading Agri-Food business. With sustainability at our core, we respect the power and purity of the land, and through this, we deliver only the best produce to the Irish market.

www.countrycrest.ie

 **Country Crest**
True to nature

Specifically Bord Bia will amplify the campaign in Ireland?

Specifically Bord Bia will amplify the campaign in Ireland?

- ✓ Work with retailers – through their packers
- ✓ Work on social media with packers/growers
- ✓ Bord Bia specific programmes
- ✓ Bord Bia work across corporate social media

Point of Sale Artwork is Available

Contact Details: _____
 E-Mail: _____
 Phone Number: _____

Order Items:
☐ 1 yard x 6 feet
☐ 2 yard x 6 feet (double sided)
☐ 2 yard x 8 feet (double sided)
☐ 4 feet x 6 feet
☐ 6 feet x 6 feet

From: _____
 Larry Aprons/Graphics: _____

Sticker Artwork:





Work with stakeholders on social media

Did you know potatoes are naturally fat and gluten free, and a source of fibre and potassium? Visit www.potato.ie

Did you know potatoes are naturally fat & gluten free? #TastyPotatoes [@Amazothamir](https://twitter.com/Amazothamir)

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Opportunities for Growth

Changing Perceptions - The Nutritional Benefits of Potatoes

Aoife Hearne – Dietitian



"Changing Perceptions – The Nutritional Benefits of Potatoes"

Fresh potatoes are the only major carbohydrate grown in Ireland, and form the basis of a very important industry in Ireland – all other carbohydrates are largely imported - the Irish crop has lower food miles and definite advantages in terms of freshness and nutrient availability. From a nutrition point of view and a sustainability point of view potatoes are an essential component in a varied and balanced diet.

A little bit of history:

Historically potatoes played an essential role in the diet especially pre famine
Providing a healthy balance of unprocessed carbohydrates, calcium and essential vitamins and minerals when combined with milk.

Why is there a perception that potatoes are a 'problem' food in our diet?

No doubt this comes from the recent overweight and obesity statistics for Ireland which does not make for pretty reading from the recent Healthy Ireland Report.

Earlier this year, a WHO study suggested that Ireland is on track to become the fattest country in Europe by 2030 such is the escalation in obesity in Ireland in more recent years. They estimate that by 2030 in Ireland, 85% of women will be overweight and 57% obese and 89% of men will be overweight and 48% will be obese (Webber et al. The European Obese Model: the shape of things to come. European Association for Cardiovascular Prevention & Rehabilitation Amsterdam, 2014).

Carbo-phobia strikes hard and tries to take over the weight loss market!

Weight loss is big business and low carbohydrate diets are seriously trendy! The Paleo diet was the most googled diet in 2013 and there was a re-birth of the Atkins diet and low carbohydrate eating generally but what's the evidence for low carb eating and weight loss? It would seem to have lost a bit of momentum towards the end of 2015 but there is still big interest in this area. Interestingly the obesity crisis in Ireland was not as serious when

potato consumption was twice, three times, or if you go back far enough 20 times what it is today! Which leads to the question what does the evidence tell us about diets and weight loss?

To put it simply, the evidence tells us that diets don't work. A far more advantageous approach is a wellness approach. In fact research demonstrates that only 2% of people worldwide who follow a diet to lose weight actually maintain weight loss. In fact most people who follow a diet to lose weight will actually end up heavier long term.

A little bit of science:

Carbohydrates are an essential nutrient in the body. It's main function is for energy, however, it must be noted that it is the only energy source that is readily available for the brain to use. Therefore, adequate carbohydrate intake is essential for brain function. Carbohydrates play an additional and even more important role with athletes when they prepare their body for peak performance on the sporting field. In fact, at a recent international sports nutrition conference one of the worlds most eminent Sports Dietitian, Louise Burke's main message was: "When the going gets tough, the tough get carbohydrates".

It is important that the public are made aware that not all carbohydrates are bad for you or make you fat! Despite the fact that there is a lot of negativity in the media around carbohydrates, we know that they are an essential part of a balanced and varied diet. Just like with other macronutrients (protein and fat) it is the amount and type you eat that is important.

What carbohydrates 'should' we choose:

The best choices are carbohydrate sources that are unprocessed and low in fat. There are many choices for the modern consumer with regards carbohydrate sources: potatoes, rice, pasta, noodles, quinoa, couscous. However, it must be noted that potatoes are the most unprocessed of all of these choices.

Why eat potatoes:

- Potatoes form part of a healthy diet - there is no evidence that avoiding potatoes is good for us - the ultimate unprocessed food.
- Great source of potassium. Potassium is mineral that helps to maintain normal muscle function and importantly normal blood pressure. An average potato contains 18% of the RDA for potassium for the day.
- Excellent source of vitamin C. This helps with the absorption of iron and helps prevent anaemia and support the immune system. Vitamin C is also a powerful antioxidant. A potato contains more vitamin C than a tomato or same portion of sweet potato.
- Contain a variety of B vitamins (thiamine, niacin, riboflavin, folate and B6). These help with your metabolism and making sure you get the best energy from your food.
- Source of calcium, magnesium and phosphorus in smaller amounts.

NSIFCS (North/South Irish Food Consumption Study) identified that potatoes are an important source of vitamins and minerals in the Irish population.

Potatoes contributed:
27% vitamin C intake
17% Folate intake
10% Iron intake
20% Dietary Fibre
11% Energy
17% Carbohydrate
7% fat intake
6% protein intake

Things you may not know about the powerful potato:

- They are low in fat & saturated fat which help keep your heart healthy
- Low sugar food
- No salt
- Naturally gluten free so suitable for people with coeliac disease
- Suitable for all vegetarian and vegan diets
- An average baked potato in its skin has more fibre than 2 slices of wholemeal bread
- **Potatoes are FODMAP friendly:** The low FODMAP (Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols) diet is gaining global momentum as a successful strategy to manage the symptoms of IBS (Irritable Bowel Syndrome) and functional gut disorders. IBS affects about 15% of the population and people can suffer from debilitating symptoms. The low FODMAP diet, when delivered by a FODMAP trained Dietitian, has been shown to be effective in up to 75% of cases. The potato is a low FODMAP food and therefore is very popular amongst low FODMAPers!!
- Potatoes are grown in practically every culture on the planet and sustain whole populations of countries – but this is what makes them exciting - there are recipes & ethnic uses of potatoes from every country in the World

Top tips:

- Watch your portions - like all foods potatoes should be enjoyed in moderate amounts for best health.
- Don't peel it - always eat the skin too. The skin is a great source of fibre and an average baked potato in its skin has more fibre than 2 slices of wholemeal bread!
- Don't add high fat foods - limit the amount of butter, full fat cheese and sour cream on your potatoes as they add unnecessary calories and fat
- Variety is the spice of life so don't make the same boiled potatoes every day - be inventive as potatoes are super versatile in cooking

- Go for baked (with skin), boiled, steamed or add to a salad or omelette

Conclusion:

In Ireland we need to re-think potatoes and how they have an important place in a balanced and varied diet. In line with many other traditional habits that we have lost, as a nation we need to re learn how to use 'potatoes as an ingredient' in a range of traditional and ethnic foods - there are many great recipes on www.potato.ie.

We must not forget the basic fact that carbohydrates are essential for life. When choosing carbohydrates let's move back our focus on smart carbohydrate choices and choose unprocessed varieties. For health and weight loss we need to move away from the idea that following a diet is the best approach and instead move to a place where we are focusing on wellness, eating intuitively and moving naturally. No doubt these are some of the healthy habits that were common with our ancestors and something we should aim to reclaim.

Thankfully – this new joint Bord Bia and Potato industry potato campaign can empower Irish people to do just this, and in so doing increase consumption of potatoes at different times of the day, and in many different & exciting ways – currently there are almost 40 brand new tasty recipes to enjoy on www.potato.ie, with many more under development.



Opportunities for Growth

Conference Presentations

Session II

Salad Potato Project

Michael Hennessy, Head of Knowledge Transfer Crops, Teagasc

The salad potato market is estimated to be 20,000-25,000 tonnes per year, with Irish growers supplying approx. 15-20% to this market. A group was set up to examine the salad potato market and what it could offer Irish growers. Increasing the area grown to salad potatoes will displace imported salad potatoes and will also help potato growers diversify existing ware production into this premium market. The production of salad potatoes requires considerable skill and a robust supply chain (from seed supply, agronomy, to final sale).

Coping with an expansion of salad potato is challenging. Potato farmers require the knowledge and support to enable them to make the necessary changes for a profitable and sustainable future. It is within this context the Salad Potato Project between Teagasc, Bord Bia and IFA was started to bridge the gaps in knowledge and promote salad potatoes.

The overall purpose of the programme is to increase the level of information to existing and new growers and ultimately increase the quantity of salad potatoes grown in Ireland.

The program has six main objectives:

- Grow the market for indigenously grown salad potatoes
- Increase the total quantity of salad potatoes grown in Ireland
- Increase the number of growers who supply salad potatoes
- Improve growers knowledge in all areas (agronomy/storage) of growing salad potatoes
- Upskill the industry on storage practices suitable for salad potatoes
- Leave a legacy of information for growers to use after the programme is finished.

The Salad Project in 2015

1. Information meetings were run at critical timings incorporating best practice and the latest research and also incorporated a demonstration site run by John Stafford, Wexford.
2. The project identified knowledge gaps and linked with SRUC Scotland to address these identified areas.
3. Data generated from the demonstration site included critical agronomic practices, canopy development, yields and skin finish which helped enormously to reinforce messages.
4. Provide up-to-date agronomy notes for growers at each meeting, building to a substantial volume of information over the three years which can be used in the future.

I would like to express my thanks and gratitude to John Stafford, Enniscorthy (Slaney Farms) and his farm manager Ed Tobin for all their efforts through the season to make the project a success.



Opportunities for Growth

Salad Potato Project

Midwest Initiative
Head of Crops and Energy Knowledge Transfer, Project

The Irish Agriculture and Food Development Authority

Introduction

- Background
- Objectives of the program
- Highlights
- Results
- Future

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Background

Main crop profitability and market access:

- Drop in consumption
- Replace consumption in other potato categories
- Diversification measure

Downside options:

- Utilise machinery and building infrastructure
- Seed, processing, crisping opportunities
- Salad Potato?

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Industry Statistics

Salad Potato market:

- Multiple trade 20,000-25,000t (7-10% of the Ware Market)
- Plus restaurant & catering trade

| Estimated Irish Production (t/ha) | 2013 | 2014 | 2015 |
|-----------------------------------|------|------|------|
| Area (hectares) | 130 | 130 | 148 |
| Production (t) | 3000 | 3000 | 3320 |

- Imports make up the balance
- Opportunities for Irish produce

The Irish Agriculture and Food Development Authority

Salad Potato Working Group

Working group set up to investigate Salad Potato potential

- IFA, Bord Bia & Teagasc

Key objectives:

- Grow the market for indigenous salad potatoes
- Increase the tonnage grown in Ireland
- Increase the number of growers
- Improve grower knowledge
- Limit complexity of information

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How Salad Potatoes can fit?

Alternative to ware:

- Target different market segments
- Higher value market

Agreement considerations:

- Seed later
- Harvested earlier
- Use ware equipment (with adjustment)

But:

- Higher risk (alternative required)
- Equipment costs
- Irrigation a necessity

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Program 2015

Key meetings for information dissemination:

- April, May, July and September
- Establish information gaps
- Target existing growers to help production base
- More widely inform potato growers of salad potatoes

Demarcation farm:

- John Stafford, Wexford (Glenties Farm)

External collaboration:

- Dr Stuart Wale, NIAG, Scotland
- Potato researcher/consultant

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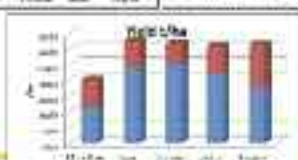
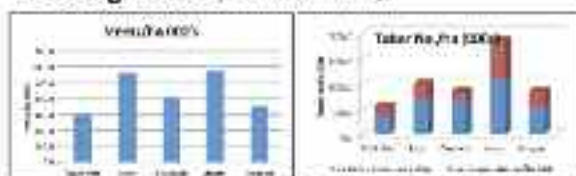
Program 2015

Meeting 2 (Field visit – assessing planting and planning irrigation)
Field Demonstration (Wine Acre, Charente, France, 2015, 2016)
Key outcomes:

- Seeding rate and placement
 - Soil grading
 - Differential in spacing from 1000 to 1750%
- Stem markers and association with tuber numbers
- Phosphate help to drain tuber count
- Irrigation and its interaction with soil (fresh (renewal) soil)



Test dig results (Demonstration only)

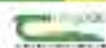


Program 2015

Meeting 3 (Field visit prior to burn off, July)

Key outcomes:

- Test digs of both to assess size
- Emergence May 25-30% – burn off July 20-25
- Burn off 7-8 weeks after emergence
- Large differences in water tuber distribution



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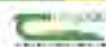
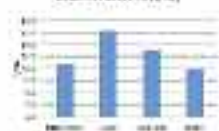
Program 2015

Meeting 4 (Salad Potato Storage)

Key outcomes:

- Early start
 - Good number of early, small tubers
- Good
 - Good quality (tuber) (tuber) (tuber)
- Good
 - Good quality (tuber) (tuber) (tuber)
- Good
 - Good quality (tuber) (tuber) (tuber)
- Good
 - Good quality (tuber) (tuber) (tuber)
- Good
 - Good quality (tuber) (tuber) (tuber)
- Good
 - Good quality (tuber) (tuber) (tuber)

Yield (t/ha) (t/ha)



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Program 2015

Meeting 4 (Salad Potato Storage)

Key outcomes:

- Long term storage of salad potatoes in plastic
- Increased level of detail needed
 - Preserve skin, flesh and moisture
 - Drying and ventilation
 - Storage temperature
- Higher profitability
 - Yield...
 - High yields and price needed
 - Increased risk



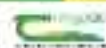
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Profitability

Main Crop versus Salad Production (Demonstration Plots)

| Cost | Main Crop ¹ (t/ha) | Salad (Main) (t/ha) |
|----------------------|-------------------------------|---------------------|
| Seed | 1500 | 1500 |
| Fertilisers | 100 | 100 |
| Other variable costs | 100 | 100 |
| Harvest | 100 | 100 |
| Net Costs | 100 | 100 |
| Income | 100 | 100 |
| Total Costs | 100 | 100 |

¹ Based on 2015 and 2016 data



The UK Potato Growers' Association

Profitability

Main Crop versus Salad Production (Demonstration Plots)

| Cost | Main Crop ¹ (t/ha) | Salad (Main) (t/ha) |
|---------------------|-------------------------------|---------------------|
| Total Costs (t/ha) | 100 | 100 |
| Price (t/ha) | 100 | 100 |
| Yield (t/ha) | 100 | 100 |
| Gross Margin (t/ha) | 100 | 100 |
| Low Yield (t/ha) | 100 | 100 |
| Gross Margin (t/ha) | 100 | 100 |
| Low Yield (t/ha) | 100 | 100 |
| Gross Margin (t/ha) | 100 | 100 |



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Lessons from UK salad growers

- Multiple varieties exclusivity
- Growing to a contract price
- Specialist salad growers
 - Quad planting increase yields
 - 15% compared to single row
- Tight financial margins




The UK Potato Growers' Association



Opportunities for Growth

Salad Potato initiative 2016

- Program description
 - Identification of host farmer
 - Test plots on 4 farms
 - Demo plots in Oak Park
 - Key meetings
 - Linkage with S&LC
 - Site selection
 - Planting
 - Storage key factors
- All potato growers welcome to meetings

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Thanks for your attention
Questions?

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Virus prevalence in the Irish Potato Crop

Fiona Hutton, Teagasc, CELUP, Oak Park

SUMMARY

Virus diseases are of key importance in potato production and in particular for the production of disease free potato seed. Virus infection persists systemically and multiplies over successive seed generations causing a major problem for the potato industry worldwide.

Information from all known potato virus testing carried out by the Department of Agriculture Food and Marine in the years 2006-2012 was collated and analysed to give an indication of the distribution and incidence of potato virus in Ireland.

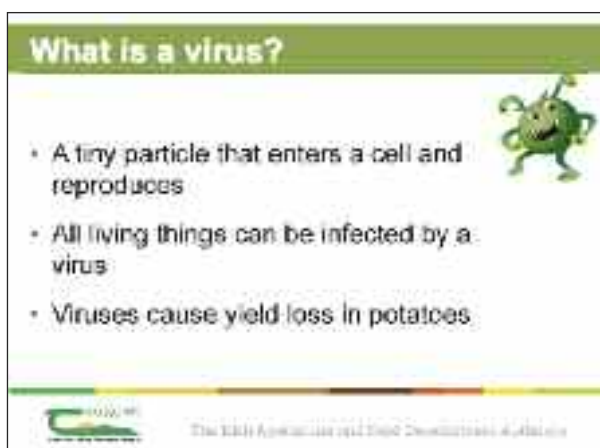
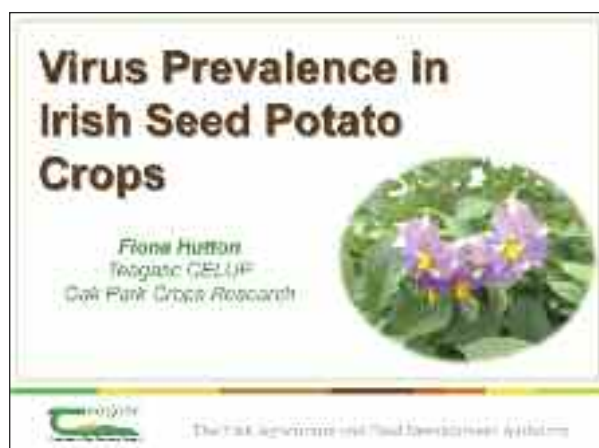
The most common virus was PVY found in 11% of samples tested, PVX was next most common in 5.4%, followed by PVA at 2.5%, both PVS and PLRV were under 1%. However, there was also significant variation in virus incidence between regions, varieties, years and seed classes.

PVX was high in the North of the country, PVY incidence was high in the North East Region and PVA incidence was highest in the South West followed by the West region. There was very little PVS incidence across all regions. PLRV incidence was relatively low across all regions with no incidence found in the South East region which may be attributed to higher altitudes.

Rooster and Kerr's Pink had the highest incidence of PVX, Lady Claire had the highest incidence of PVY and almost all samples that were PVA positive were in the variety Golden Wonder.

Virus incidence was highest in years when there were more days with weather suitable for aphid flight in May, June and July. Those conditions were low wind speeds (<3 km/hr), dry and with temperatures between 13 and 30 °C.

There was significantly higher incidence of virus in later generation seed which highlights the benefit of using high quality seed for the production of potato crops with low virus infection.





Opportunities for Growth

Viruses & Transmission

| Virus | Transmission | Type |
|-----------------|--------------------|----------------|
| Potato Virus X | mechanical | non-persistent |
| Potato Virus S | mechanical & aphid | |
| Potato Virus A | aphid | |
| Potato Virus Y | aphid | |
| Potato Virus LR | aphid | |

Viruses can be transmitted through seed

The Irish Agriculture and Food Development Authority

Mechanical Transmission

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Mechanical Transmission

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Non-persistent virus transmission by aphids

- Feeding for several seconds on infected plant infecting its neighbours.
- Aphid moves to a new plant and feeds on it, spreading virus.
- The aphid remains infective for only a short time, approximately two hours.

Potato Virus Y
Potato Virus A
Potato Virus S

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Virus incidence in seed crops

DAFM data 2006-2012

To look at effect of:

- Variety
- Region
- Seed class

12,845 Tests

2,265 Positive

2,265 Positive

N.B. Positive = some virus in crop (could be at very low levels)

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Main Varieties

- British Queen
- Golden Wonder
- Home Guard
- Ken's Pink
- Lady Claire
- Lady Rosetta
- Maria Piper
- Record
- Rooster

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Regions

- Donegal
- West
- South West
- South
- South East
- East
- North East

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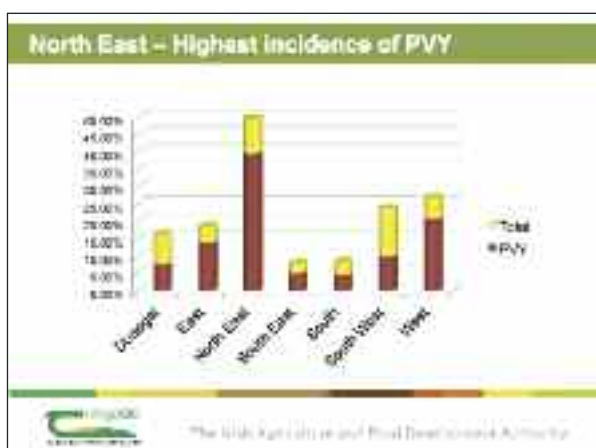
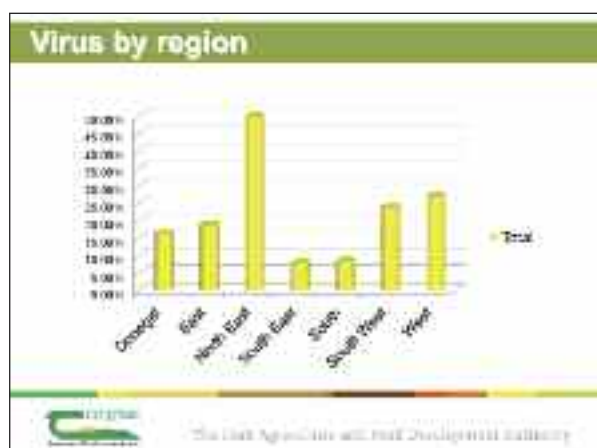
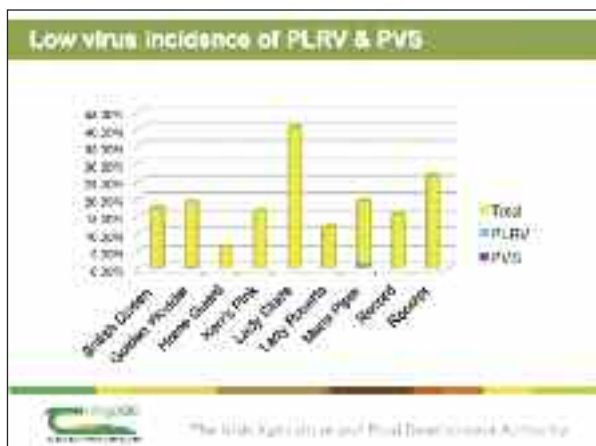
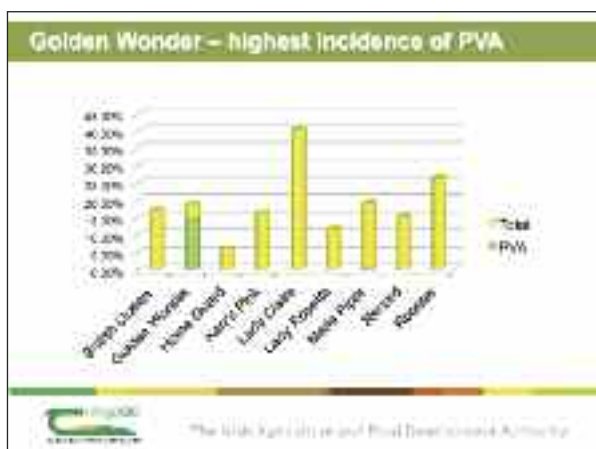
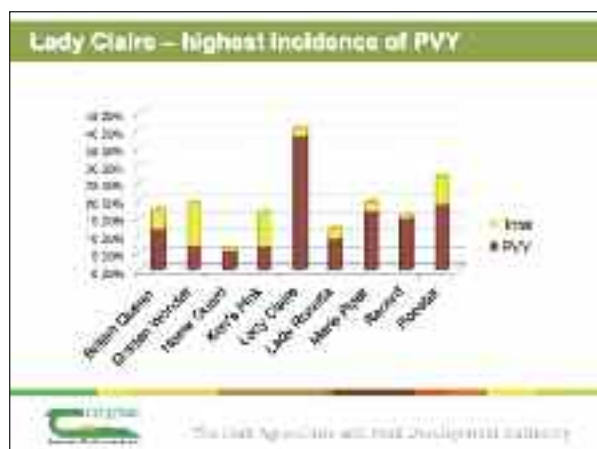
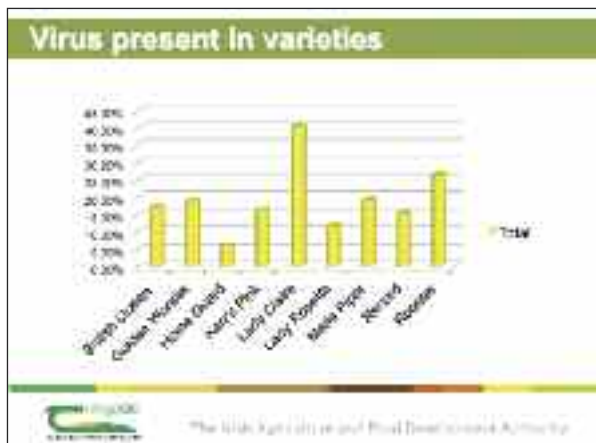
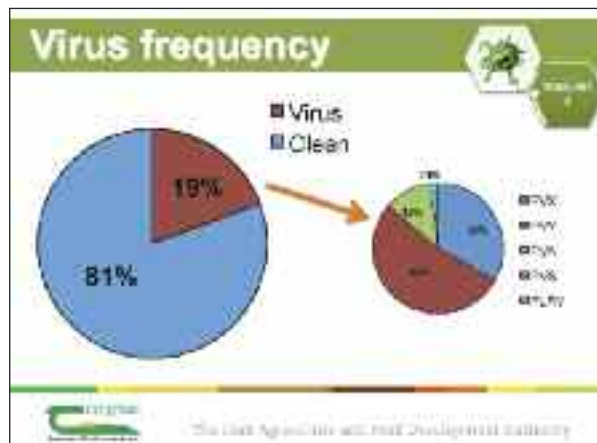
Seed Classes

- Pre-Basic 1
- Pre-Basic 2
- Pre-Basic 3
- Pre-Basic 4
- Super Elite 1
- Super Elite 2
- Super Elite 3
- Elite

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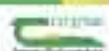
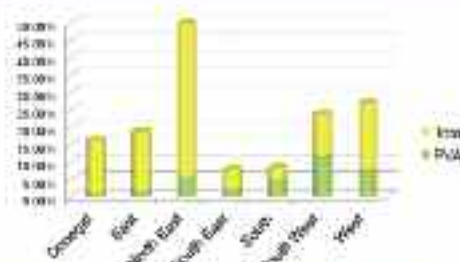
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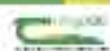
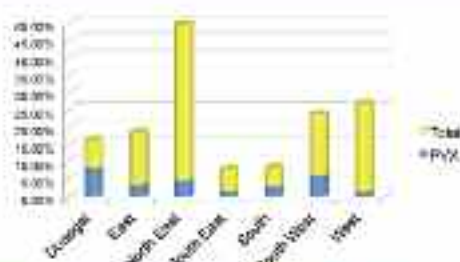
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South West – Highest incidence of PVA



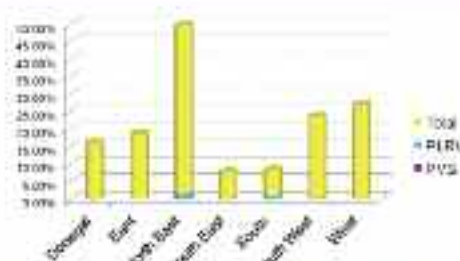
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Donegal – Highest incidence of PVX



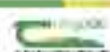
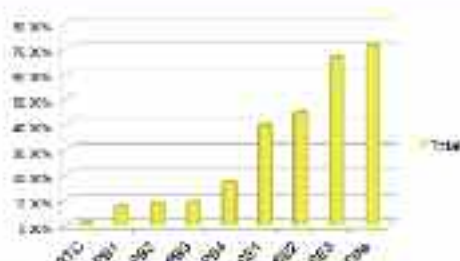
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Low incidence of PVS & PLRV across all regions



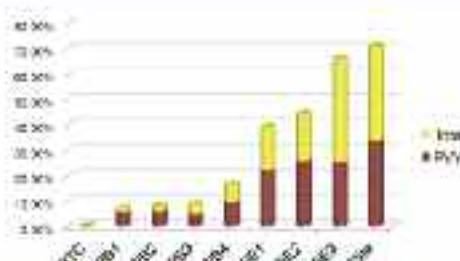
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% of virus across seed classes



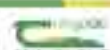
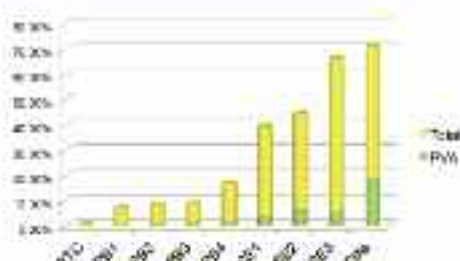
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PVY incidence increased through generations



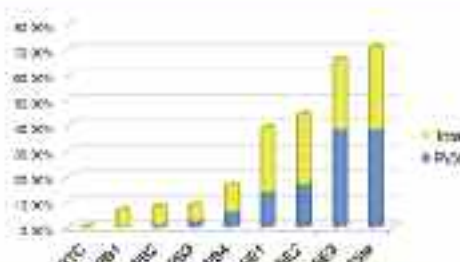
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PVA incidence increased through generations



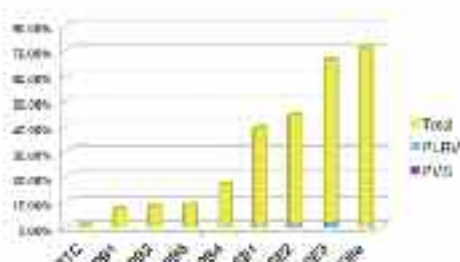
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PVX incidence increased through generations



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PVS & PLRV - slight increase through generations



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Understanding limitations to potato yields

Marc Allison, NIAB CUF, Huntingdon Road Cambridge, CB3 0DL, UK

“understanding how potatoes grow determines how to grow potatoes” Allen & Scott (2001)

Potato growers in Ireland and the UK are striving to reduce production costs and increase yields in order to maintain the economic viability of their business. The purpose of this paper is to explore how yields are formed, what factors may be limiting them and how these limitations may be removed or reduced.

Work published by John Montieth in 1977 showed that the yield of many crops was proportional to the amount of solar radiation absorbed by those crops. Subsequent studies have shown that the amount of radiation absorbed by the crop is proportional to crop ground cover (e.g. the percentage of available ground covered with green, productive potato leaves). Therefore, yield production is proportional to the extent and duration of the crop canopy. Long-term (1991-2015) weather data derived from NASA shows that when compared with Cambridge in the East of England receipts of solar radiation in Dublin are less particularly in July and August. To what extent does this reduction in summer sunlight affect the yield potential of potato crops? Work done at Cambridge University Farm has shown that reducing the amount of sunlight reaching the crop canopy by about 40% resulted in only a 15-20 % decrease in yield. This is because crops growing in duller conditions convert a larger proportion of the sunlight into yield than crops growing in bright conditions. Analysis of data has shown that the time-course of canopy development has a much larger effect on yield than how bright or dull the season is. In the northern hemisphere, day length reach a maximum around 21 June and to maximise yield potential the development of ground cover should be timed to coincide with this. Studies have shown each day's delay in crop emergence was associated with a decrease in yield of 0.25 t/ha. However, in the UK planted and emerging crops are at risk of frost whilst in Ireland, planting on the heavier-textured soils is often delayed due to them being slow to dry-out in the spring. Potato cultivations and planting in soils that are too wet results in damage to the soil structure which results in loss of yield potential. Survey data by Stalham *et al* (2005) showed that potentially two-thirds of the UK crop is grown in compacted soils and this limits potato yield and a similar situation probably exists in Ireland. Clearly, when soil conditions do become favourable it is imperative that these opportunities are exploited. Recent studies have shown that due to the availability of large, powerful tractors many growers de-stone their field deeper than is agronomically necessary and this is detrimental to yield. Shallower de-stoning often resulted in increased yield with no discernible effects on crop quality (e.g. bruising, greening etc.). However, shallower de-stoning was associated with faster work rates which are important since de-stoning is often the rate limiting step at planting. Further studies have shown that since the speed of tandem and 'trandem' de-stoners is dictated by slowest de-stoner operating them singly, in lands, speeds up the process. Detailed analysis of crop performance (using crop monitoring and modelling) has been useful in identifying the reasons for loss of yield potential. For example, this type of analysis has been used to show how much yield potential has been lost and the possible causes of this loss. This type of analysis is important since it helps growers identify the real cause of yield loss and thus where improvements need to be made. For example, growers often apply more N than is agronomically justified as 'insurance' to protect their yield potential against adverse weather and soil condition. Ongoing work has shown that these insurance applications are associated with significant reductions in yield due to the adverse effects of excess N on partitioning.

Whilst we cannot alter weather patterns, we can make sure that we have agronomic knowledge and resources to make sure that we maximise the yield potential of each field in each season.



Opportunities for Growth

Understanding limitations to potato yield

Marc Allison



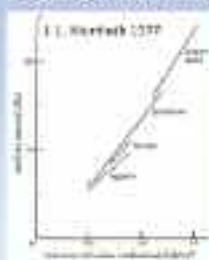
NIAB CUP

Potato Crop Management

Who we are and what we do



Relationship between ground cover, intercepted solar radiation and total dry matter yield

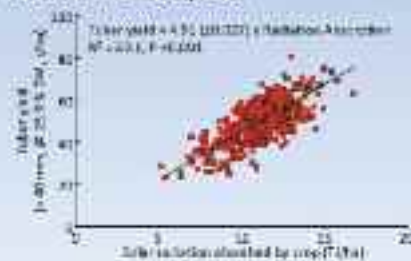


Yield is proportional to intercepted radiation



Intercepted radiation is proportional to ground cover

Relationship between ware yield and radiation absorption



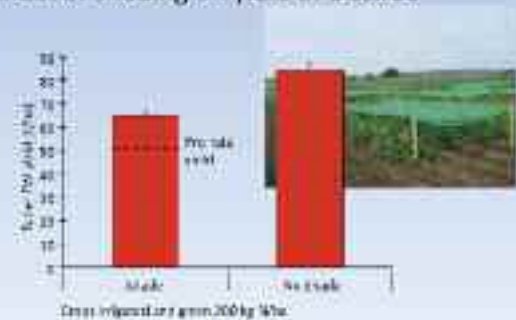
WU, UK, Potato crop trials, 2010-2013

Radiation receipts in Dublin and Cambridge

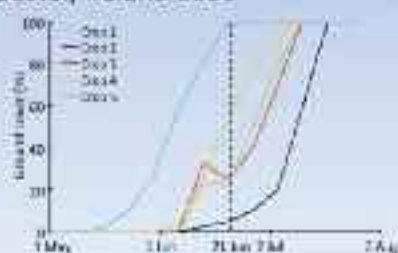
| Month | Dublin | Cambridge | % difference |
|-----------|--------|-----------|--------------|
| April | 0.181 | 0.130 | 0.9 |
| May | 0.154 | 0.170 | 5.1 |
| June | 0.160 | 0.190 | 13.6 |
| July | 0.157 | 0.220 | 21.1 |
| August | 0.134 | 0.150 | 9.9 |
| September | 0.089 | 0.110 | 23.6 |
| October | 0.054 | 0.080 | 41.3 |

WU, UK, Potato crop trials, 2010-2013

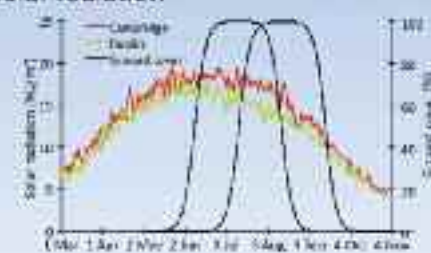
Effect of shading on yield of Desiree



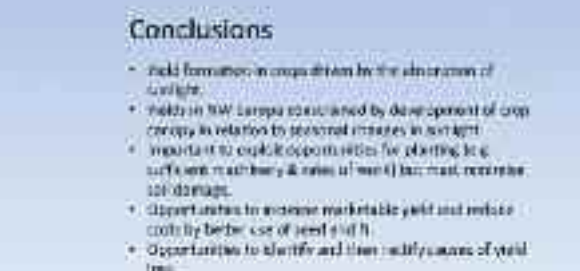
Variation in canopy development in Rooster, Ireland 2001



Ground cover development in relation to solar radiation



Summary of effects of improving N application rates on tuber population, yield and financial margin 2007-2014. Seed has been costed at £300/t and N at £0.90/kg





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