



STOCKBRIDGE TECHNOLOGY CENTRE LTD NEWSLETTER – AUGUST 2005

Levy Board Review

You can not, I hope, have missed this very important review of Agricultural/Potato and Horticultural Levy Boards. The closing date for comments was 31st July but I suspect you have till mid August. We at STC joined with the Technical Committee of the BBPA, who were meeting at the ranch. Sue Whitehead, one of the team, visited. She listened to the views of the BBPA members in the morning and we then showed her the type of work being carried out with grower money administered by HDC in the afternoon. Rob Bezemer showed her the high technology Cucumbers and we also covered the Spectral Filters Plastic tunnels, the alternative growing media Melcourt work, the Salads Open Day work and Mealy Bug Biocontrol work for organics. I think she received a fairly positive message about HDC and in particular how it listens to growers regarding spending their monies.

Whether the review will leave Horticulture aside and just reorganise the Agriculture ones, we shall have to wait and see. It is important however, to ensure the review gets the message about pesticides and SOLA. No other Levy Board have to help their sectors in ensuring pesticides are available and get registered (I accept it could be argued that it is Government responsibility, but we lost that argument 10 or more years ago). Cereals and Potatoes have a surfeit of pesticides and choice on label as they are major world target crops for the manufacturers. This function alone can not be financed by the industry if it is to be fair and available to all, except by a HDC type levy arrangement. What would Horticulture be like if the SOLAs were owned by the big operators or the supermarkets? It is possible if no HDC, or if HDC merged with another sector like potatoes, or both together with cereals to create a "Plants" Board and Horticulture lost its voice to other sectors. If for no other reason make sure you express a view to: Rosemary Radcliffe, Levy Bodies Review, Area 5E Millbank, Nobel House, 17 Smith Square, London, SW1P 3JR.

What should STC be doing?

Yes we have our ideas but many of you are our customers (our income!!) so we would like to hear from you. How can we best help your business? Our function is to transfer technology, which should make your business more commercially successful, in other words stay in the market and support you in the way you wish now and in future. We rely on a number of science partners who have pure scientists and combine with them to translate their work into a format to achieve the above. This therefore involves a lot of communication. We get the finance from Defra/HDC or privately from interested parties. Remembering STC belongs to the Industry and is a non profit distributing organisation, any surplus we make (and every business must be managed to be competitive and make a surplus) has to be reinvested either in infrastructure or chosen projects related to the industries aims.

There seems to be interest in high tech demonstration projects, where we put in very modern stuff using best ideas from round the world and evaluate it in UK conditions. This enables growers to assess the risk of change without jeopardising their own businesses, where these days there is little slack to take up loses if it goes wrong. The Cucumber Growers' project is an example of this. We could look at others. Lettuce using Finnish/Danish and some Dutch advanced lighting/robotics and enviro controls, to reduce pesticide usage and better control nitrate.

These countries leading growers have made heavy financial commitments to this type of technology. Is the future for the high profile negative image of misuse and multi-residue lettuce with high nitrates, a totally new approach? Should we do it and glasshouse lettuce growers look? There are major differences in nursery practices and organisation of cropping in ornamentals and nursery stock between UK the Continental and USA growers. They seem to be able to compete at the prices being demanded by the market. Do we let them have market and opt out or try their methods? This is a whole business approach rather than a single issue problem approach related to normal project work. For those old enough to remember the ICI Fernhurst created and run for most of its time by George Lockie this was their approach. The idea was high technology growing carried out with the background financial risk being carried by ICI Plant Protection and then people coming to see it and picking the best bits for themselves. In the STC case, some of background risk would be taken by those who might better sell things, together with growers levy monies held by HDC, as is the case with the Cucumber project.

Such work, and some of our present work, needs to have a number of related on nursery demos at a later stage, and to this end we have been in discussion with some organisations with whom we might be able to form more binding links to enable a quicker and more direct transfer of work we do or work which is identified by those with more direct and frequent contact at nursery level. More on this next time.

Nitrate in Vegetables Update

We have attached to this newsletter an update on the Nitrate situation. I updated those of you who attended the Salads Day and I think this FSA summary agrees with my comments!! There are a number of important points which growers need to note. In our lettuce groups, negotiations with Brussels carried out with help from NFU, we had to give certain commitments to get the derogation. These include continued three monthly monitoring as laid out in NFU Code of GAP attached to your Assured Produce protocol. It was these figures used to support the official monitoring programme which swayed FSA to our viewpoint. There is extra help in decision making available in the "Home Testing Kit" supported with HDC monies and is now fully up and running. If you are a sizeable operation you should be using to monitor your crops before sale. If nitrates are high, you can delay harvest and also take action for any following crops. The other commitment was to ongoing research. To this end HDC has agreed to two new projects at STC. One is a look see at any possible effects of the spectral filters work. We are taking nitrates at harvest from baby leaf crops including Spinach and Rocket to see if different light spectra have any effect. The other is an irrigation trial using lay flat water application in a Dec and Feb harvested crop. We shall be looking at alternate root wetting, leaving one half roots very dry and the other normal. It is known that this wet/dry technique fools the plant roots into signalling the leaves to behave as if they have sufficient water for normal growth. In the case of lettuce, less water should mean less nitrate. The low level irrigation should also allow less water per se and may have some effect on disease. Do not all go mad because it might mean change, it may not work, BUT it does satisfy the political commitment to Brussels to do more work.

Nitrate in Soil Update (or more correctly leaving your soil for the nearest watercourse)

The new CAP is with us from July 1st backed up with the Water Framework directive. Those of you growing outside need to start managing your nitrates much more intensively I suspect. You need an in and out record. What you put on, what the crop had, what is left and what got lost (mainly to river). You need to know the status in autumn and spring. Get a deal from your laboratory (NRM are good). Find out from the EA website what's in your nearest river. Have grass strips to slow run off. Start contour farming. No do not all shout there are many farmers doing it. It's not necessary to always go up and down!! Do not leave land bare over winter (read the cross compliance stuff). Remember most of you are now in Nitrate Vulnerable Zones so are required to keep records. You may not be able to prevent losses but you need management records to prove due diligence to the EA and the RPA, they can stop your SF Payment.

Graham Ward OBE

Reducing Waste Disposal Costs

We are currently in the second year of a two-year project, jointly funded by the HDC and WRAP (with additional support from Melcourt Industries Ltd) investigating the performance of wood-based growing media as a commercially viable option for tomato production. The work builds on preliminary investigations by Melcourt Industries and several tomato growers. The raw materials for these growing media are increasing in availability and are environmentally sustainable.

The main reason for this work is to address the increasing costs growers face in disposing of rockwool to landfill at the end of the growing season. It is also proposed that the wood-based growing media might then be composted after use in tomato production to provide a secondary use as a soil conditioner/growing media for other crops. This would then obviate the need for disposal to landfills.

Initial trials in the first year of the project identified a fine composted conifer bark blend as the best candidate material to take through to full season production. The full-season trial is now past the half way stage, with trials at STC, Wight Salads and Flavourfresh Ltd. To date the results have been very promising with little discernible differences in plant growth and fruit yield.

It is anticipated that follow-on work will address the secondary use of this material in HONS production.

Biodiversity and Outdoor Vegetables

Responding to the UK government's pressure for agriculture to improve its environmental performance and looking towards sustainable approaches to pest control, a 3 hectare (approx) area of land has been allocated at STC to potentially investigate how the development of within-crop habitat strips can attract beneficial insects and so increase the natural biological control of pest species. The field site is well suited to growing vegetable crops and has excellent access for visitors.

This study will involve using information previously obtained in arable crops and applying it to the different pressures of an outdoor vegetable cropping system. Since in field vegetables the challenge for biological control of pests is far greater and the tolerance thresholds lower than in cereals, a main objective would be to determine the required frequency of the within-crop strips that could give sufficient control.

Initial aims will be to establish and manage within-crop conservation strips of tussocky grass and nectar-rich flowers that will attract beneficial insects of specific crop pests. The site will be under a crop rotation, so key pests of a variety of crops can be evaluated.

The flowers are growing well and baseline monitoring of insects and floral composition is planned for this month.

Any comments on this proposed work would be most welcome.

Spectral Filters

STC Research Foundation has successfully examined the effect of spectral filters on the growth of a wide range of crops (HDC CP19). The different filters have been shown to produce various changes in development and growth of different crops. It is important to know the effects that these changes could have on crop pests. Such spectrally induced changes might impact on insect performance through changes in food quality and natural plant defence systems. Reductions in pest population growth are of benefit to growers as it enables the introduction of effective integrated pest management with reduction of pesticide applications.

We have been given HDC funding to examine the effects of spectral filters on population growth of two key pests. The project will initially examine the effect of spectral filters on these two key pests on edible and ornamental crops. Future projects will examine the interaction of pests and biological control agents under different spectral filters.

The Plant Clinic

The Plant Clinic has been relatively busy over the last month or two with some of the usual problems, but also a few interesting diseases guaranteed to keep us on our toes. The warm dry spring we have all enjoyed has certainly played a significant role in reducing disease levels in young crops with a big reduction in the number of samples with infections of downy mildew or *Pythium* sp. infections being seen.

The team have also been kept very busy with a number of crop protection trials for our commercial clients, HDC and DEFRA. We are involved in some interesting collaborative projects with our colleagues from CSL on topics such as the Detection, Identification and control of *Phytophthora ramorum*, White rust in *Chrysanthemums* and also Downy Mildew on *Impatiens*. We are also continuing our research into root rot in tomatoes and root malformation disorder in red beet.

We have, for some time, been in discussion with the diagnostic team at CSL and are now moving closer to being able to offer a combined service to growers in the UK and abroad via a new diagnostic service called Sure ID. We hope to be able to provide a range of information leaflets, diagnostic tests and advice to a variety of horticultural sectors e.g. propagation specialists, bedding and pot plant producers, NFT production etc. which will be aimed specifically at problems encountered within these sectors and their solutions. In the meantime, the Plant Clinic at STC is still functioning as normal, and we will be pleased to receive any samples or queries you may have.

AYR Cucumber Project Update

The second crop of year 2 of the project (ie crop 5 overall) has just been terminated and the replacement crop has been planted.

The following notes provide a comparison with this time in the first year (all figures are cues/m²):

Crop 1 (<i>6th Nov 03 to 24th Feb 04</i>)	73.15
Crop 2 (<i>26th Feb 04 to 15th June 05</i>)	123.75
Total in year 1 to week 28	198.90

Crop 4 (<i>28 Oct 04 to 7 Mar 05</i>)	89.08
Crop 5 (<i>10 Mar 05 to 12 July 05</i>)	126.63
Total in year 2 to week 28	215.71

Before you get too excited, it is important to remember that the replant dates are different this year. Crop 3 was replanted in week 26 and came into production in week 29. Crop 6 will be replanted in week 29 and should come into production by week 32. Crop 3 started off very well last year and by week 32, we had another 34.27 cues. We should therefore anticipate being a few cucumbers behind by week 32 this year.

To put the performance into a seasonal context, we also need to compare our production to the "best practice" conventional growers. We are currently collating that data.

You must also remember that the emphasis this year has been less on outright yield and more on energy use. To that end, we have turned off the lights during the longer summer days. Data summarising the amount of energy used (ie pipe heat and electricity) per cucumber produced will be available at the end of the season.

For further information on the newsletter or anything else you would like to ask us, please call on 01757 268275, Fax 01757 268996.

You can now view our website at: www.stc-nyorks.co.uk Please email with your comments to lisagibson@stc-nyorks.co.uk