

Teagasc National Berry Seminar and Trade Show 2012

Sponsored by Bord Bia and the Irish Soft Fruit Growers Association

Dolmen Hotel, Carlow

Tuesday, 1 May 2012



Teagasc

National Berry Seminar &
Trade Show 2012

Tuesday, 1 May 2012

In association with

Irish Soft Fruit Growers' Association
and
Bord Bia

Seminar Programme

- 6.00pm Light refreshments
- 6.45pm Official Opening of Seminar by Minister of State, Mr. Shane McEntee,
Department of Agriculture, Food and the Marine
- Chairman: Mr Gary McCarthy, Vice Chairman, I.S.F.G.A**
- 7.00pm Improving strawberry module plant production technology
Mr. Gebremedhin Beyene & Dr. Eamonn Kehoe, Teagasc, Kinsealy
Research Centre, Dublin
- 7.20pm Precise irrigation for berry crops
Mr. Peter Robinson, Netafim UK Ltd & Revaho, Lancashire, United
Kingdom
- 7.40pm Recent trends in soft fruit sales
Mr. Michael Slawski, Bord Bia Horticulture Division
- 8.00pm The use of new and novel bio-control agents for berry pests
Mr. Michael Gaffney, Teagasc Kinsealy Research Centre, Dublin
- 8.20pm Increasing productivity through creating champion employees
Mr. Chris Rose, Chris Rose Associates, Kent, United Kingdom
- 9.00pm Address by Mr. James Kearns, Chairman, I.S.F.G.A
- 9.10pm Close of day by Mr. Jim O'Mahony, Head of Horticulture, Teagasc
- 9.20pm Tea and coffee

Foreword

The Irish Berry Sector: one of the gems of Irish Commercial Horticulture

The Irish berry sector is one of the most exciting, rewarding and profitable sectors of Irish Horticulture. Entrepreneurs abound.

Protected strawberry production is now the mainstay of the berry industry in Ireland. The fresh strawberry industry alone has grown by 190% over the last 10 years. Consumers are now eating €35 million worth of Irish strawberries every year. Irish people sure do like strawberries!! While some would have expected this sector to suffer badly during the recent recession this never materialised.

Why was this?

People have become more health conscious and are consuming more berries as a result. People also cannot resist the tasty, healthy and high 'quality' berries that we produce. At the present time many consumers have also swapped 'eating out' for 'eating in' and the berries business has benefited.

There is no doubt that this sector will continue to thrive. Healthy eating, favourable demographics and high 'quality' berries will drive the sector on.

Whether fruit is produced for the home market or for export the future is 'very' bright for our sector.

Eamonn Kehoe
Teagasc

Dr.Eamonn Kehoe, Teagasc, Johnstown Castle, Co.Wexford & Kinsealy Research Centre, Malahide Rd, Dublin 17. 053 91-71350
eamonn.kehoe@teagasc.ie (Research & Advisory)

Exhibitors and sponsors

Bord Bia, Clanwilliam Court, Lower Mount Street, Dublin 2

Contact Mr. Michael Slawski. Tel: 01 6685155 - Fax: 01 6687521

Web: www.bordbia.ie

Bord na Móna Horticulture Ltd., Main Street, Newbridge, Co.Kildare

Contact: Ms. Anna Kavanagh Tel: 087 1250052

Email: anna.kavanagh@bnm.ie www.bordnamonahorticulture.ie

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Contact Mr.Colm Matthews Tel: 01 843-7808 Fax: 01 843-7909

Email Colmm@nadirl.com. Web: www.nad.ie

Unichem Ltd., The Ward, Co.Dublin

Contact Ms. Mary O'Rourke Tel: 01 8351499 – Fax: 01- 8351284

Email: maryorourke@unichem.ie

List represents all confirmed trade exhibitors on print deadline date 26/4/2012

Seminar Papers





G.T. Beyene, E. Kehoe
Teagasc Kinsealy Research Centre, Malahide
Road, Dublin 17,
M. Mac Siurtain and A. Hunter
University College Dublin, School of
Agriculture and Food Science, Belfield,
Ireland








◆ **Sponsored by:-**
– Walsh Fellowship, Teagasc in collaboration
with University College Dublin




◆ **Research site:-**
– Teagasc Kinsealy Research Centre, Malahide

◆ **Duration of the PhD program:**
– January 2009-December 2012




Improving Strawberry (*Fragaria x
ananassa* Duch.) Module Plant Production
Technology.

Title:- Effect of different transplanting dates and runner
types on quality and yield of 'Cv. Elsanta'.




Introduction

- ◆ Strawberry:-
 - Is naturally short-day and a cool season herbaceous perennial plant
 - Based on the flowering behaviour they are classified as:-
 - ◆ June bearer (short day plants) and
 - ◆ Everbearer
 - The short day plants initiate flower when the day length is less than 14hrs or Temperature is less than 15°C

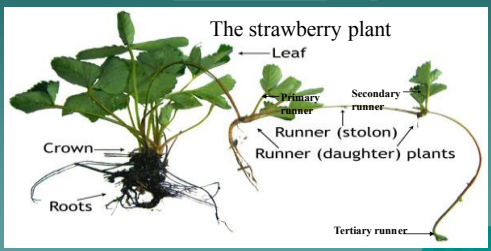




Introduction

- ◆ In the modern production system strawberry plants are grown in:-
 - Peat substrate filled in:-
 - ◆ Bags,
 - ◆ Troughs and
 - ◆ Trays with perforations for drainage

Introduction



The diagram illustrates the vegetative propagation of strawberries through runners. It shows a central plant with a crown and leaves, from which a primary runner extends. This runner branches into secondary and tertiary runners, which eventually form daughter plants. The roots of the main plant and the developing daughter plants are also depicted.








Materials & Methods

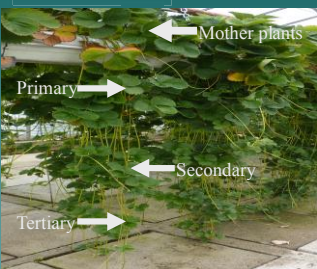
- ◆ Super elite mother plants were planted on to 20L modules filled with Clonbrin peat compost and
- ◆ Placed in glasshouse
- ◆ They were planted in February 27, 2009



Materials & Methods

- ◆ Primary runners and Secondary runners were transplanted to outdoor in three rounds (July 8, July 22 & August 7, 2009).
- ◆ During transplanting the runners were fully rooted while attached to the mother plant











Materials & Methods

- ◆ Drip irrigated with the standard nutrient solution
- ◆ The first runners start to emerge in April 04, 2009
- ◆ Any emerging flowers were pinched off



Materials and Methods

- ◆ In the outdoor the runners were misted with nutrient solution
- ◆ Sample plants from each treatments were dissected (Oct. 30 and Nov. 30, 2009),
- ◆ Crown diameter measured, leaf number, initiated flower numbers were counted,
- ◆ Fully dormant plants from all treatments were field cold stored
- ◆ In spring they were planted in to the glasshouse
- ◆ Data for fruit yield and yield quality (phenolics, TSS and TTA) were measured
- ◆ Data were analysed using SAS statistical program





Materials & Methods









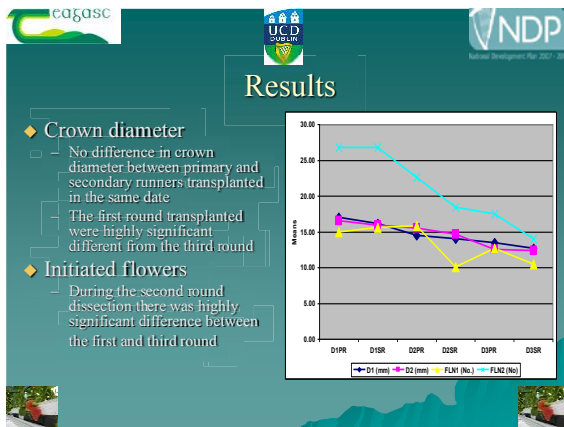


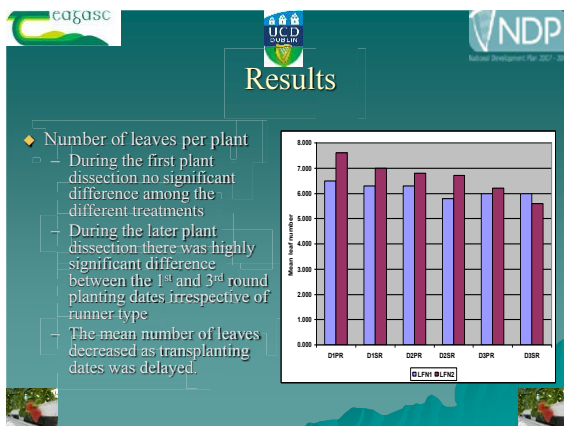
Materials & Methods

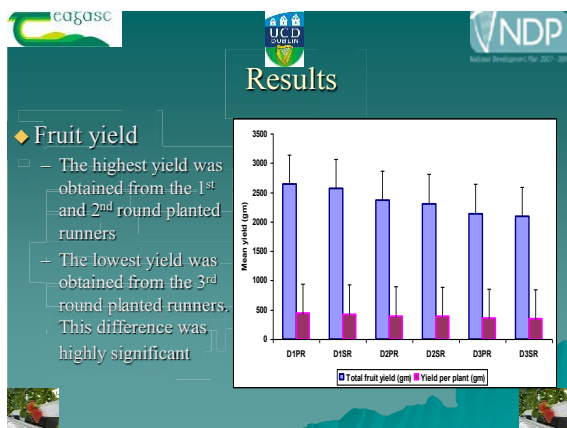


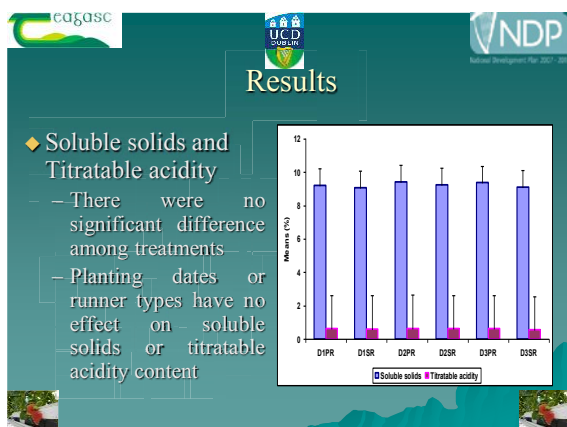

Stage at plant dissection

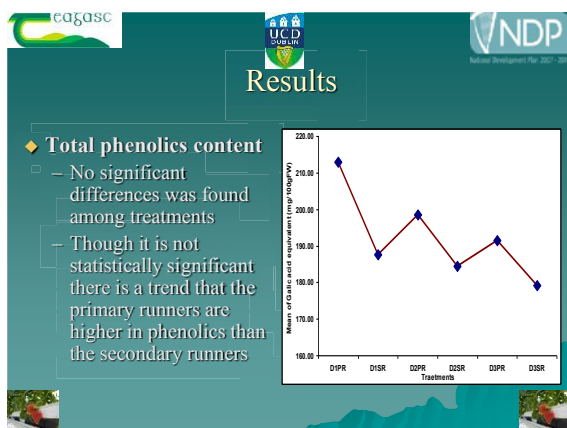


















Conclusion

- ◆ From the findings runner order on the stolon has no effect on yield
- ◆ Both primary & secondary runners transplanted from July 8-22 had better yield performance
- ◆ Date of transplanting of runners plays an important role in yield of commercial strawberry production
- ◆ Based on these conclusions in our weather conditions early planting, that is between the first and second week of July was found to be the best

Acknowledgement

I would like to thank
Mr. Oliver Sheridan and Mr. Patrick Raftery
for their valuable suggestions and technical assistance






Thank you
for your Attention

Trends in Soft Fruit Sales

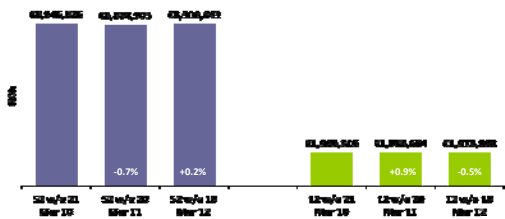
Presented by Michal Slawski

Growing the success of Irish food & horticulture



ROI grocery market is in growth over 52w by just +0.2%. Over 12w, the ROI Grocery Market is in decline of -0.5%.

Total Grocery - market value & YoY %chg

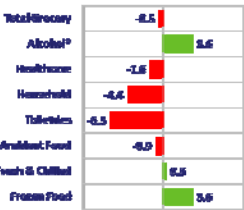
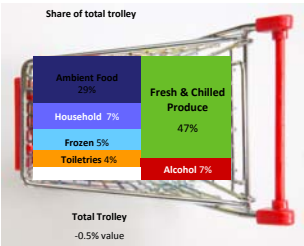


Growing the success of Irish food & horticulture



Toiletries and Household sectors has market value decline

12w Total Grocery - sectors value shares & YoY %chg

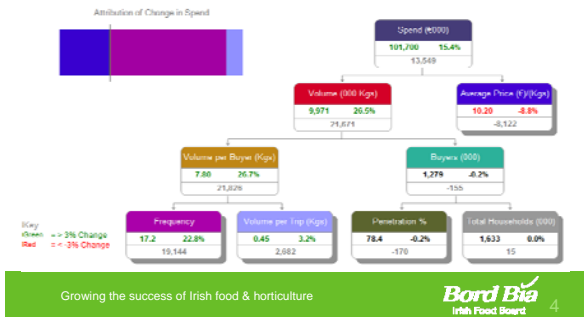


Growing the success of Irish food & horticulture



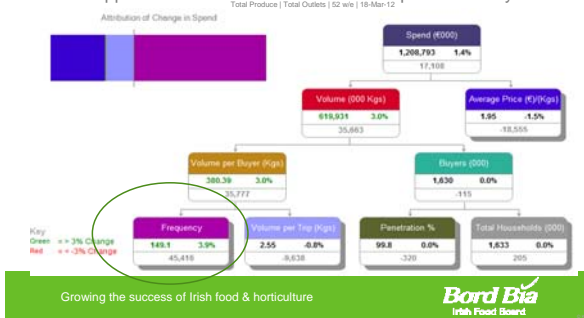
TOTAL BERRIES – KEY PERFORMANCE MEASURES

The berries market is driven by shoppers putting more in the basket and returning more often to the fixture

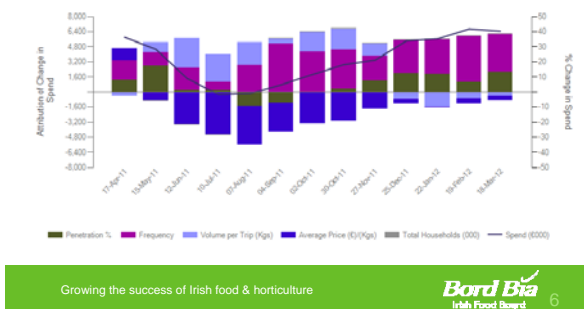


Total Fresh Produce – Key Performance Measures - Yearly

Total Produce is in growth driven by an increase in volume as shoppers visit the fixture more often compared to last year

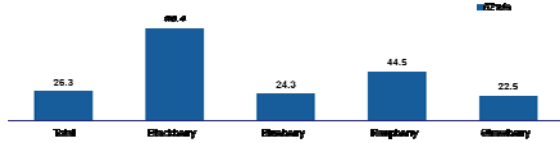


TOTAL BERRIES - ROLLING CONTRIBUTION

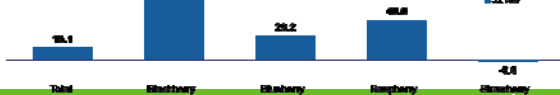


BERRIES SECTOR GROWTH YEARLY

Volume Growth



Value Growth



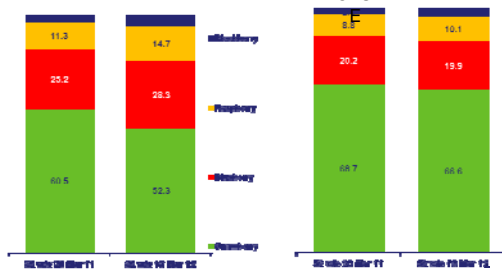
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TOTAL BERRIES SECTOR SPLIT YEARLY

VALUE



VOLUM

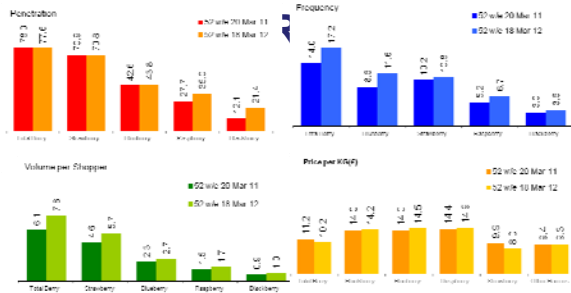


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BERRY MARKET – KEY



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BERRIES LIFESTAGE PROFILE



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52 w/e 18 March 2010

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Precision Irrigation and Fertigation



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Non-Compensated v Pressure Compensated



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Dripper Components



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Inside a Dripper



TurboNet™ Flow
X=0.43

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Pressure Compensation



Wide Regulation Range

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Self Cleaning



Continuously Self-Cleans

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And if you can't grow in soil



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Online Drippers



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Filtration




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How The Filter Works



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E: sales@irritec.ie

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Central Control



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Radio Control



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Precision Control

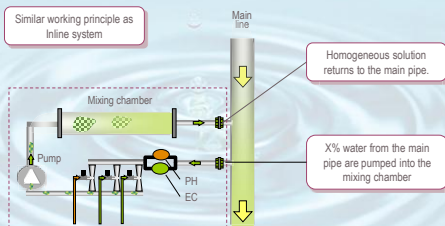


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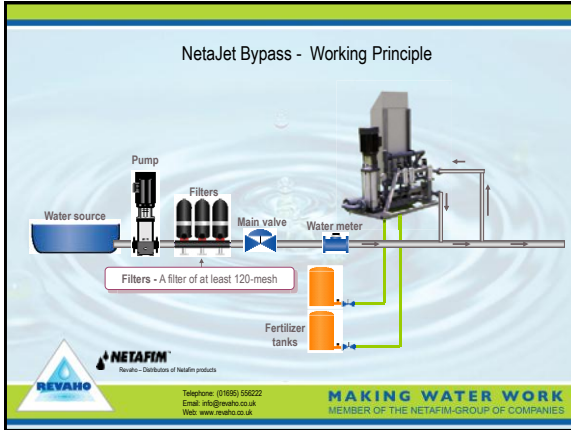
NetaJet Bypass - Working Principle

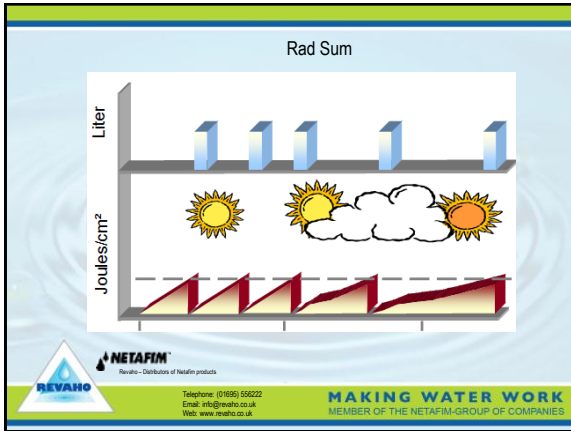


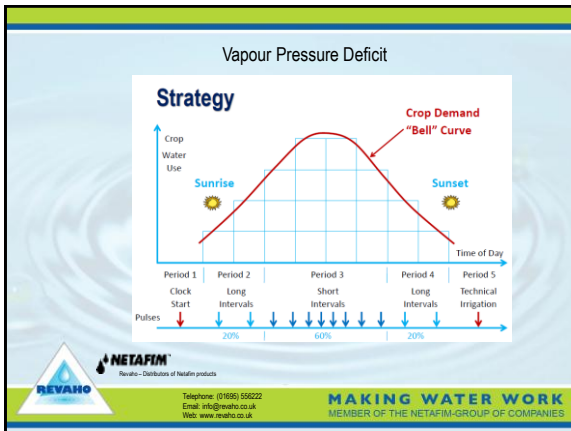
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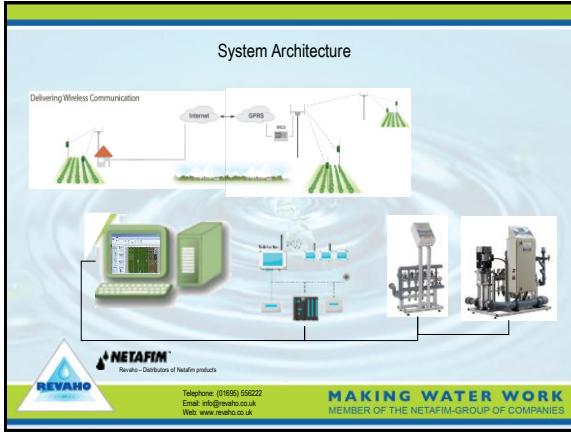
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The Use of new and novel Biocontrol agents for Berry pests

Michael Gaffney
Horticulture Development Department,
Kinsealy, Dublin 17

Michael.Gaffney@teagasc.ie
Mobile: 0871205840



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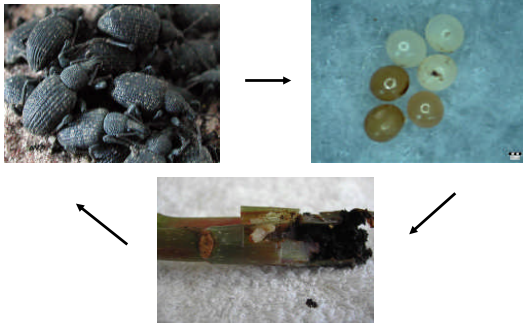
Overview of Insect Pest Control

- Estimated that 50% of PPP's registered in EU by 2020 will be Biocontrol Agents
- The proposed 'Sustainable Use of Pesticides Directive' may restrict the use of some pesticides
- Current available biocontrol products are increasingly effective



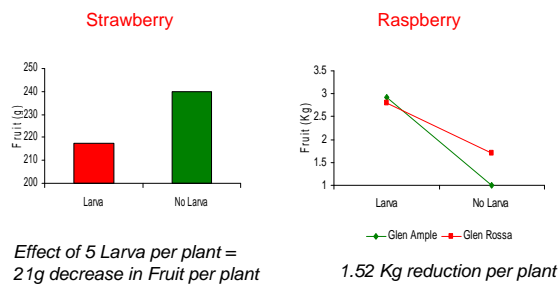
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Black Vine Weevil



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What is the Damage?

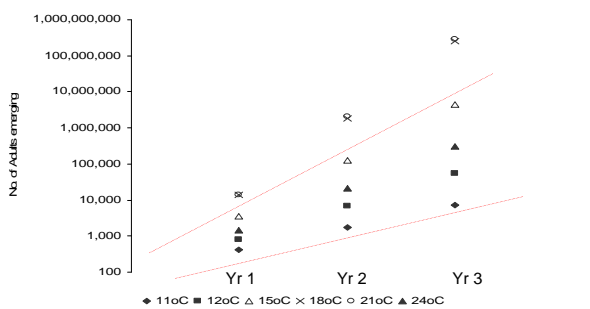


*Clark et al., 2012. Crop Protection, Vol. 32, p76-82



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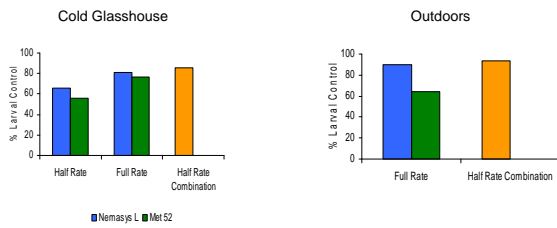
Growth of Weevil Populations



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Control Options

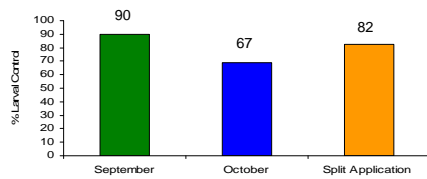
Nematode Application v Metarhizium application



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Timing of Nematode Application

Effect of Temperature



Average Temperature 7 Days Post Application

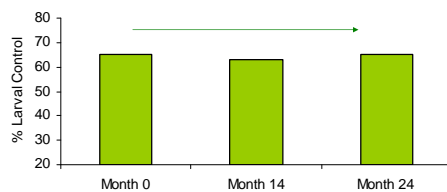
September: 14.1 C

October: 9.3 C



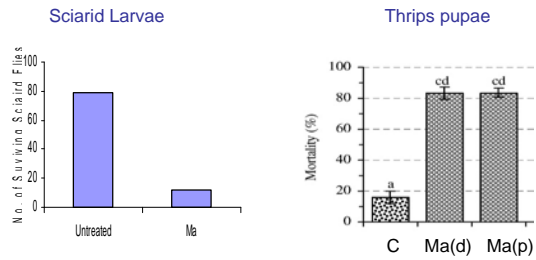
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Persistence of Met 52



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Secondary Benefits to using *Metarhizium*



Ansari *et al.*, (2007) Biological Control 4 293-297



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Applying Nematodes and *Metarhizium*

Nematode Application Guide

- Remove filter screens
- Monitor pressure of irrigation system (NB: lower pressure for *H. megidis* than *S. kraussei*)
- Do not apply in direct/bright sunlight
- Do not apply to dry compost
- Do not apply unless you have / expect to have at least 6-8 hours of temperatures above 10°C for the following 7 days

Metarhizium Application Guide

- Applied as a premix
- Does require a 'settling' in period
- Do not let the growing media dry out



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Control of Adult weevils?

UK situation – Talstar (Bifenthrin) withdrawn in 2010
Current Trials assessing –

Steward	indoxacarb	Killed 60-70% of Adults Present*
Chess	pymetrozine	Killed 60-70% of Adults Present
Hallmark	Lambda-cyhalothrin	Some effect in 2010, none in 2011
Calypso	Thiacloprid	Not Effective
Gazelle	Acetamiprid	Not Effective
Pyrethrum 5EC	Natural Pyrethrin	Not Effective
Toppel	Cypermethrin	Not Effective

*Steward has a specific restriction on Soft Fruit in the UK

Future Options?



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Azadirachtin

Azadirachtin A was registered in the EU last summer.
It is a plant chemical extracted from the fruit kernel of the Neem tree.
First use is likely to be against PCB on potato in Germany

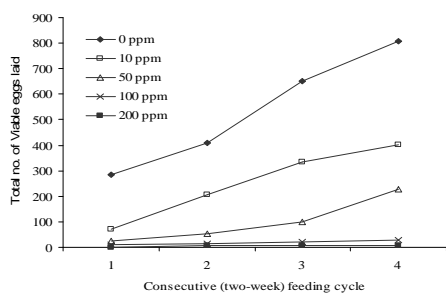
However work conducted in Kinsealy has identified its ability to cause sterility in adult weevils

Also has recorded efficacy against RSM, Aphids and Thrips
Is also fungicidal, with reported effects against *Botrytis spp.* and Powdery Mildew.



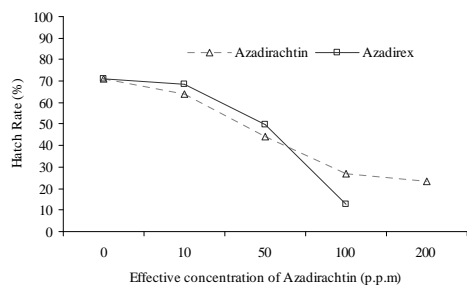
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Azadirachtin – Effect on Adult Egg laying



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Azadirachtin – Effect on BVW Egg Survival



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Pheromones

Work in Wageningen and USDA has led to the identification of the vine weevil aggregation pheromone (Kaironome) – potentially these could be baited with Insecticide and used to lure adults into traps

Work in the UK is looking at Traps, with the Roguard trap showing initial promise. Again this could be baited with insecticide to kill arriving adults



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Other Pests Update

Updates on:

Red Spider Mite

Aphid

Thrips



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Thank You

Technical updates on the work discussed in this presentation will be available from your Teagasc Advisor or the Teagasc website shortly.



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Increasing Productivity by Creating Champion Employees

Chris Rose

Labour Costs

- ♥ Labour is the biggest production cost
- ♥ The cost of labour increases every year
- ♥ Returns are more often static
- ♥ Without efficiency gains, how will you stay in business?
- ♥ How much variation is there between your best and your worst workers?



Variation in Picking Speed

- ♥ Fastest pickers are 2 x speed of average
- ♥ 2.7 x speed of bottom 25%
- ♥ Top 75% improve over the season by 30%
- ♥ Bottom 25% improve by 1%

If you always do what you've
always done...



You'll always get what you've
always got



Sourcing the Right Labour

- ♥ How carefully do you recruit labour?
- ♥ Do all your workers want to be here?
- ♥ Are they all genuinely hungry to earn?
- ♥ Careful pre-selection filters out the non-motivated
- ♥ CP 58 The Development of a Pre-selection System for Seasonal Horticultural Labour






How much do you care?

Induction & Training

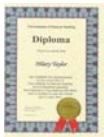
- ♥ 1st Impressions count
- ♥ Be friendly & welcoming. Smile
- ♥ They will be tired, stressed and unsure
- ♥ Explain what will happen – next steps
- ♥ Use an interpreter if needed



Induction & Training


Trained labour outperforms keen beginners

- ♥ Organise a training programme:
- ♥ Define the tasks to be mastered
- ♥ Set performance standards
- ♥ Teach each task
- ♥ Ensure later intakes get the same
- ♥ Monitor performance daily
- ♥ Recognise achievement



Increasing Productivity

- ♥ Teach to competence
- ♥ Coach for productivity
- ♥ Show trainees the top performers in action
- ♥ Encourage all to set targets to improve
- ♥ Recognise and praise every step forward
- ♥ Believe in the potential of everyone



$$\text{Performance} = \frac{\text{Potential}}{\text{Interference}}$$



What is a Champion Worker?

- ♥ Does the job to the **required standard**
- ♥ Does not need to be monitored
- ♥ Does the job very **effectively**
- ♥ Gets superb results **consistently**



The Champion Picker Model *Crop Specific (Strawberry) Traits*

- ♥ Thorough consistent search pattern
- ♥ Pick with both hands simultaneously
- ♥ Read the plant and think ahead
- ♥ Move the sledge accurately with the foot
- ♥ Listen to their bodies

The Champion Picker Model

Generic Traits

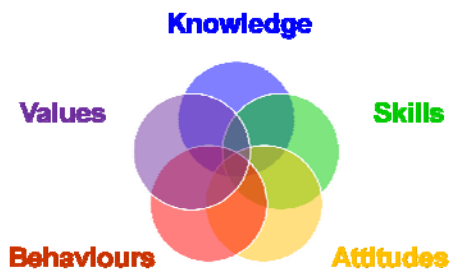
- ♥ Strongly goal-oriented
- ♥ Physically fit and strong
- ♥ They are good modellers
- ♥ Consistent positive mindset
- ♥ Set a sustainable pace and rhythm
- ♥ Keep fully focussed

Champion Supervisors

- ♥ Select carefully
- ♥ Train well
- ♥ Teacher – (Policeman) – Speed Coach
- ♥ Measure performance
- ♥ Reward results
- ♥ CP 59 The Development of a Champion Supervisor Model and Training Programme



The Champion Supervisor



People Focused

- People first:
- Then task
- Their success = your success
- People matter



- Selfish
- Unhappy gang
- Only numbers



Loyalty

- Work for the business
- Support people and boss
- Loyal to management
- Give & get loyalty



- Loyal to self
- Appear OK
- Tell tales to boss
- Tell tales about boss



Know the Standards

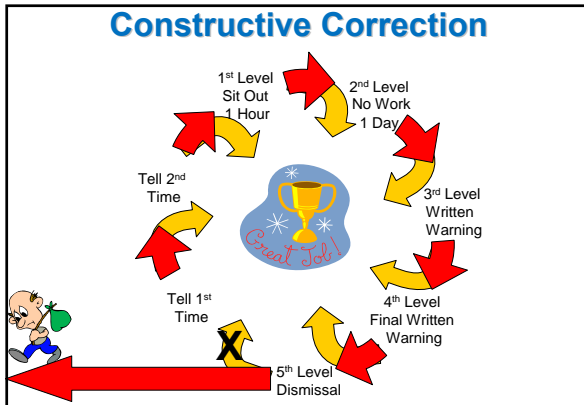


- Know all standards
- Any variations
- Change of spec
- Communicate change



- Confused
- Mixed messages
- Gets rejections!





Coaching

- Make connections
- Know their goals
- Help them get success
- Nurture → grow
- Job done right

• Uses stick only
 • People don't matter
 • Doesn't want confidence

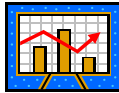
Flexibility

- Anticipate change
- Make changes early
- What's really happening
- Change methods quickly
- Fast actions: No problems

• Fights change
 • Only rules count
 • Crisis management

What to do?

- ♥ Wherever teams or individuals are performing the same task:
- ♥ Measure variation in performance
- ♥ Seek to understand reasons why
- ♥ Plan to reduce it by x% - 20%? 40%?
- ♥ Develop 'speed coaches'



Best Practice in Harvest Organisation

- ♥ Observe
- ♥ Harvest is a busy time
- ♥ Do you know what should be happening... or what is really happening?
- ♥ Get a 3rd party to audit your harvest

Strategic Planning & Field Design



Strategic Planning & Field Design

Do your harvest staff have a say in:

- ♥ Field size
- ♥ Block size
- ♥ Row length
- ♥ Size of headland
- ♥ Central roadway width
- ♥ Grassing headlands



Configuration

- ♥ 2-Row bed?
- ♥ 3-Row bed?
- ♥ Low or high bed?
- ♥ Soil or substrate?
- ♥ Ground level or table-top?

Cropping Density







Tunnels

- 🍓 4 Bed?
- 🍓 5 Bed?
- 🍓 Wider leg rows?
- 🍓 What alley width?
- 🍓 Standardised system



Picker Organisation

- ♥ Start of the day
- ♥ Keep the picker picking
- ♥ Runners
- ♥ Individual vs team payment
- ♥ Gang size

A smooth start?



Keep the Picker Picking



Gang Size



The Collection Point



Collection Point Organisation

- ♥ Weigh or no way?
- ♥ Avoid queuing
- ♥ Q.C. or just book in?
- ♥ Book in on field or at farm?
- ♥ Data-logging systems
- ♥ Fruit carting

Single handling



Double handling



New Mantra

"Right 1st time and on time every time"

We must add

"in the most efficient, cost-effective manner possible"



Helping People Grow



Chris Rose Associates
07769 742270
chris@croseassociates.com



Membership Form for ISFGA

2012

Name: _____

Address: _____

Phone: _____

Mobile*: _____

Fax: _____

Email: _____

Fruit Produced:

Strawberries _____ Blackberries _____ Blackcurrants _____

Raspberries _____ Blueberries _____ Other _____

I enclose my **€80** subscription made payable to: Irish soft fruit growers association.

Please fill out form and return with payment to:

**Mr. David Redmond,
Treasurer ISFGA,
Corderry Fruit Farm,
Knockbridge,
Dundalk,
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*Mobile numbers will only be used to send updates by SMS text and will not be disclosed to any third party.

Contact Details:

Teagasc Crops, Environment & Land-Use Research Centre

Johnstown Castle, Co. Wexford

Tel: +353 (0) 53 9171200

Fax: +353 (0) 53 9142213

Email: Johnstowncastle.laboratories@teagasc.ie

www.teagasc.ie