

Protected Crops Conference & Trade Show 2014

‘Creating a Sustainable Sector’

Tuesday, 21st October

Teagasc, Ashtown, Dublin 15

National Protected Crops Conference and Trade Show 2014

Trade Show: 12.00 – 13.20

Conference Chair – Session One

Welcome Address: Mr. Paddy Browne, Head of CELUP, Teagasc (1.20 Sharp)

Session One:

Technology & Energy

Biosecurity in water in Horticulture (1.30-1.55)

Mr. Robert Wilson, Meadowhead Consultancy

The application of LEDs in protected cropping: First year of commercial trials in Tomato (1.55-2.15)

Mr. Tim Haworth, Cambridge HOK

Opportunities and pitfalls of Biomass Heating in the Horticultural sector (2.15 – 2.30)

Mr. Brendan Lynch - Filtrex

Combined Heat and Power Plants: Opportunities for Co Funding (2.35 – 2.45)

Mr. Ross Hibbs, Cambridge HOK

Large Energy Projects: A Growers Perspective (2.45– 3.00)

Mr. Matt Foley, Tomato Grower

Tea and Coffee & Trade Show (3.00 – 4.00)

Session Two:

Integrated Pest Management

Conserving natural enemy populations in glasshouse crops (4.00 – 4.25)

Dr. Gerben Messelink, Senior Entomologist, Wageningen UR

A Good start is key: Early experiences with the NatuGro system (4.25 – 4.40)

Mr. Neil Procter, Koppert

Getting the most from your Irrigation system (4.40 – 4.55)

Mr. Nick Field, Priva

Innovation in the Market Place (4.55 – 5.10)

Mr. Michal Slawski, Bord Bia

Conference Close

Mr. David Currid, Quality Green Producer Organisation

Exhibitors and Sponsors

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Contact: Prof. Austin Darragh Email: contact@zpmieur.ie

Biosecurity of Water in Horticulture

Bob Wilson BSc. M.W.M.Soc

(Kindly Sponsored by National Agrochemical Distributors Ltd)

Good afternoon. It is probably strange to have a water treatment chemist speaking at a conference devoted to sustainable plant production, particularly when the speaker has no particular expertise in horticulture and his main interest is in stopping growth and development and ultimately killing things.

The protection of plants from harmful bacteria, fungi and parasites is key to the production of healthy plants. This requirement has led to a multibillion pound pesticide industry and well-funded research programmes to develop new molecules to combat plant disease.

Every aspect of plant growth from seed to harvested crop is protected, green houses and storage sheds are disinfected and great care is taken to ensure that any possible source of contamination is avoided. This applies to every aspect of the growth cycle apart from water, arguably one of the largest inputs to the growing process.

It is only in recent years that the importance of water quality has been recognised and water can be regarded as the last biosecurity issue which needs to be addressed.

Horticulture is not unique in this respect. Everyone from the infection control department in a large NHS hospital to the Poultry and Pig farmer is beginning to realise that water quality is important in maintaining the health of patients and key to producing healthy plants and animals.

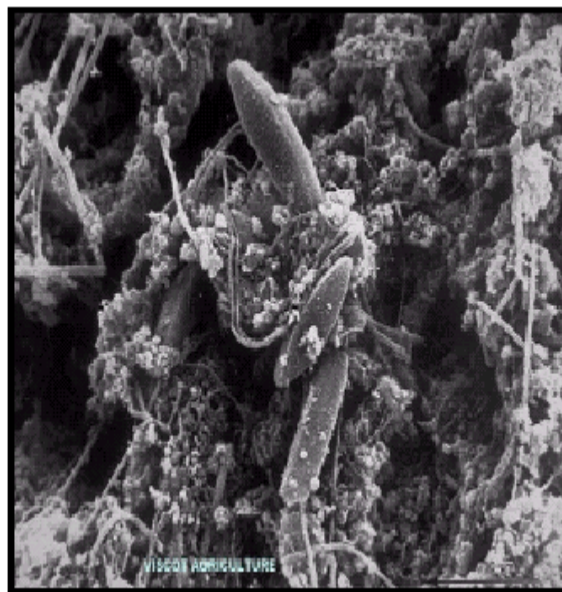
What has changed?

On the face of it, the water delivered to our taps by our water providers should be better than it was 20 years ago – Water Authorities have to dose more chlorine than previous generations did to achieve very tight EC microbiological specifications. Yet last week at the Hospital infection control conference in Glasgow I attended 2 lectures on the pseudomonas outbreak which led to the death of 4 neonates in a Belfast hospital. I have been involved in a number of legionella outbreaks including the Edinburgh outbreak in 2012, and I have witnessed high pig and chicken mortality in animal grow houses. The common link between the pseudomonas outbreak, the legionella outbreaks and the animal deaths is biofilm. The pseudomonas in Belfast and Londonderry was traced to a biofilm in tap straighteners, legionella found in cooling tower packing is another biofilm dweller e coli another biofilm dweller causes issues in animal grow houses. There are already case studies which relate plant health to biofilm.

While biofilm has always existed in water systems it is only in the past 40 years that biofilm has been investigated and probably only in this century has it been regarded as important.

What is Biofilm?

In spite of chlorination water supplied to our premises can contain up to 100,000 bacteria units per litre. There are two types of microorganisms –there are planktonic or free swimming. These are easy to kill with a disinfectant and there are sessile bacteria which protect themselves by secreting polysaccharide and sticking to surfaces within the water system. When a base layer of bacteria has formed other bacteria stick to it and grow up in columns. This matrix allows bacteria to multiply in a safe environment. Pathogenic bacteria form part of this biofilm.



Some Things you should know about Biofilm

Biofilms mainly consist of water (90%), polysaccharide (9%) and bacteria (1%) so bacteria in a biofilm are well protected. Biocides like chlorine can only remove the upper layers of a biofilm. This means that after a few days the other bacteria in the biofilm start to multiply and the biofilm reforms.

You cannot destroy a biofilm unless you can remove the base layer.

During its life cycle a biofilm will take in new bacteria and some bacteria will slough off. Sloughed off biofilm is effectively slime and slime can cause blockages.

The substrate is important – biofilms do not grow on glass and have difficulty growing on copper (copper ions are toxic to bacteria). In horticulture most lines are plastic – polyethylene or PVC and

plastics are excellent for growing biofilms – they provide at a microscopic level, organic food source for the bacteria.

Increased water temperature and the presence of any organic materials or nutrients fertilisers will improve the viability of any biofilm. Biofilm development would take place very quickly in static water in an irrigation line exposed to direct sun light.

Water quality is also important if chlorinated mains water can produce biofilms in irrigation systems, water with a higher level of impurities for example river water, rain water or recycled water will do so more readily.

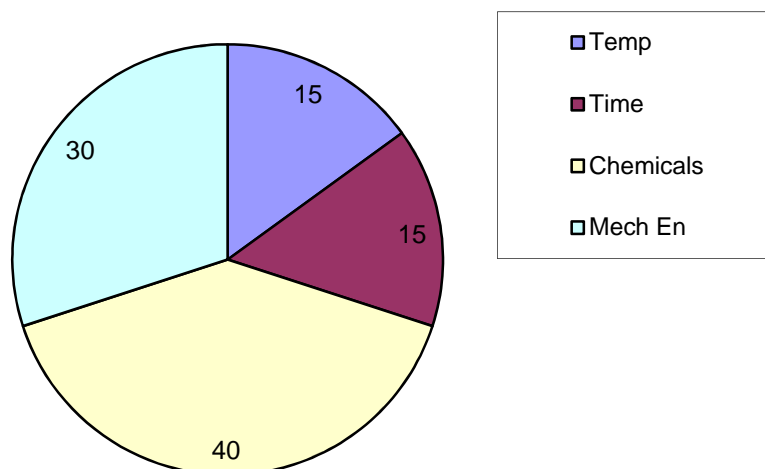
The Problems Caused by biofilm

The presence of biofilm in any plant irrigation system poses three problems for growers.

1. It is a real threat to biosecurity as certain pathogens can shelter in a biofilm and be released into the water used to irrigate plants. This can cause disease and have a major impact on yield
2. Sloughing off of biofilm can cause blockage of nozzles leading to poor water distribution and irregular growing patterns.
3. Legionella can be present in biofilms which means that misting or spraying of water is a risk to operatives

The Removal of Biofilm

The components required for effective biofilm removal are shown in the diagram below



This diagram shows that you need two things – mechanical energy and good biocidal activity to remove biofilm. You need to apply the treatment over the correct time period. Temperature helps with any reaction – but there will be few occasions when hot water can be used to remove biofilm.

There are few biocides which will truly remove biofilm. Chlorine, Peracetic acid, normal hydrogen peroxide and non-oxidising can only penetrate the outer layers of a biofilm but cannot penetrate to the base layer.

Chlorine dioxide based chemicals including mixed oxides produced by the Myox process, and certain silver stabilised hydrogen peroxides can. Chlorine dioxide and mixed oxides require expensive generation systems. Chlorine dioxide can be purchased as a very dilute solution (Abulox). The effect of chlorine dioxide on biofilm is generally to remove fairly large pieces which can lead to blockage. These chemicals are chlorine based and residual chemical may not have a positive effect on growing plants.

I want to focus the rest of this talk on silver catalysed stabilised hydrogen peroxides. These products which comprise 50% hydrogen peroxide with a silver based stabiliser were developed in Germany in the early 1980's. The most developed of these materials is Huwa-San, marketed in the UK and Ireland as Endosan. The product has all the necessary approvals to be used in horticulture in Ireland and residual hydrogen peroxide is known to have a beneficial effect on growing plants. (Many golf courses add hydrogen peroxide to their water spray to improve grass quality).

Endosan is a proven biofilm remover. The product was developed initially for Siemens who had a particular problem with biofilm in the water systems in dentists' chairs. The product is now being used throughout the world for biofilm removal and we now have a number of good case studies to demonstrate its effectiveness in removing biofilm in irrigation systems.

Endosan is a very effective bactericide, virucide, fungicide and algaecide. It is non-corrosive to system materials at use concentrations and can be dosed using conventional dosing systems e.g. Dosatrons, water pumps or simple dosing pumps. It has been used in Fertigator systems.

Perhaps the best way of demonstrating the efficacy of Endosan is to go through some case studies which demonstrate how it has been used to combat biofilms and biofouling in horticulture irrigation systems. Continuous dosing of Endosan at 20 ppm to well water systems controlled a mid-rib rot problem in a Belgian farm –The farmer was already using the product in his poultry sheds and decided to try it on his Lettuce problem.

Endosan was dosed continuously to control *Phomopsis scierotioides* in cucumber. While the well water on this farm was filtered prior to use bacteria passed through the filter and formed biofilms

A Californian tomato grower which belonged to a European parent added Endosan in line with the practice adopted by the other group members in Europe. Before using Endosan they were experiencing a product loss of 9000 trays each with 320 plants per season (1.6%) After continuously dosing Endosan this fell to just 60 trays or 0.011%

“The product pays for itself in a short time and allows for greater profits, better crop yields and better growth consistency each growth year”

A soft fruit grower in Scotland had to replace his entire irrigation system because it became irretrievably blocked. This year he dosed his river water supply with 100 ppm Endosan over 24 hours. The chemical was added into his fertigation system. An inspection of nozzles and pipework after 2 days showed that the biofouling had been completely removed.

Endosan is now being widely used in the horticulture industry and this is being supported not only by field case studies but also by University research particularly in Poland. Last week at the Infection Control Conference in Glasgow, a doctor speaking on infection control in US Hospitals said that they were moving to advanced hydrogen peroxides for disinfection. The horticulture industry should follow suit.

Large Energy Projects

- A Growers Perspective

Mr. Mat Foley
Kilbush Nursery, Rush, Co. Dublin



Outline of Talk

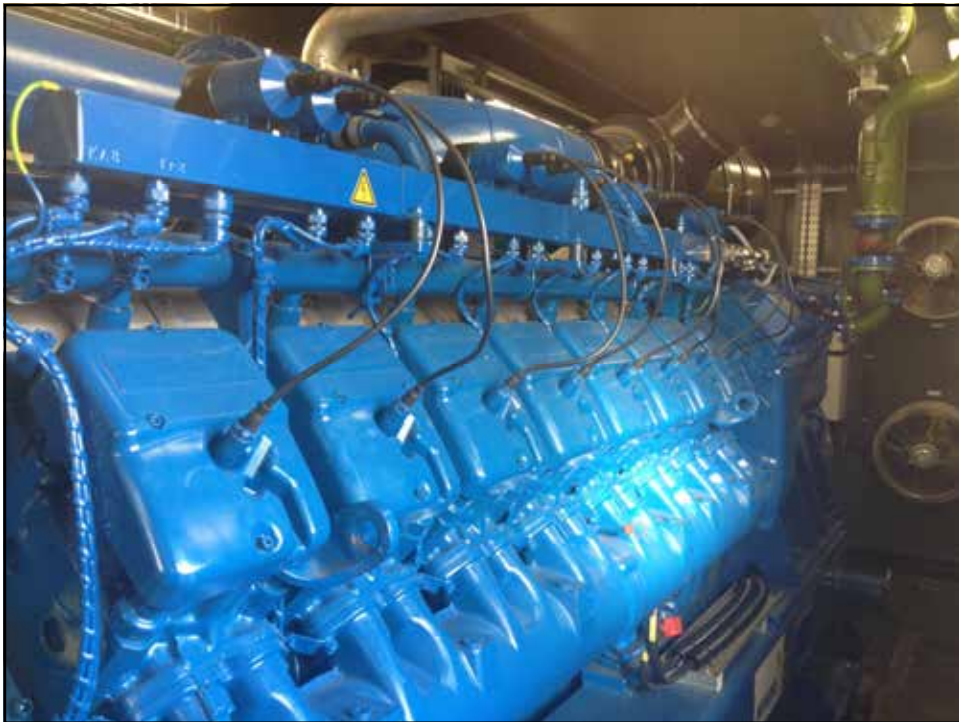
- Introduction
- Feasibility Studies
- Planning
- Grant Aid
- Construction
- Commissioning
- Virtual Tour



























Conserving natural enemy population in glasshouse crops

Gerben Messelink, Wageningen UR Greenhouse Horticulture

National Protected Crops Conference & Trade Show 2014
Teagasc, Ashtown, Dublin, October 21, 2014



Drivers for change in crop protection:



Is biological control with natural enemies always working well?

Nr 1 vegetables: aphids, *Myzus persicae*,
Aulacortum solani



Problems:

- Natural enemies not effective enough and too expensive
- Problems with establishment of natural enemies (eg predatory midges)



Nr 2 vegetables: spider mites, *Tetranychus urticae*

Problems:

- Side-effects pesticides (e.g. neonicotinoids against Feltiella)
- Poor quality *Phytoseilius persimilis*?
- Interaction with other predatory mites?



Nr 3 vegetables: caterpillars, *Chrysodeixis chalcites*, *Lacanobia oleracea* etc.

Problems:

- Larval parasitoids not commercially available (too expensive)
- Trichogramma not effective



Nr 4 vegetables: true bugs, *Lygus rugulipennis*, *Liocoris tripustulatus*, *Lygocoris pabulinus*

Problems:

- natural enemies against adults not available



Nr 5 vegetables: Tomato russet mite, *Aculops lycopersici*

Problems:

- Predatory mites get entrapped by the type VI glandular trichomes on tomato stems



Nr 1 ornamentals: western flower thrips, *Frankliniella occidentalis*

Problems:

- Low thresholds for thrips densities
- Poor establishment of effective predators: predatory mites and predatory bugs (lack of food, unsuitable habitat, side-effects pesticides)
- Strong side-effects pesticides (e.g. melatox in roses)



Nr 2 ornamentals: mealybugs, *Planococcus citri* (and others..)

Problems:

- Parasitoids and *Cryptolaemus montrouzieri* often not effective and too expensive



Nr 3 ornamentals: armoured scales, *Aulacaspis rosae*, *Diaspis boiduvalli*

Problems:

- Natural enemies not available or not always effective.
- Side-effects other pesticides



Nr 4 ornamentals: whiteflies, *Trialeurodes vaporariorum*, *Bemisia tabaci*

Problems:

- Natural enemies not effective at lower temperatures (gerbera)
- Poor establishment of natural enemies (lack of food, side-effects pesticides)
- Zero-tolerance policy (Poinsettia)



Nr 5 ornamentals: *Echinothrips americanus*



Problems:

- Predatory mites not very effective
- Poor establishment of Orius bugs
- Effective mirid predators cause damage to flowers (gerbera)
- Predatory thrips of lacewing larvae are too expensive and not effective enough

Summarizing: reasons limited use of biocontrol

Not only because of social aspects (attitude industry and government) or regulations but also because:

- Natural enemies are not effective enough
- Natural enemies do not establish well
- Natural enemies are too expensive
- Natural enemies are not available

Enhancing efficacy of natural enemies

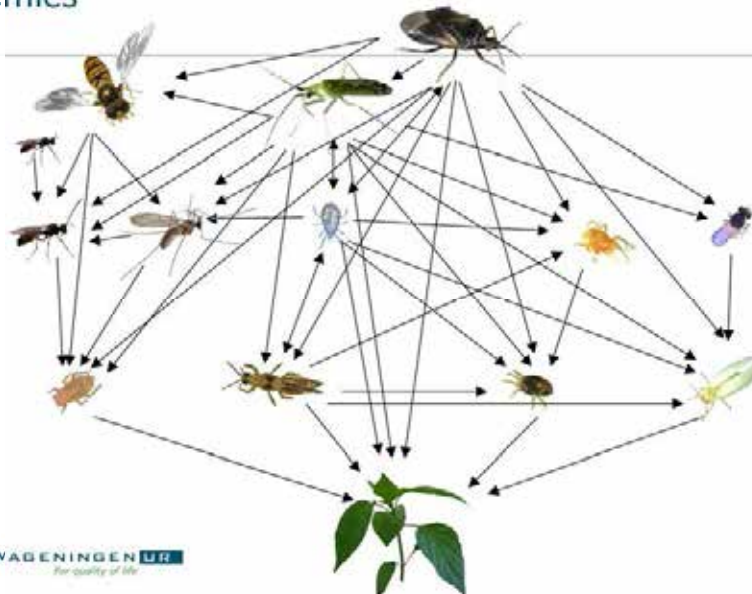
- Enhancing quality of natural enemies:
 - Better rearing methods
 - Selective breeding (pesticide resistance, climate, symbionts)
 - olfactory conditioning
- Enhancing establishment
 - alternative food, prey, hosts
 - oviposition sites or shelters
 - Adapting the greenhouse climate/microclimate
 - avoiding pesticide side-effects
 - The right combinations of natural enemies

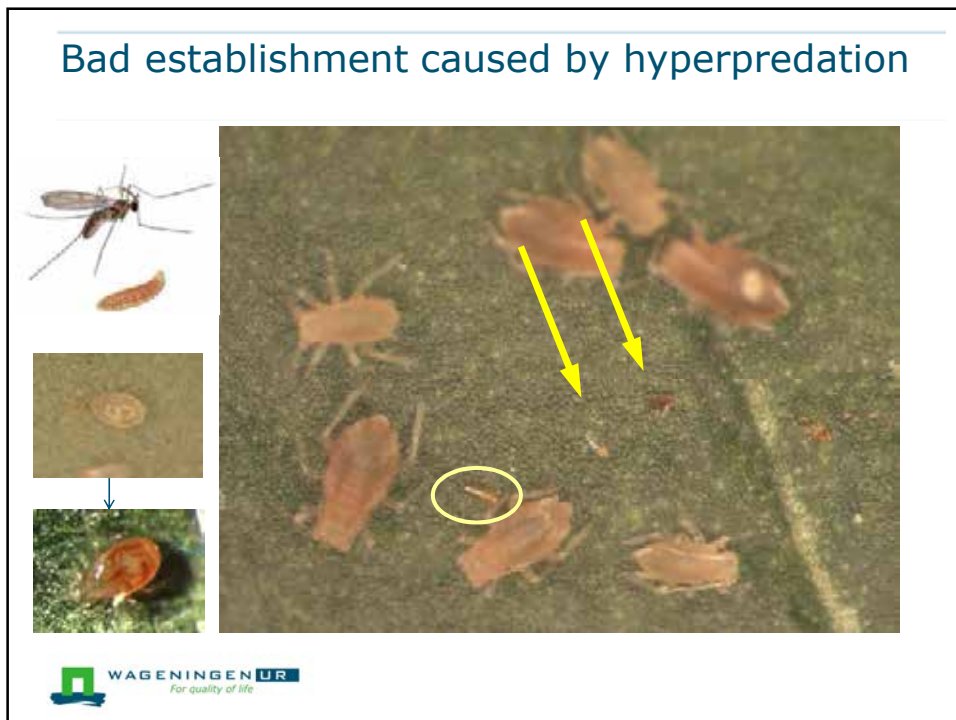
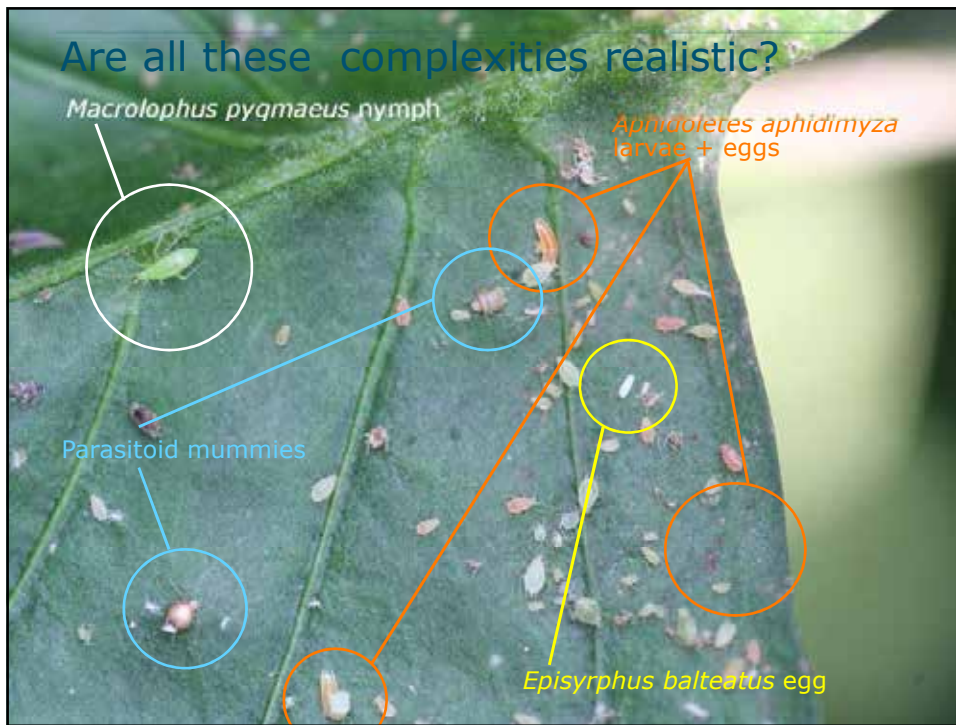


Methods for conserving natural enemy populations: some examples

- The right combinations of natural enemies
- Banker plants
- Insectary plants
- Food sprays
- Mulch layers

A food web with 4 pest species and their natural enemies





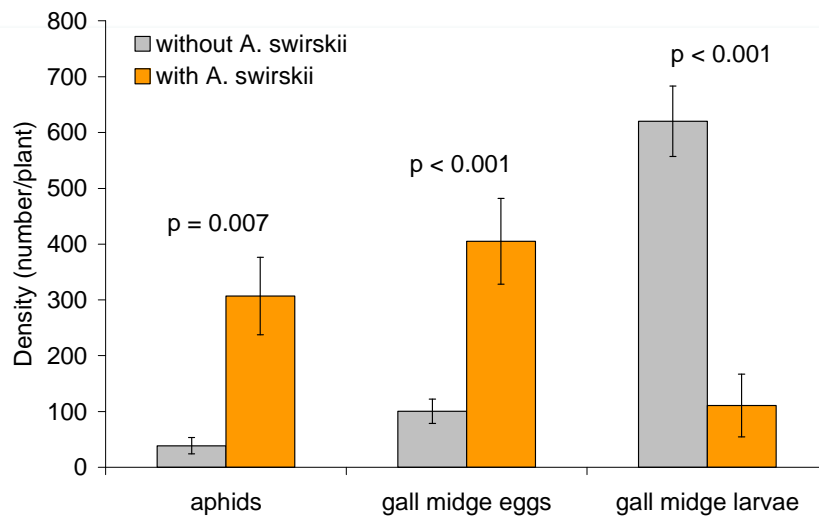


- Predatory mites



+ predatory mites

Densities of aphids, midge eggs and midge larvae after 7 days



Banker plant: Castor bean *Ricinus communis*



- *Iphiseius degenerans*
- *Amblyseius swirskii*
- *Euseius ovalis*

Castor bean plant *Ricinus communis*



Banker plants for Aphid parasitoids



- Most popular: combination of winter wheat & *Sitobion avenae* for production of *Aphelinus abdominalis* or *Aphidius ervi*
 - Advantages: cheap rearing of parasitoids, “fresh” parasitoids
 - Disadvantages: smaller wasps than on host from mass production, increased risk on hyperparasitism



Dominant hyperparasitoid: *Dendrocerus aphidum*



- Related to another common species: *Dendrocerus carpenteri*
- Parasitizes parasitized aphids 4-10 days after parasitism by the primary parasitoids
- Generalist species: most aphid-parasitoid combinations are vulnerable

Conservation of *Aphidoletes aphidimyza*

- The banker plant method, similar to the parasitoids: combination of winter wheat & *Sitobion avenae*
- Intercropping with kohlrabi (with cabbage aphids)



Banker plants for Orius



Possible candidates for *Orius laevigatus* in ornamentals

- *Amaranthus cruentus* (red amaranthus)
- Ornamental pepper: *Capsicum* 'Black Pearl'
- Corn flower, *Centaurea cyanus*
- Strawberry + strawberry whitefly, *Aleyrodes Ionicerae* (not for roses)

Insectary plants for nectar fuelling:



- conservation of *Episyrphus balteatus*



Alyssum lobularia

Insectary plants for nectar fuelling:



- conservation of *Episyrphus balteatus*



Buckwheat, *Fagopyrum esculentum*

Conservation of *Episyrphus balteatus*

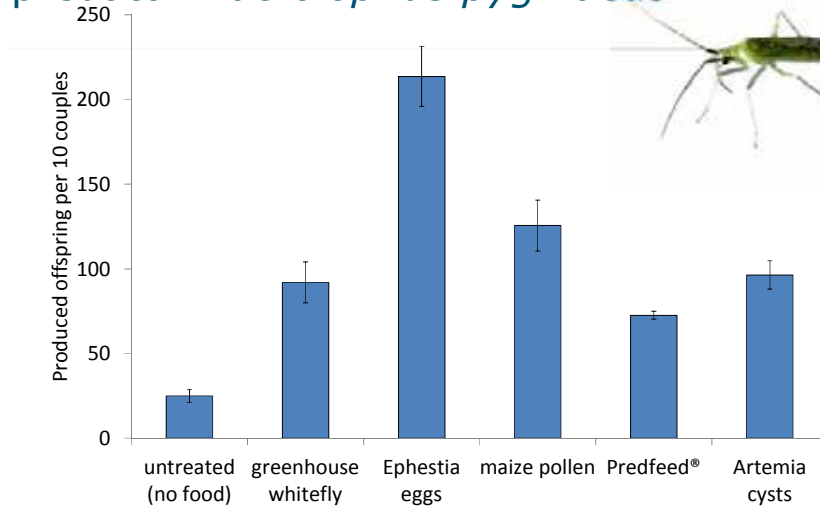


- Nectar fuelling with insectary plants



Crambe hispanica

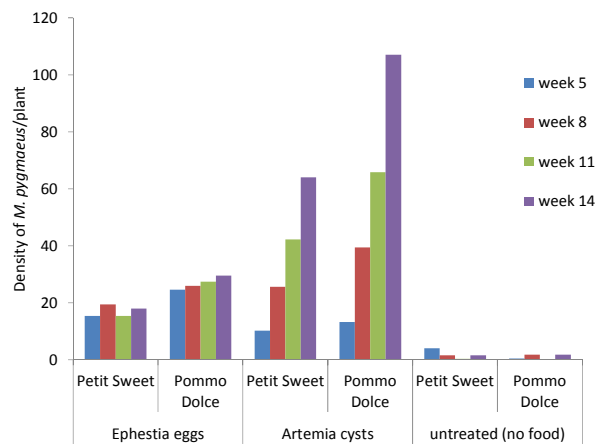
Alternative food sources for the mirid predator *Macrolophus pygmaeus*



Applying alternative food in practice



Applying alternative food in practice



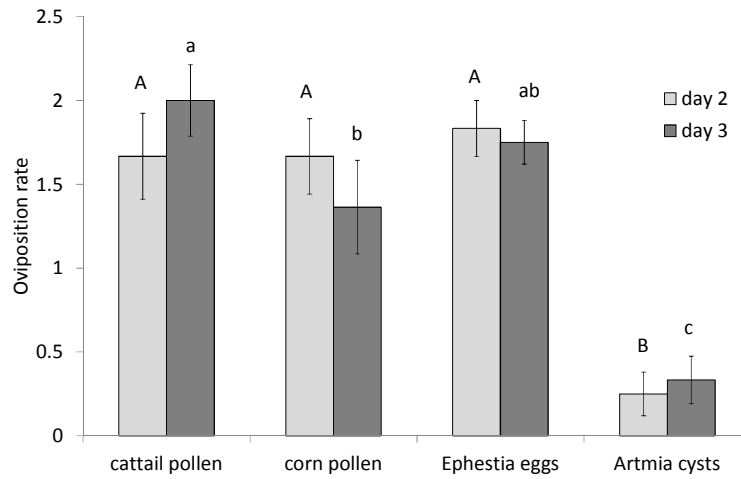
Weekly application:
 Ephestia eggs: 35 g/ha (€800/kg)
 Artemia: 135 g/ha (€20/kg)



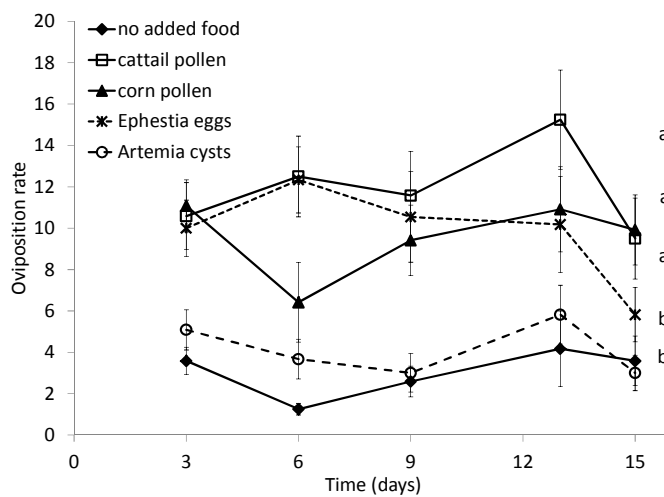
Food and shelter for predatory mites



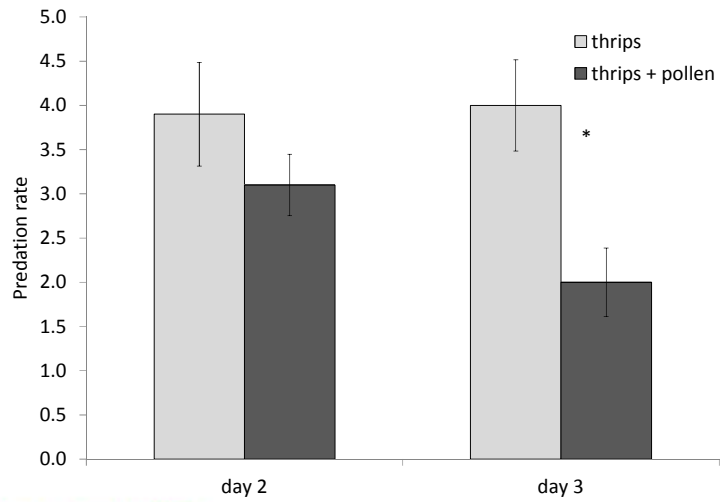
Alternative food for predatory mites



Effects of food on thrips



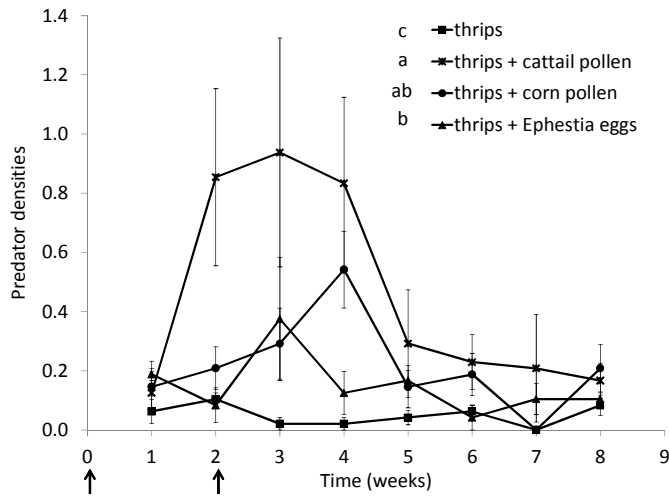
Effects of food on thrips predation



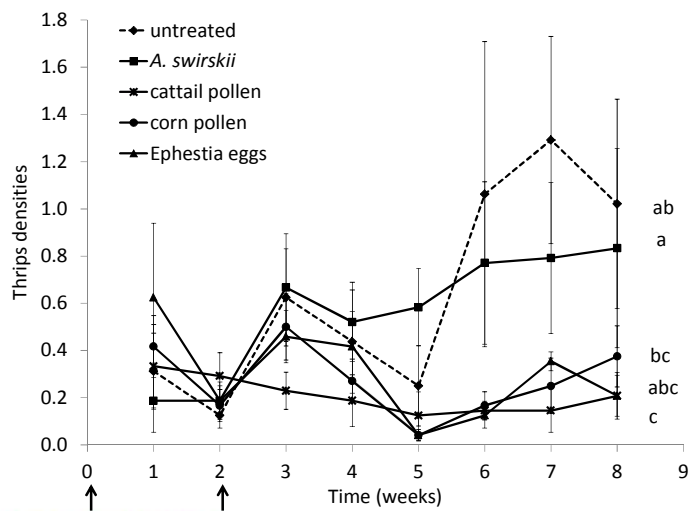
Effects on biological control of thrips



Effects on biological control of thrips



Effects on biological control of thrips



Mulch layers for enhancing pest control

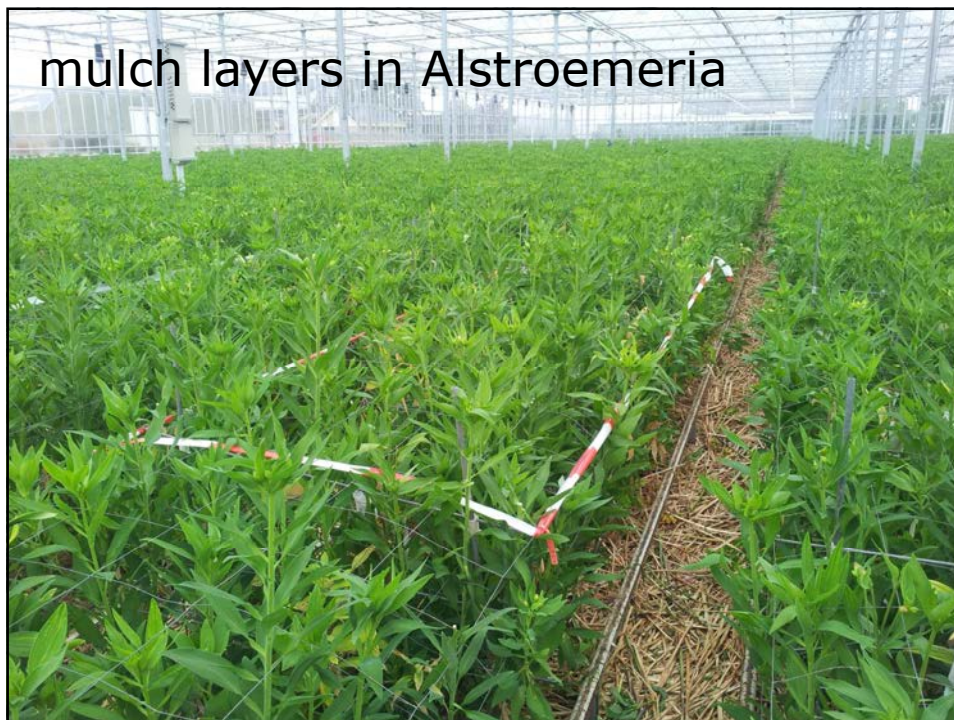


mulch-layer composition

Prey mite population increase

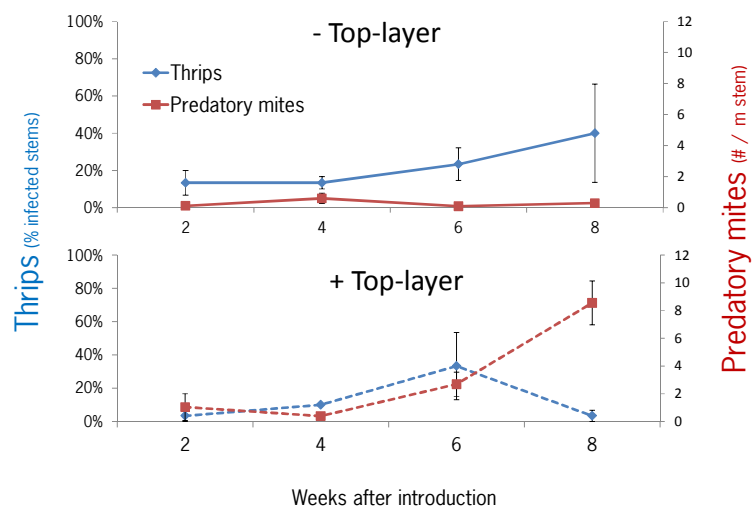
- 9 mulch-layers
- 2 prey-mites:
 - *Acarus siro*
 - *Carpoglyphus lactis*







Effect on thrips and predatory mites (*N. cucumeris*)



Conclusions

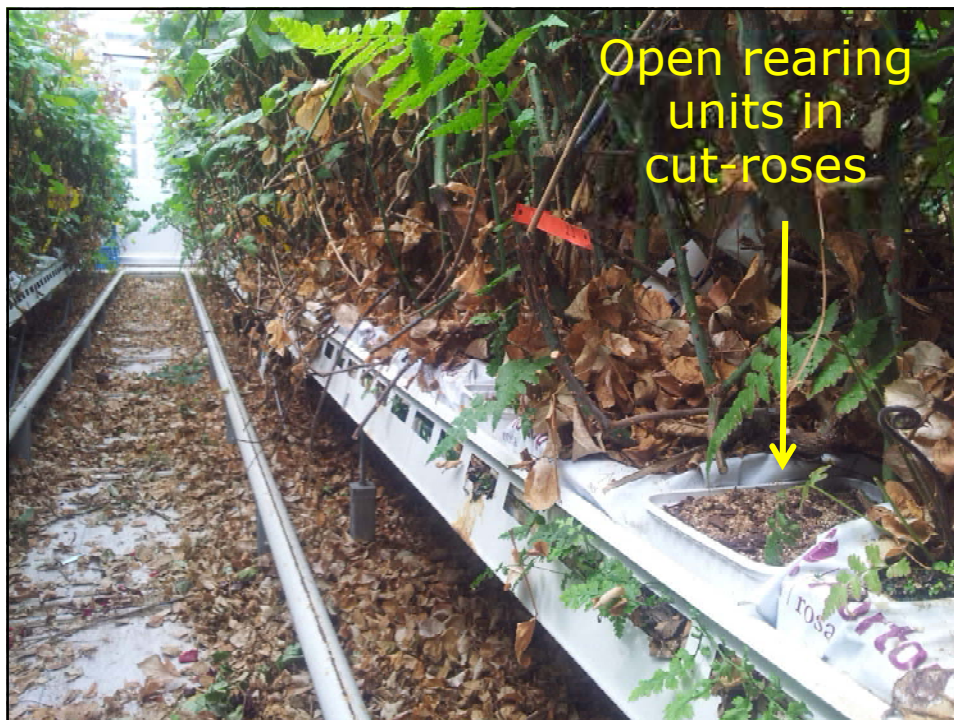
- Mulch layer:

- Predatory mites do not establish on crop
- Pest pressure increases gradually

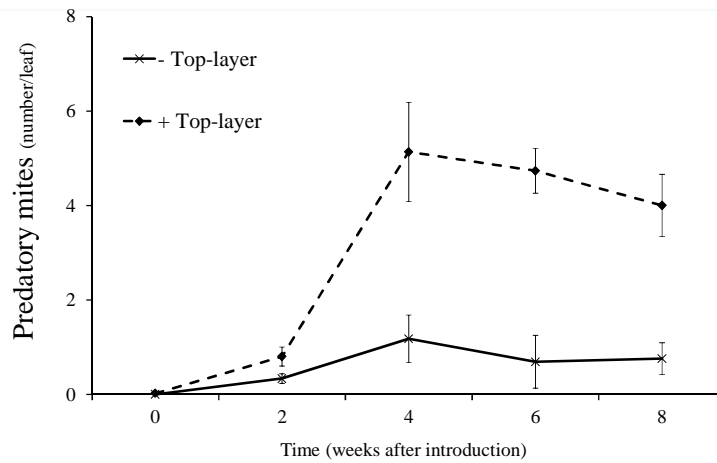
+ mulch layer:

- Increase in pest-pressure is followed by strong increase in predatory mite density on crop
- Pest pressure decreases

Better predatory mite establishment and thrips-control due to mulch layer application



Effect on predatory mites (*A. swirskii*)



- Strong increase in predator density due to mulch layer application
- Increased predation rates in treatments with rearing units

conclusions

- Establishment of natural enemies can be enhanced with banker plants, insectary plants, food sprays and mulch layers
- Be aware of food web complexities through presence of hyperparasitoids and hyperpredators
- Be aware of short-term dynamics when the alternative food is also edible for the pest species

Thanks for your
attention!



Ministry of Economic Affairs,
Agriculture and Innovation



Getting off to a good start

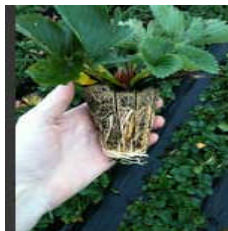
- The importance of achieving a resilient and balanced crop at propagation
- Introduce some simple steps
- Practical observations



Neil Procter

KOPPERT
BIOLOGICAL SYSTEMS

In the beginning:-

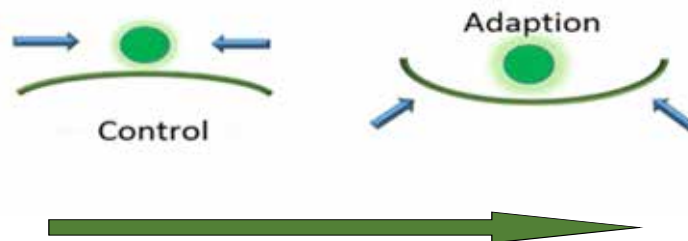


Issues associated with imbalance

- Additional nursery costs upon plant arrival
- Lack of Uniformity
- Disease incidence
- First truss development
- Stress Points



NatuGro Approach



From Control model

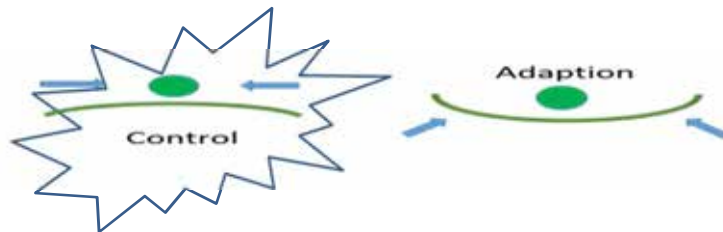
- Focus on problem
- Eliminate variation
- Continuous monitoring
- Direct action on problem
- Static equilibrium

To Resilient model

- Focus on system
- Utilize variation
- Stimulate self-regulation
- Indirect action on problem via system
- Dynamic equilibrium

Status Quo Requirements

- Specification
- Sterile and clean!!
- Use of chemicals
- Series of stress points
- Separate from overall programme



A more Natural and Resilient Approach



- Challenge stress points
- Identify young plant requirements
- Build a plant for your requirements
- Bring into crop programme



NatuGro

Needs:

- Good Quality Bio-stimulants
- Healthy and Active Root System
- Managed & Diverse Rhizosphere

Leads to:

- Coping with Abiotic Stress
- Less chemical dependency
- Ready for next stage(s)
- Value added

NatuGro

Practical Experiences

ProParva
Trichoderma
Rhizobacteria

Ireland, UK & NL

Stress or Programme?



Agrobacteria in Tomatoes



Needs specific steering to optimise yield

- Potential yield loss – 15%+
- Initial infection?
- **It starts at the Kiemplug stage**

Product	Rate	Method
Trianium P	1.5 gms/m ²	Drench
Linafer P	1 ml/m ²	Drench
ProParva	1 ml/m ²	Drench

Block

Product	Rate	Method
Trianium P	1.5 gms/m ²	Drench
Linafer P	0.5 ml/m ²	Drench
ProParva	0.5 ml/m ²	Drench

Programme continues at nursery – stress points

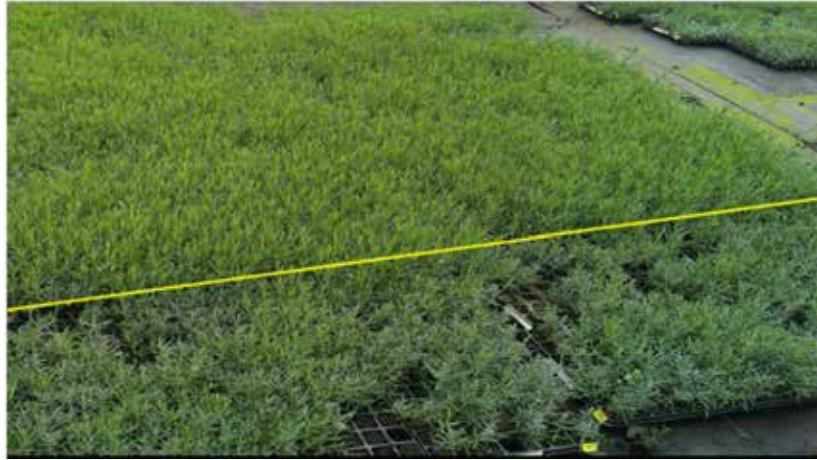


Some practical experiences



Matthiola (stocks) with NatuGro





Crop establishment (from propagation)

Product	Goal	Appl. Method	Dose	Frequency	Interval	Remarks
Titanium	Protection soil diseases	Drip/Drench	3 g m ²	once		Start at planting 29.31
ProParva	Root growth	Drip/Drench	250ml/1000 m ²	2x	1 week	Start at planting 29.30,31
ProFortum	Vegetative growth	Drip/Drench/Spray	250ml/1000 m ²	4x	2 weeks	Start after ProParva. Wk 31, 32,33,35,36 as an example
ProTerum	Extra energy and production	Drip/Drench/Spray	250ml/1000 m ²	4x	2 weeks	Start after ProParva. Wk 31, 32,33,35,36 as an example

Note, rates for ProFortum and ProTerum are 500 mls per 1000 m² But when mix together are reduced 50%

Note: In case of Calcium shortage, our bio-Ca can be used as a highly effective way to increase plant Ca-levels.

Application dose is around 6-7% in the final solution. Extra Ca increases cell strength and fruit firmness and the products affect fruit taste.

Rooting of ornamentals



Trichoderma: 1 g/plnt 1x
ProParva: 5 l/ha 1 to 2x

CONTROL



NATUGRO

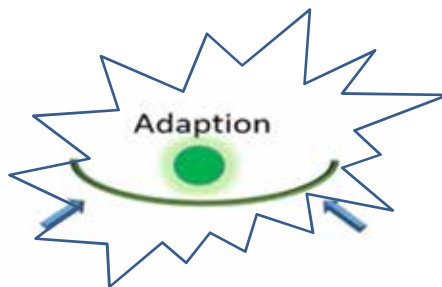


NatuGro

Further Examples



NatuGro



A balanced approach starts at propagation and continues throughout the production cycle.

Thank you

Consumer lifestyle trends



Objectives of the Consumer Lifestyle Trends Programme



A **framework for making sense of change** in these volatile and fast-changing times.

An approach that brings **consumers to the heart of the business decision making**.

A driver of **more future-focused marketing**.

A systematic approach to identifying **new opportunities and threats**.

A **source of inspiration** and a spur for innovation.



The Consumer Lifestyle Trends



Fluid lives

"I want to manage my busy life and make sure that I am at my best for whatever the day presents"



Quest for health and wellness

"I want a balanced approach to health and wellness, to have greater control through the choices I can make"



Simple pleasures

"I want to get more enjoyment from the simple things in life; to have experiences that add more fun and meaning"



Consumers in control

"I like to pursue better value, to help maintain my lifestyle and to get the most from the money I have"



Responsible living

"I am mindful that I need to live more responsibly; I want to make better choices that make a difference without having to compromise"



Keeping it real

"I am looking for products and brands that are real, authentic and honest, because I know I can trust what's in them and where they come from"

Introducing the trends



Fluid lives

"I want to stay in control of my busy life and make sure that I am at my best for whatever the day presents"

Bord Bia
High Food Award

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HOW IS THE SUB-TREND EVOLVING?

Simple by design

Solutions that reduce complexity and save time

TOWARD

FROM

Marinated meat portions, Australia

Pre-steamed vegetables, Brazil

Innovative cookware, Spain

Bord Bia
High Food Award

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Sub trends: Accessible luxury



Fluid likes

•Luxury items at more everyday prices.

Posh potatoes, Spain



Patatas Bilbas is a make of potatoes sold throughout Spain and Portugal. The potatoes are cleaned and boxed for the true potato connoisseur.



Products created by top chefs in the supermarket, UK



A few famous chefs such as Paul Rankin (from Ready Steady Cook) have created ranges to be sold in supermarkets, based on their own recipes. They are affordable for the average shopper but still feel a little bit special due to their appealing packaging and the fact that the products are created and endorsed by the chefs themselves.

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HOW IS THE SUB-TREND EVOLVING?

Guided choice



Fluid likes

Ways to make good choices more quickly and easily

TOWARD

FROM

Barcode scanning apps, Germany



Supermarket organised by meal, France



Vending machine tells you the best drink is for you, Japan



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HOW IS THE SUB-TREND EVOLVING?

Peak performance

Fluid likes

FROM

Managing physical and mental performance during the day

Energy drink for different times of day, US

Inhalable energy shot delivers, US

TOWARD

Protein drink for slow release energy, Japan

Bord Bia
High Food Board

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POINTS TO PONDER

Fluid likes

Consumer

- How might improvements to on-pack information help people to make purchase decisions more easily?
- What ingredients can be added to make meals that improve mood or recharging the mind?
- How can you offer more sophisticated energy benefits in your products?

Shopper

- How can you demonstrate quality and experience of products in virtual environments?
- How can you use technology to help consumers find your products?
- Are there better ways of organising products in-store that will help people to find the ones they need or, create nutritional meals more easily?

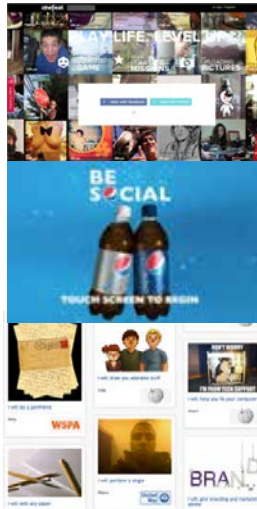
Bord Bia
High Food Board

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Simple pleasures



"I want to get more enjoyment from the simple things in life; to have experiences that add more fun and meaning"



Bord Bia
100% Fruit Based

HOW IS THE SUB-TREND EVOLVING?

Fun and Play



Enjoyment through fun and play

TOWARD

Juice drinks double up as building blocks, Mexico



FROM

Rowntree's Randoms encourages a more random, fun life, GB



Frozen yogurt brand Yogoberry organises free water balloon fight, US



Bord Bia
100% Fruit Based

HOW IS THE SUB-TREND EVOLVING?

Enhanced Sensations

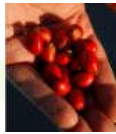


Desire for intensified sensory experiences

TOWARD

FROM

Palate-altering berry changes perceptions of tastes, US



'Alchemical larder' taste-enhancers to stimulate the senses, GB & US



Augmented reality technology to taste and hear fireworks as you eat candy, Japan



POINTS TO PONDER



Consumer

- Can you encourage people to be more involved in the design or production process around your products or brands?
- How can you address people's rising expectations around the multi-sensorial experiences products deliver?
- Can you encourage people to strive for new passions or achievements in their life?

Shopper

- How can retail spaces be used to create a 360 degree sensory experiences for shoppers?
- Is there an opportunity to get shoppers more involved in the design or production of a product or service at the point of purchase?
- How can retail design and layout make shopping a more social experience?

Responsible living



"I am mindful that I need to live more responsibly; I want to make better choices that make a difference without having to compromise"



Bord Bia
High Food Trust

HOW IS THE SUB-TREND EVOLVING? War on waste



Reducing the wasteful results of consumption

TOWARD

Smart fridge keeps food fresh longer and tells consumers which items are about to go off, South Korea



FROM

Mos Burger recycles used oil and food rubbish into plant food, Japan



Traffic-light style food label indicates freshness more efficiently than use by dates, helping reduce food waste, UK



Bord Bia
High Food Trust

POINTS TO PONDER



Consumer

- How could you encourage or facilitate people to use less resources in their everyday lives?
- How could you help people to reduce the amount of waste they create?
- Could you make it easier for people to understand the carbon and climate impact of your products?
- What local causes could your brands support?

Shopper

- How can you better align with or demonstrate your sustainability credentials to retailers?
- How can sustainability commitments be effectively communicated to shoppers in store?
- What elements of your retail model be made more sustainable?

Consumers in control



"I like to pursue better value, to help maintain my lifestyle and to get the most from the money I have"



HOW IS THE SUB-TREND EVOLVING?

Counselled consumption



The rise of specialist advisers and peer reviews for all consumption matters

TOWARD

Real time ethical shopping guidance, US



FROM

Cocktail Advisor users enter in their preferred tastes to come up with suggestions of cocktail recipes, US



Crowd sourced gift recommendations based on recipients interests, US



Sub trends: Short-cut language

Finding quicker ways to communicate



Mum-friendly drink cartons, UK



Asda's 'great stuff' kid's range is popular with mums because of its clear and fun labelling. Important points such as 'no added sugar' are bright and clearly visible, and hand-drawn arrows point out explanations of ingredients.

Simplified wine labelling, The Netherlands



The founders of Grapedistrict in Amsterdam decided to simplify the often overwhelming task of choosing a wine. They do not categorise their wines by dates or countries, but instead in terms of moods and tastes. For example, for an evening full of good conversation you can choose something from the 'Deep' shelf. Or for something fresh and thirst-quenching you can choose from the 'Easy' category.



POINTS TO PONDER



Consumer

- How can you be more transparent about the costs that make up the price of your products to demonstrate value to consumers?
- Can you communicate the tangible benefits your products deliver to people?
- Do you have a clear understanding of who your consumers go to and rely on for purchasing guidance and advice?

Shopper

- How can you reduce the risk of purchase for people by providing in-store and online sampling and visualisations?
- How can you take advantage of location-based technology to provide people with real time and tailored information about products and promotions when they are on the move?
- Could you provide shoppers with access to peer or expert reviews of products at the point of purchase, or on shelf?

Quest for health and wellness



"I want a balanced approach to health and wellness, to have greater control through the choices I make"



HOW IS THE SUB-TREND EVOLVING?

Proactive prevention

Proactively defending the body against future disease and illness through healthier choices

FROM

Antioxidant enriched coffee allows people to boost their body's defenses, Thailand



Bord Bia
High Food Board

Drinks with added lutein for improving and safeguarding long term macular health, Japan



TOWARD

Alzheimer's drink prevents memory loss through nutrients, US



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HOW IS THE SUB-TREND EVOLVING?

Finding balance

Looking for emotional and mental balance via nutrition and lifestyle

FROM

Delo bottle caps dispenses vitamins into water, France



Bord Bia
High Food Board

Mood tracking apps monitor emotional wellbeing throughout the day, Global



Coffee brand serves up free drinks and experiences in "feel good" café, Canada



TOWARD

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HOW IS THE SUB-TREND EVOLVING?

Good start

Ensuring children get the best start in life

FROM

Subscription service offers local organic baby food, US



Food education classes for kids, Japan



Nestlé's range of probiotics for kids, US



TOWARD



POINTS TO PONDER

Consumer

- How might your products offer preventative health benefits as part of everyday meals?
- What benefits could you offer to help people maintain emotional wellbeing?
- Are there ways you could provide a food or drink solution to an aspect of beauty and personal care not normally managed orally?
- What are the issues of most concern to parents when it comes to child nutrition?

Shopper

- How can retail environments become a destination to escape to for shoppers?
- How might retailers look to take the stress out of shopping and promote a more calming experience – through light, sounds, smells etc.?
- What are the implications of food and pharma blurring for retailers? What is the likelihood of a 'functional food aisle' in the near future?



Keeping it real



"I am looking for products and brands that are real, authentic and honest, because I know I can trust what's in them and where they come from"



Sub-trends: Back to basics

•How things used to be



Slow Food Festival, Australia



The two-week Taste Of Slow festival includes classes, dinners, discussions and tasting opportunities, and the chance to experience "produce, pleasure and provocation."

The festival is part of the Slow Food movement, started in Italy in 1986, in response to the negative impact of multinational food industries. It is all about using local seasonal produce, restoring time-honoured methods of production and preparation, encouraging ethical treatment of animals and promoting environmentally sustainable methods. They now have 80,000 member restaurants in more than 100 countries.

The local foods wheel, US



This cardboard food wheel is designed to tell shoppers which foods are in season when in the San Francisco Bay area. By using it, shoppers can plan their meals around the best, freshest produce at any time of the year.

HOW IS THE SUB-TREND EVOLVING? Behind the scenes



Transparency as a mark of quality and trust

TOWARD

Chicago's first boutique distillery since the days of prohibition, produces handcrafted spirits from scratch, US



FROM

Via webcams, consumers can watch the vegetables grow on the Harrods Allotment in real time, GB



Each pig has a face, for quality and to encourage less meat consumption Germany



HOW IS THE SUB-TREND EVOLVING? Passion for place



Growing interest in origin as a mark of quality and authenticity

TOWARD

Piacentinu Ennese cheese is 1000th product to receive EU DOP protection for unique origin and attributes, Italy



FROM

Nudo allow you to adopt an olive tree in Italy and secure your year's supply, GB



Bar only sells sandwiches filled with protected designation of origin products, Spain



POINTS TO PONDER



Consumer

- How can you tap into the growing consumer desire to make things from scratch?
- What traditional ingredients or processes can you revive to give a sense of authenticity to your brands?
- What could you do to highlight ingredients in your products which are particular to certain regions of your country?
- How might you better use seasonal ingredients in your products?

Shopper

- What could you do to better communicate the specialist skills of your producers and employees (e.g. in-store butchers)?
- How can you better use packaging or display materials to get the authenticity of you produce across?
- How can you use your website or webcams to give shoppers a better look into your production processes?

Any questions?



Consumer Lifestyle Brands

