



## SPRING NEWSLETTER 2009

### **Landmark Agreement between the STC Foundation and East Malling Research**

The Trustee Boards of East Malling Research (EMR) and Stockbridge Technology Centre (STC) Foundation have signed a collaboration agreement which means the staff resources of the two organisations have been pooled. The press release announcing this was issued today. ([http://www.stc-nyorks.co.uk/latest\\_news.html](http://www.stc-nyorks.co.uk/latest_news.html))

The major changes following the break up of Horticultural Research International (HRI) and the withdrawal of Defra preferential funding, for this vertically integrated research and technology transfer structure, are now nearing completion and the effects becoming very obvious. If you haven't already done so, do read the NHF report prepared by Brian Jamieson and associates which looks at this in depth.

Whilst HRI existed there was basically a 90% spend of HDC levies awarded to the HRI facilities and staff resource. This has not been the case for last two years and a wide scattering of research providers have been gaining project funding.

The new world transferred nearly all the facilities and BBSRC monies to Universities. With the closure of Kirton, two of the three technology transfer sites have closed and their staff expertise dissipated. The third site is now owned by the horticultural industry and managed by a grower Board, namely STC. East Malling, as the specialist Fruit Research and Tech Transfer facility, has also remained independent due to the prudence of its founder growers and the Trust they created.

The reorganisation of the levy Board structures is now also almost complete and Neil Bragg will talk to the STC/HDC Conference next week. It is essential the industry leaders come to listen and help Neil to put the final touches on this massive reorganisation. It is your money after all.

This reorganisation of the industry research/technology base has taken place from OUTSIDE the industry and has basically been driven by other aspects of policy within the organisations involved. The HRI breakup and the closure of Efford as Defra changed priorities, and now Kirton goes as Warwick University adjust their financial priorities. How many other facilities and staff groups are dependent on outside decisions not related to the horticultural interest? We are still relying for much on nursery advice from our ex ADAS colleagues but where is the new generation of expertise? NAAS/ ADAS when part of Government had secure funding and a critical mass large enough to bring in new staff and develop them for our industry. Where is this staff expertise being trained now?

It is against this background that the two "independent" organisations STC Foundation and East Malling have come together. It is a grower driven initiative. The grower Boards have created an arrangement where our scientists can work together. The expertise is pooled so a larger critical mass is created.

This will serve the industry better. It will be more attractive for research funders because, only if the industry itself fails to support it, will this new organisation change course or fail to delivery of the research commissioned. There are also obvious implications for building staff expertise.

We hope you will support this collaboration to get a great chunk of the research facilities back under industry control. We have written to the HDC Board and will be making a formal presentation to them in June. We believe the action taken by EMR and STCRF will allow, the HDC Board, Defra and other funders, a major new option to create a sustainable innovation delivery platform for the future generations and we are hopeful that they will be able to support it and encourage it to grow.

It is about helping ourselves and not relying on others.

## **The Spring STC/HDC Conference April 30th**

Have you booked your place yet for this very important event? The full programme can be seen here:

<http://www.stc-nyorks.co.uk/Documents/Latest-news/The%20first%20HDC%20spring%20conference1%20April%2009.pdf>

### **Carbon**

Why is it important? BECAUSE YOUR CUSTOMERS THINK SO. There are many and varied views on climate change and how management of carbon will affect the future. What is certain is that Governments are convinced and carbon management will be part of our future. There are aired major new “subsidy driven” cropping changes in agriculture, namely bio fuel and biomass. Our protected growers are already part of it with the Climate Change Levy. Scientists have a new goldmine of funding opportunities and are already scoring off each other and us with conflicting minutia.

One thing is very clear, using all this as a point of commercial difference for our products, and how the UK produced products compare with EU or Global, is already a reality. Look at the New Zealanders and apples.

Gareth has already upset the glasshouse lettuce growers!! He is working with HDC to ensure that UK produce has a sound science basis for these arguments. You need to come and exchange views with him about the practicalities of change and the claims to be made.

### **Nutritional attributes**

Regional or Local or just better managed from field to fork. Maximising the value of our produce on the plate will be our point of difference. It could well offset much of the carbon argument. If it has higher value per unit then its carbon footprint is diminished.

The Ministry of Health is the main driver of change and the advertising funder for fresh produce. We need to deliver more reliable and repeatable health benefits. The general “Five a day” has got to move forward.

It is complex, it is crop specific, but our speakers will be talking about how they see it from a scientific point of view. How we put this science into practice is why you need to book a place.

### **HDC future strategy**

It is vital for you to understand the HDC Board.

If you have not booked contact Emma Fisk ([Emma.Fisk@stc-nyorks.co.uk](mailto:Emma.Fisk@stc-nyorks.co.uk)) or Tel. 01757 268275

## Downy Mildew in Impatiens: New Crop Safety Information

As part of HDC project PC 230, STC has undertaken a fairly comprehensive crop safety trial on *Impatiens walleriana* and *I. hawkeri* (New Guinea types) to assess the relative safety of a wide variety of fungicides to small module-raised seedlings or cuttings.

An interim summary report has been prepared below to assist growers and provide additional assurance when they are formulating spray programmes for the first time on this crop. Separately, a new code of 'Good Horticultural Practice for the Prevention and Control of Impatiens Downy Mildew' has also been prepared by Martin McPherson, STC and Wayne Brough, ADAS and this is available on the BPOA website (<http://www.bpoaonline.co.uk/x907.xml>). Finally, the HDC Factsheet on Impatiens Downy Mildew, originally produced in 2004 following the original outbreaks of the disease, has also been updated and will be available shortly.

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### Fungicides on Impatiens – Crop Safety Screening

#### Introduction

In general, it has not previously been necessary to apply an intensive fungicide programme on Impatiens. However, since the appearance of downy mildew (*Plasmopara obducens*) this situation has now changed. Growers are being recommended to apply an effective fungicide programme to minimise disease risk but to do this they need to be assured of the safety of the available fungicides to the crop itself. This note, based on further information coming out of HDC project PC 230, helps inform that process and hopefully aids growers in time for the coming season.

- As part of HDC Project PC 230 (Impatiens & Pansy Downy Mildew) STC has been conducting a crop safety screen with fungicides on young module-raised Impatiens seedlings; the aim being to help decision-making when choosing a fungicide programme for downy mildew control in the crop this season.

**Plate 1 : Layout of crop safety trial at STC with seed raised *I. walleriana* 'DeZire Mix Select' and cutting raised *I. hawkeri* 'Harmony Series'.**



- Small module-raised seedlings of *I. walleriana* ‘DeZire Mix Select’ and cutting-raised *I. hawkeri* ‘Harmony Series’ were used to test a range of fungicides at normal (1xN) and twice normal (2xN) rates of application both as foliar sprays and drench applications to the plugs.
- The treatments were applied to the plants on the 1-2<sup>nd</sup> April 2009; the foliar sprays being applied to run-off, equating to around 1500 litres water/ha. The drench applications were applied using a higher water volume, equating to approximately 6,500 litres/ha as a ‘worst case scenario’.
- A preliminary examination for visual signs of plant damage was conducted on Thursday 9<sup>th</sup> April, 8 days after the fungicide application. Whilst the plants will be held for a further period to monitor effects on subsequent foliage growth i.e. for signs of stunting and on flower formation (See Table 1 below for more information on the treatments).
- These early results provide important information which should help growers formulate effective downy mildew treatment programmes this season as recommended in the Good Horticultural Practice guide and the updated HDC Factsheet on impatiens downy mildew.

**Table 1 : List of treatments applied to Impatiens seedlings in module trays and interim crop safety assessments**

Product	Active Substance(s)	Rate of application (ml or g/litre)				Interim crop safety & other observations (on 9 <sup>th</sup> April 2009)
		Foliar Spray		Module Drench*		
		1N	2N	1N	2N	
Untreated control	Water only	-	-	-	-	Untreated control (by which to compare other plants)
Subdue	Metalaxyl-M	-	-	0.125	0.25	No adverse effects seen
Fubol Gold	Metalaxyl-M + mancozeb	1.26	2.53	-	-	No adverse effects seen but slight visible spray deposit, especially at the 2N rate
Amistar	Azoxystrobin	0.67	1.33	0.67	1.33	No adverse effects seen with either spray or drench applications
Karamate Dry Flo Newtec	Mancozeb	1.8	3.6	-	-	No adverse effects seen but very visible spray deposit, especially at the 2N rate
Bravo 500	Chlorothalonil	2.2	4.4	-	-	No adverse effects seen
Stroby	Kresoxim-methyl	0.2	0.4	0.2	0.4	No adverse effects seen with either spray or drench applications
Previcur Energy	Fosetyl-al + propamocarb-HCl	1.67	3.33	1.67	3.33	No adverse effects seen with either spray or drench applications
Shirlan	Fluazinam	0.27	0.53	0.27	0.53	No adverse effects seen with either spray or drench applications
Paraat	Dimethomorph	0.2	0.4	0.2	0.4	No adverse effects seen with either spray or drench applications
Aliette 80 WG	Fosetyl-aluminium	5.0	10.0	5.0	10.0	No adverse effects seen with either spray or drench applications. Product washed off foliage after application as per off-label instructions
Filex	Propamocarb hydrochloride	5.0	10.0	5.0	10.0	No adverse effects seen with either spray or drench applications
Vitomex	Fosetyl-al pre-cursor (sold as a foliar feed)	2.67	5.33	-	-	No adverse effects seen
Serenade	<i>Bacillus subtilis</i>	6.65	13.3	-	-	No adverse effects seen
Croptex Fungex	Copper ammonium carbonate	1.25	2.5	-	-	No adverse effects seen
Thianosan DG	Thiram	4.0	8.0	-	-	No adverse effects seen
Experimental A	oxidative phosphorylation inhibitor + phenylamide fungicide mixture#	0.25	0.5	0.25	0.5	No adverse effects seen with either spray or drench applications
Experimental B	CAA fungicide#	0.4	0.8	0.4	0.8	No adverse effects seen with either spray or drench applications
Experimental C	Strobilurin analogue#	0.67	1.33	-	-	No adverse effects seen
Experimental D	Strobilurin + phosphonic acid fungicide mixture#	3.0	6.0	3.0	6.0	No adverse effects seen with either spray or drench applications

\* drench applications were only made where considered appropriate.

# Outdoor use only at this stage, where available via continuation of the LTAEU (to at least until June 2009)

*NB : It is also worth noting that Russ Woodcock at Bordon Hill Nurseries has also recently conducted some of his own fungicide screening under commercial conditions and reports some slight marginal scorching (see A & B below) where propamocarb hydrochloride e.g. Filax, Proplant or Previcur Energy was used repeatedly, especially using a drench application. Where the product was washed off the foliage after application the problem did not develop. Similarly, as in our trials, he also found issues with foliage deposits following the use of Fubol Gold (see C below) and Karamate Dry Flo (see D below) and it is probably advisable to use these in the early production, as opposed to later production, stages to minimise such deposits. Finally, Russ also reported a slight difficulty with mixing (dissolving Fubol Gold in the spray tank). He found that using warm water aided this process.*



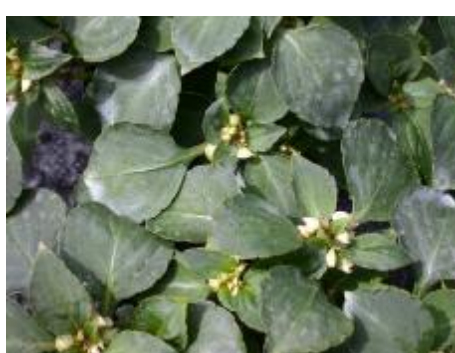
A



B



C



D

## Summary

Early results, specifically from the STC crop safety study, appear quite promising and suggest that the various products tested here are relatively crop safe on the impatiens crop (including New Guinea types). However, due to differences in cultivars and types being grown and changes to the climatic and other conditions on different nurseries it is always advisable to test treat a few plants when using a particular product for the first time on a crop.

Providing the disease develops in 2009 we hope to get further information on product efficacy as part of the HDC project during the season. If any grower or consultant suspects the disease we would be pleased to receive samples in STC.

## Acknowledgements

Thanks to Bordon Hill Nurseries and Young Plants for provision of the trays of impatiens seedlings used in the crop safety study reported here.

Martin McPherson & Cathryn Lambourne  
STC Ltd

## Crop Protection

Since the last Newsletter the crop protection team have been busy with a host of HDC and commercial projects. Many of these are focused on efficacy testing of new fungicide and insecticide products on a range of crops and targets. As reported elsewhere in this newsletter (by Martin McPherson) we have just completed the last of the crop safety work on the HDC funded Impatiens Downy Mildew project (PC 230). The information gathered to date on this project was presented at the BPOA meeting in February 2009. However, this latest investigation completes this important element of the work. With help from CSL we hope to carry out some detailed efficacy testing as soon as possible (subject to the pathogen being available).

We have also completed a very successful efficacy trial looking at the control of white rust (*Puccinia horiana*) on protected Chrysanthemum for HDC (PC 292). Despite very high levels of infection we were able to gather some useful information on the use of spray programmes which utilised some of the products which had shown promise in the previous white rust work (PC 231) along with some other products which we hoped would show good activity. Unfortunately, there are some unexpected issues related to the loss of specific protected crop uses due to the changes to the Long Term Arrangements for Extensions of Use (LTAEU) and these will impact on the results of this investigation. Signum (pyraclostrobin + boscalid) which showed very good efficacy against white rust in this trial will no longer be available for use after the 1<sup>st</sup> June due to a concern in relation to worker safety with the boscalid component. As this component of the mixture didn't appear to provide much in the way of white rust control we are currently in discussion with the HDC to try and secure a SOLA for either Comet or Vivid (both of which contain pyraclostrobin only) and this should be equally as effective for white rust control. The report is available to HDC members via the website.

We have also completed the 3 year investigation into the control of root-mat in tomatoes. We have carried out this work in collaboration with ADAS and CSL. We have been somewhat hampered by the poor symptom development in commercial crops in the UK during the last 2 years of this project. This has resulted in us not being able to draw many firm conclusions as to the efficacy of some of the methods e.g. slow sand filtration and the use of microbial bio-control products. These were trialled on 2 commercial nurseries which had previously seen a high incidence of root-mat on their nurseries. Good symptom development was seen in a glasshouse experiment carried out at STC in the final year of the project (see image below). The results suggest that for aggressive symptom development plants need to be infected when very young e.g. particularly during propagation. Where plants were inoculated later infection levels were lower or absent. This information could prove to be very important to help control this problem in future seasons. The final report will be available on the web site in the very near future.



*Root-mat symptoms on a tomato plant artificially inoculated 4 weeks post-sowing.*

We are progressing with our work on Pansy Mottle (PC286). We would like to thank all growers who took the time to complete the questionnaire that HDC recently circulated on our behalf. Your responses are being collated and will help us focus the work programme more effectively.

We have also just secured a new HDC funded project on Best Practice for Disease Control in Protected Lettuce (PC 298). The project will seek to put together crop protection strategies for the most prevalent protected lettuce disease e.g. *Rhizoctonia*, downy mildew, *Botrytis* and *Sclerotinia* using some of the more recently approved products (pesticides & bio-control) and will include any new products that come onto the market during the lifetime of the project. We hope that the information gathered, particularly regarding any broader spectrum activity any of the approved products show, will help growers to produce high quality disease free crops in the most economical and residue free way.

The majority of our commercial projects are carried out on behalf of agrochemical companies who wish to have independent studies on the crop safety and efficacy of new products, or new uses for old products done. We are happy to take on such studies and have a proven track record in these areas. We carry out the work in a strictly confidential way and are accredited to work to both GLP (Good Laboratory Practice) and Official Recognition standards where necessary. We are also involved in putting together projects which look at new types of technology which lend themselves to horticulture. At STC we are keen to help our clients develop new ideas which have benefits for the UK horticultural industry.

Cathryn Lambourne

### **Euro MP Richard Corbett visits Johnsons of Whixley to see first-hand the challenges that lie ahead with respect to changing EU Pesticide Legislation**



Euro MP Richard Corbett visited Johnsons of Whixley last week for in-depth discussions on the production difficulties created by new EU pesticide legislation which will further restrict the use of chemicals to control pests, diseases and weeds. At the meeting were John Richardson, Chairman of Johnsons of Whixley (right), Richard Corbett MEP (centre) and Dr Martin McPherson, Science Director at Stockbridge Technology Centre (left).

Nurseries, such as Johnsons of Whixley, who produce ornamental plants on a large scale continue to be surprised that new pesticide legislation could be introduced without any reference to the actual risk they pose. There is also dismay that, whilst the United Kingdom and the Republic of Ireland governments opposed the proposed legislation, other member states didn't appear to have grasped the potential seriousness of it all and hence largely voted in favour of the new legislation....and this was despite the best efforts of the NFU, HTA, CPA and others to alert horticultural communities in other Member States of its significance.

At the same time as this new legislation is introduced, the ornamental sector of horticulture is facing an unprecedented attack from new pests & diseases such as Sudden Oak Death, Fireblight, Oak Processionary Moth, Bleeding Canker of Chestnuts and *Phytophthora* disease in Alders. The real fear is that the industry will not have the resources to combat such outbreaks in the future as the new EU legislation is introduced. The problem, of course, is that 'safer' options are not necessarily readily available for all crops and/or targets and the potential financial returns to justify development of new, apparently more acceptable, chemical (or biological) controls in this sector are not high enough to encourage specific research and development programmes. It will therefore prove to be increasingly difficult to find alternative chemical solutions to replace those products lost.

Whilst a few 'biological' products e.g. compost teas, predatory insects etc are already in use on some nurseries (see [http://www.nurserymen.co.uk/trade/about\\_us/environment](http://www.nurserymen.co.uk/trade/about_us/environment) for more information) more work is urgently needed to seek effective biological alternatives so that the industry can rely more heavily on natural P&D control options as effective alternatives to conventional chemical pesticides.

The aim must be to establish robust Integrated Crop Management (ICM) practices through the sourcing and development of novel solutions to counter the wide range of problems that the ornamentals sector is facing. This will require considerable time, effort and money to deliver satisfactory and, environmentally sustainable, solutions. It is imperative, therefore, that priority is given to improving such ICM practice in the coming few years.

## **Growing Local Communities - funded by NYC**

**Grow It! Pick It! Eat It!**

STC is working with a number of partners including Selby Association of Voluntary Services (Selby AVS) and North Yorkshire County Council (NYCC) to promote a vegetable box delivery to vulnerable groups within the community. We want to reach as many people as possible for whom eating fresh fruit and vegetables may be limited by availability ie. Due to lack of local shops, poor local transport and education about associated health benefits. The project will also involve the recipients of boxes having the opportunity to visit STC and to take part in growing the produce for the boxes. This will enable them to learn new skills whilst benefiting from fresh air and exercise.

In the first instance, through the work of Selby AVS, our pilot box scheme has targeted communities where there are no local shops, and public transport is limited. Boxes of fresh fruit and vegetables are delivered weekly using links with Selby Community Transport Schemes. Numbers of boxes have slowly increased – we have now delivered around 500 – and we have now reached the point where the project will be widely promoted to vulnerable groups. Boxes are priced to allow affordability to vulnerable community members. We are able to achieve this by growing produce at STC, and by sourcing class 2 or often “waste” produce (due to

size, shape etc) from local growers. Some produce, particularly fruit out of season, requires sourcing from local markets. We supply three different size boxes to meet requirements of individuals as well as larger families and organisations. Within the boxes we supply recipe cards and there are organised cookery demonstrations for those who need a few tips and a bit of encouragement when it comes to cooking!

At present we are currently changing from supplying in boxes, to re-usable bags which are easier to carry, and obviously much less wasteful as they are returned to us for re-use.

At our Open Day on June 7<sup>th</sup>, we are inviting all recipients of the boxes, as well as any other helping hands, to take part in sowing and planting an area of vegetables – leeks, cabbage, sprouts, sweetcorn, dwarf beans for our project. Some produce will be ready for harvesting at our later Open Day on October 4<sup>th</sup>, and we hope that the participants will return and help out on this day. Members from Selby AVS will be here to provide information about the project on June 7<sup>th</sup>, and we look forward to a productive afternoon.

If we are successful in this pilot, we will move forward with a lottery bid to develop the project on a much larger scale. We would aim to see different groups from the community visiting regularly to experience the growing “calendar” with the added benefits of fresh air, exercise and healthy food, whilst producing food for the boxes.

Julie Langdale

## **The farm**

We are continuing to do a substantial amount of work with Bayer Crop Science. As well as many arable trials on fungicides, herbicides and varieties which will culminate in a large open day on 1<sup>st</sup> July this year, Bayer are undertaking many more vegetable projects with us. We also welcome Fieldcare who are undertaking a number of arable trials with us including work on liquid fertilisers.

We have a very large raspberry project which has required many of poly tunnels being refurbished and made insect proof. We also continue with our cauliflower seed production project and are discussing the possibility of growing melons for ASDA this year.

All our spring arable crops have been drilled. We are again using field beans in our rotation.

We continue to see an abundance of wildlife and birds in our field margins. Barn owls are a common site as well as oyster catchers and tree sparrows. As part of our Stewardship Agreement with DEFRA, we have successfully gained Educational Access which means that we can encourage more groups onto farm to learn about food production and conservation.

Michael Langdale

## **Conference room**

Stockbridge Technology Centre has a conference room on site which is available for hire. The facility comfortably seats 25 people in a boardroom style arrangement, and 60 people in a lecture room seating arrangement. Buffet lunches, tea and coffee can be ordered if required. For further information, or to make a booking, please contact Ann Black. Tel: 01757 268275 e-mail: [annblack@stc-nyorks.co.uk](mailto:annblack@stc-nyorks.co.uk)

For further information on the newsletter or anything else you would like to ask us, please call on 01757 268275

# Open Farm Sunday 7th June 2009

Care about your food? We do!



Open Farm Sunday is a chance to celebrate farming and food and the pleasures of the countryside. On Sunday 7th June hundreds of farms across the country will open their gates to the public.

The event is organised by LEAF (Linking Environment and Farming), a national charity whose objectives are to help farmers to care for the environment and the wildlife it sustains, and to encourage a better public understanding of farming.

Please join us on 7th June 2009

At

## **Stockbridge Technology Centre**

- From 12pm until 4pm (Free entry)
- Make bird boxes and other wildlife homes
  - Plant your own flowering pot
    - Mini-farmer's market
      - Pond-dipping
      - Children's activities
  - Information and Refreshments

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