2012 UK-IPM Annual Meeting of Advisory Committee

Video Conference – Lexington and Princeton
March 7, 2012, 11:30 Central time

Those present included: Princeton location – Philip Anderson, Paul Bachi, Ric Bessin, David Brandon, Dottie Call, Win Dunwell, Susan Fox, Doug Johnson, Patty Lucas, Lloyd Murdock Richard Preston and Christi Forsythe (took minutes). Lexington location – Tim Coolong, Rick Durham, Chad Lee, and John Sedlacek.

Ric reported that this is the second year of the IPM Grant and that next year will be the final year.

Patty will be attending the 7th International Integrated Pest Management Symposium, "IPM on the World Stage: Solutions for Global Pest Challenges", meeting on March 27-29, 2012 at the Memphis Cook Convention Center in Memphis, Tennessee. She will learn more concerning the IPM program at this meeting.

Working Group Reports

Each working group was asked to give a 3-5 minute report of their success stories and innovative approaches for 2011 and what their goals and plans are for 2012.

Wheat IPM group – Dottie Call reported on 2 success stories for the wheat group. One was Jim Herbek and Chad Lee switching to wider rows and reducing equipment for some of the producers. What they have shown as the result is an 8% yield loss compared with the regular row width that the farmers plant now which would result in $40 loss of income/acre. But for the wheat crop in 2011, it would result in a $6.4 million potential loss of income to the producer if he switched to the wider rows. This study has been done for 3 years so they feel like it has given the producers some significant numbers to look at.

In another success story, the Greenseeker which is a remote sensing nitrogen applicator for "on the go" variable rate nitrogen applications, this is Lloyd Murdock's work. We've shown that by using the Greenseeker system supplied by a major agriculture supplier in Kentucky we come up with a yield increase of about 4 bu/acre that would result in an economic return that would average about $20/acre. This is research that is ongoing, there will be several farmers participating in it in 2012 so we are hoping to have more information on that.

Also, in the January 10 Wheat Meeting, we attendance of about 150 people and we had 75 people sign up for pesticide credits and 26 people sign up for CCA credits. This is an impact because they are training the people who are making

the recommendations to the farmers so hopefully it will be IPM recommendations to consider on that. They are planning a Wheat Field Day in May and hope to give some guidance on recommendations at that time.

Dottie asked if there was any schedule concerning the reports that will needed. Ric said that they would probably begin gathering the information in June. He will be contacting people sometime during that time period.

Corn/Soybean IPM group – Chad Lee reported that they do the Early Bird Program in the fall in three counties. They are trying to target fall decisions. Farmers have incentives to buy early (before Dec. 1) because of discounts, taxes, etc. In those three counties last year, according to the surveys, we had about 600,000 acres represented. Over 95% said that it was something that they would attend in the future, it was worthwhile. They put it in a $5-10/acre value on the meeting. If multiplied out, the value in the meetings would be a big chunk of change ($300,000 to $6,000,000) in that regard.

Been doing a lot of work on fungicide use in soybeans and corn. In corn in a high yield environment, which is what the companies are pushing, but we cannot see consistent yield results of yield increase with fungicide use in our small plots. Some small plot data suggest that there are maybe differences in results between small plots and large plots. Paul Vincelli has 3 or 4 large plots out last year and is going to have more out this year. The story is about the same on soybeans except when we have Soybean Cyst Nematode in a field there does appear to be a yield increase from the fungicide even if foliar diseases don't have threshold levels.

These aren't successes, but on the negative side we are really losing the fight on IPM management in corn and soybeans because of the value of those two crops and the relative inexpensive compounds, the farmers are more apt to just spray hoping to have blanket coverage as opposed to IPM. That has caused trouble on the weed side. We've got Roundup resistant glyphosate resistance for amaranth. There appears to be some glyphosate resistance on water hemp and marestails. The biggest challenge in the past when commodity prices was low was trying to find the economic benefits in these compounds. Our biggest challenge now is farmers are investing a tremendous amount of money up front and they are scared to death not to have some level of protection. That's one of our biggest challenges going forward; secondly, irrigation is increasing dramatically across the state. We have more work to do in that area and all the things that are involved with that.

Ric asked Chad if he thinks that eventually he could look at an economic savings with the reduction in corn fungicide use. That eventually he could look at an

economic savings with the reduction in corn fungicide use? Yes, we could certainly look at that number, we've actually got based on the early bird surveys we asked how many were going to use fungicides, how many were going to use less now because of this meeting. So we have some numbers from that that we can use. That's probably our best survey data that we have. Ric said that as the IPM programs evaluate impact, there are basically three measures: 1) Environment, 2) Health, 3) Economics. So, that is the gold standard with impact of IPM programs. Chad will get those dollar values to Ric.

Vegetable IPM group – Tim Coolong reported they have been doing this year in conjunction with a KDA grant as well as resources from IPM was Vegetable Academy with one location in Henry County the last part of January and the other location in Campbell County in mid-February. It was a 2-day program covering a wide variety of topics – fertility, pest control, (weeds, insects, disease, the whole gamut). We also covered some calibration and that sort of thing. There were about 100-110 who attended between the meetings. We got some pretty extensive survey information. Not too extensive from the first meeting because they didn't answer the whole thing. But just waiting to have some time to compile that information. But it should be good for overall great feedback to repeat it next year in a couple locations around the state.

Something new we did this year, we've also got a vegetable IPM website that Patty Lucas has taken the lead on setting that up and really done a fantastic job so far from what he has seen. That will be online in 2 weeks or less. Hopefully we can fund part of her salary off this grant we put in.

The other big thing we are continuing is our IPM Identification Guides where we have solacious(?) crops – sweet corn (Ric took lead on natural enemies). The next two we have up are brassica and cold crop one then a farm equipment one. They currently have four ID guides produced with two more in preparation.

Lastly, Ric, Mark Williams and Tim are doing a grant with Iowa State University in row cover crop. Hopefully will have some information on that in the IPM program.

Nursery Crops IPM group – Win Dunwell reported they have primarily done Workshops/ Educational Programming two to three meetings per year, one in December, February and June. The one in June is always an IPM Scouting workshop (2-day workshop). Essentially they bring in experts the day before they scout a nursery, then the training the next morning and that afternoon we take all the attendees/participants out to the field and let them see if they can find what we found and then we go over it. The biggest limitation they have in

the IPM grant has been not being able to have a scout, someone who just goes out and lets us know what's going on. If anyone has the opportunity to tell the people to provide funding, in the nursery crops in particular, to have at least one scout to go out to at least four or five nurseries in the state. It cost $2500 plus travel. It was very beneficial to our program and we truly miss it. So we have had to come up with other ways to pay for that.

At those meetings, Carey Grable is high resolution videotaping and posting the presentations to YouTube. It's been extremely successful. We have a channel that is specific to Horticulture at the UKREC and within that channel we have developed an IPM Nursery series. We are pretty excited about that, we have gotten a lot of hits on that and the nurserymen have informed us they are using it on rainy days to train their employees because there are other channels on pruning and stuff like that. We are getting quite a few hits on that and we can do a very good job on the demographics of where those hits are coming from. A majority of them are from Kentucky.

We also have an IPM Nursery Crops Blog and IPM Nursery Crops Wiki, and Sarah Vanek also has an IPM Nursery Crops Listserv. We are pretty excited about taking the whole package of the southern nursery IPM monies plus the monies we are given through the Kentucky IPM and generating quite a bit of outreach from it.

In addition to that, we just finished an SCRI grant to pay a portion of Carey Grable's time to travel the southeast and to chase down all the potential IPM activities related to Nursery Production that we can and put them on to a separate IPM video YouTube channel. If we get the funding, we will be able to do a lot, if we don't get the funding, we are still going to do what we can in-state and Carey and Sarah Vanek, who are paid for by Kentucky Hort Council funding have already laid out a schedule of things we want to look at. Our biggest problem is new insect pests. Japanese maple scale is killing us, we don't know what is going to be the problem with some of these incoming stinkbugs and some of the other things that might come. We are having difficulty controlling. Whenever you have difficulty, the nurserymen will spray everything. Then he goes and visits nurseries with Carey and Sarah and we ask them what are they using and they give us a list. So, which one is most effective, we have no idea. We need to figure out a way to do some actual onsite work that would help us pin down what insecticide would work the best in Kentucky because things that are being recommended in other states are not necessarily working for us. We need to work on some of that kind of stuff.

That's where we are at, we are pretty excited, if we do get the SCRI grant with Nicole Ward and myself, that will give us $165,000/yr and it will help us significantly in our IPM activities and it is target at IPM for Nursery Crops. Ric

thinks they are doing a lot of neat and innovative things with the YouTube and the blogs and things like that. Is there a way since you have a lot of that videotaped in the high resolution already converted those over to podcast and get the information out in additional ways. Anything is possible, but they are maxed out already. Both Sarah and Carey have other jobs. This is not their job. We are doing what we can. We will try everything. We have already tried other things and dropped them because it didn't work that well. Some of the failures we've had on this technology have been related to selecting the wrong means. For example, the IPM blog was actually started in a different site and we had to move it because it wouldn't give us who was coming in and looking at it. It's kind of critical that you evaluate what source you are going to use as your software. We think we have it down now and the listserv has been very good. The blog was good, but we have kind of back off of it because we have found the listserv to be more useful.

Consumer/Urban IPM group – Rick reported that they have a project called Greener Kentucky Lawn and Landscapes which originally came out of another university. We have a number of agents on that committee and we can contact several specialists. We are really looking at developing two different products here. The first one we are developing is Wiki used with the college website and that Wiki is kind of a combination of IPM type resources, environmental resources from Kentucky and other states. We have topics designed for different areas related to home landscape IPM and environmental issues. That Wiki is fairly well populated. You will probably be watching that being available later in the spring. Right now, anyone who is a UK College employee can use their UK ID to get in to see that if they want to do that.

The other thing they are going to do is develop on-line modules that relate to the basic areas where we have very populated Wiki. Those modules are really geared toward Master Gardeners, citizens, residents to give them basic information about how to garden and do landscape management more effectively, more environmentally. We are building those in a product called Temptasia that will allow us to capture PowerPoint presentations, videos, we can have presenters at conferences or demonstrators in this. It will be built as kind of an on-line classroom type environment. We can also tape that as YouTube videos. We will be using those YouTube videos as kind of a marketing tool to direct people to more information through the on-line module. This is not done in the absence of the county offices either. There will be lots of opportunities in those on-line modules directing to more information such as soil testing, diagnostic tools, plant id tools and recommendations. So our first rollout of these modules is going to be June 7 at the Hort Agent meeting at Cumberland Falls State Park. We will be rolling out three of these on-line modules to get impressions from Hort Agents. Once that is done, we will be going on-line with

on-line presentations by Link or Adobe Connect to agents, master gardeners to highlight what these modules look like and invite them to come in and use the modules to get feedback. We also see an audience through municipal areas the city, urban planners, urban foresters to take these modules in training their clientele.

Ric said as the working groups begin to put their annual reports together they need to keep in mind in terms of how they look at the information. The number of people that use publications or come to meetings or connect with the website, those are considered outputs and impacts will be effects on health, environment and economics. Outputs are great, impacts are the best. So, anytime you can start to put the results of your program in terms on impacts of health, the environment or economics, that's truly golden for the IPM program. That's not to say we aren't interested in outputs from your programs as well.

2011 IPM Priorities

Patty put together the list of 2011 Kentucky IPM Priorities. These are taken to our Southern Region meeting and incorporated into the guidelines for the requests for proposals for the southern region. These were combined with similar priorities from other states. Not all the states supplied priorities so we actually had a disproportionate input into what the priorities were for that request for proposals. It is very important that we keep these priorities meaningful and up-to-date with respect to what we think are the biggest needs for IPM programs.

Ric asked for input from the stakeholders that were present. Their thoughts on existing priorities and if we need to drop some or add some new priorities. Anything would be very important/relevant. As a corn/soybean grower in central Kentucky I would like to add that in some areas of Kentucky there seems to be a lack of understanding/acceptance of the need to follow refuge requirements. The corporations that benefit from these technologies are basically not really following up on their stewardship to make sure this technology actually lasts. Maybe IPM might want to include some of that information as they do their outreach. There is already rootworm resistance in Iowa, don't know if it is from lack of following the refuge or just the fact that it was going to happen anyway. These corn/soybean field priorities are very important. Ric indicated that the resistance with the rootworm was contributable to using the same technology for rootworm control with Bt corn for three years or more and generally they were not following the recommended refuge requirements. That's in as little as three years. It's also in northern Illinois that that has occurred, so that is a big issue. With Chad's early bird meetings, he has been collecting some of that data and on average the last five years it's close to 42-45% of growers are not compliant with refuges. It's not just in some areas, it's a widespread problem and there are some states that are worse off than we are. That's a great priority to add with respect to education and the importance of needs of following refuges. Somehow it needs to be tied into this is going to hurt you the producer, not hurt the public. Need to try to emphasize that. If you lose these tremendous products, it's

going to hurt the producer's pocketbook. Last month there was a letter written by some very very prominent entomologists to the EPA suggesting that because growers are not following refuge guidelines that basically we need to go to 50% refuges instead of 20% refuge. So the backlash on this can be pretty severe. Refuge in a bag is solely from lack of compliance. We have plenty of examples of insects being adapted. (Not a theory, a fact).

The list of Kentucky IPM Priorities is very much agronomic oriented. This doesn't necessarily reflect the work that we have in our diverse working groups. Working groups are encouraged that if they see something in the areas of vegetables or other horticultural crops, nursery crops, where you see we need to include some priorities that would be very helpful. These priorities are used to drive funding for both research and extension programs funded through IPM. There is some additional benefit. What is the process of getting a specific topic on the list? Suggest them to either Patty or Ric and talking about them at our annual meetings like this so we can vent some of those ideas.

One thing (speaking as an entomologist) that is a common thread through all of agriculture is the whole invasive species aspect. It was brought up with the invasive species with the nursery crops we are seeing the same thing in agronomic crops with some of these stinkbugs that are beginning to move in. Soybean rust. There needs to be something blanket on the detection and management of invasive species. We are surrounded on all our borders by new problems.

One thing in urban environments that is becoming a high topic area is home gardening. It seems like it could be an opportunity to address by an IPM issue to people who are really novice gardeners to get them started off on the right foot. Some of the things that are developed for commercial producers don't necessary drip down into the home garden. We do a pretty good job of publicizing crop rotation and things like that. This might be an opportunity to address more IPM tactics in home gardening. That's what we call good farming practices. That experience and knowledge base isn't out there for the home gardeners.

Yesterday Ric was meeting with several commercial fruit growers. One thing they mentioned was some of the old chemicals they still have stored on their farms. KDA has an excellent program where they will come and pick those up. It's just getting the word out to the farmers. That's a way that extension IPM programs can help to get that information out. With home gardeners that's an issue too because a lot of home gardeners tend to stockpile things in their garage and work sheds. That could be another way we could add value to all sorts of clientele.

Another thing for instance in fruit production we look at models for weather patterns and actually get information out to growers about now is the time to spray certain chemicals, antibodies, and that type of thing. Could we with the advancement that we have in the Mesonet site, how tailor-made can we make some of those products to meet the homeowner's needs. Some are identified as having fruit trees in their backyard and some are identified as having some sort of spray schedule. If they want to be on a listserv to get that information that would be a good time to do that. That would fit into our objectives this year. Ric said he thinks that would. Tom Priddy has been a tremendous resource for us in terms of getting information

up that is climate/weather based information and he has put together various tools in terms of predicting insect and disease development, growing degree days, anything like that that can be tied in with the Kentucky Mesonet network. It's just a matter of directing efforts to develop some of those. The platform is there in terms of delivering it through the ag weather center.

What about the existing priorities we have? Are there any there you think may not need to be there? Any others that we may need to add?

With the addition of 2,4-D resistant corn and soybeans and dicamba resistant soybeans, Win is terrified. He feels that objective about the glyphosate needs to be expanded to include the potential of these new resistant crops and come up with some way to keep producers from dosing nurseries and landscapes. It's going to be a serious problem. It's already a serious problem, there are some huge lawsuits every year in the nursery industry. They normally relate to whoever is doing the spraying, not necessarily the farmer. On a windy day, we have had $1 to $3 million dollars damage. In Elizabethtown a field worker was working in the field and was wet by a spray of 2,4-D and now has a huge lawsuit against the sprayer operator. He's very nervous about this. Every year whether it's Murray, Owensboro, Mt. Washington or where it's at we have injury to nursery crops from 2,4-D. The same is true with some of the wineries. The vineyards out in the state because grapes are very sensitive to that as well. In dicamba, it's just as much of an issue as 2,4-D with respect to drift management. Vegetable crops also, Red Gold is the leader in a national effort to approach this problem. It has already sent their President and representative to talk to Congress about it. So, this is going to be a big issue. On one hand, they are very important and valuable tools for agronomic crops, but it's a matter of them being used in a judicious and correct manner. These are all neighbors. We want to figure out some program that works for everybody. We get the 2,4-D on and control the weeds in the crops and we also don't dose the neighbors. We've got to come up with some way to address that so that it gets done to the satisfaction of everybody. Both of those are supposed to be labeled for use and approved in 2014. Up to that point, are there any type of drifts that can be done on some nurseries to look at dose amount, sensitivity or is that necessary. Even the smallest shows up. Sure it shows up, but in a yield situation whether it's the grapes or something else, are there some data or statistics. That would be very useful. When Roundup ready corn and beans first came out there were a lot of glyphosate drift studies done. Even a very low rate we learned just how susceptible a non-Roundup Ready crop would be for that to try to help when diagnosing and assessing the damage. Win has plenty of images of damage right down to the very smallest amount, but as far as a threshold on a nursery crop, we get a year's loss in growth. And frequently, buyers such as brokers won't buy plants that they know have been treated or been exposed to 2,4-D. So we are trying to educate the sprayers/applicators on when to spray, what nozzles to use and things of that nature. Not sure how you do that. They want to get the job done. Win would love to know if there is something that can be done. Most of his nurserymen are also farmers. They are doing the same activity that the neighbor is doing. Putting down 2,4-D to control the weeds. Is there some way that an individual applicator running a piece of equipment can say this is not going to be a good deal here. Simply being able to appreciate what the potential problem is, some ways it could be mitigated. The 2,4-D coline formulation that's going to be a lower volatility, lower drift formulation simply

reducing treatments to specific acres where they need it rather than putting it over all their acres. There may be some problematic fields where they have some of these weeds that are not easily controlled and anything they could do with buffer strips around nurseries and things like that. Win indicated that he would love to be part of the conversation. This is very important to him and if there is any way to form a committee and anybody else that would like to be involved, he would appreciate being included. That might be an opportunity for some of our working groups to interact on some of these issues. Win also said he would be happy to get some of these cooperative nurserymen to attend the meeting. No one wants to have to hire a lawyer.

There is a bigger issue coming, in general, farmers have been pretty spoiled in being able to spray Roundup and not much else can get away with low volumes, lo w spray rates and pretty much one certain type of nozzle. They go back to spraying these other compounds the gallonage changes, the nozzle type's change, the wind speed limitations change. When you think about it, anybody that has been corn/soybean farming for the last 10-15 years, they've not experience these other chemicals on a wide scale, particularly not spraying them in season when you have got other crops that are susceptible. Maybe that's a focus we really need to look at in corn and soybeans. To really look at the vegetational programs or prior technology and spray drift, stuff that seems very simple to someone like a weed specialist who did this stuff 30 years ago. Maybe we are back to it. With Kentucky being a very diverse agriculture state relative to our states to our north or maybe even states to our south, we may be more prone to some of these problems than other regions in the country. One of the stakeholders wanted to add to that. One of his farms is next to a subdivision where he has been farming for the last 30 years. He has learned to farm as dusk and dawn. He has been told by chemical representatives that if he ever has a weed failure that this is a problem. The problem is he didn't spray at the right time. Of course, you can't spray when there is over a 5 mph wind if you are spraying next to a subdivision. Is there any research out there that tells him how much he is giving up in weed control to make these efforts. Is there information out there or is that something that we could look at. Let's discuss that after this meeting, depends on your herbicide and rates and such, but there can be.

On chemical trespass, he hit the nail on the head. He knows when to spray, he's in management. Most of our operators know management has the big list of people and acres to cover and to them that's the most important thing. It lies in management. One thing that is going against this is people farming more and more acres. They feel like they have the pressure that they have to get it on at a certain time. We have weeds that are susceptible to only a certain stage and they push the envelope.

Other issues and priorities – Rick Durham indicated that he has been receiving e-mails saying that several of the IPM funding interests are being combined into one or more line items. Encouragement has been received to speak our minds on this. Not exactly sure what that means in terms of the people that watch this on an on-going basis, what do they think? What kind of impact will this have on our programs. What Rick is referring to is in the Federal Budget IPM was broken out and a number of other programs were broken out as separate line items

and that Congress would actually allocate money directly for some of these programs. Several of these have now been collapsed into a single line item (called a Crop Protection Program). IR4 has been put in there. That's a very large program ($19 million), IPM is in there and two or three others (PIPE program that soybean rust management depends on). Now there is only going to be a single line item. One advantage is it is a larger program, its more recognizable, the downside is as that program is increased or decreased all those individual programs go up or down at the same rate. We are going to lose some recognition of individual programs. If you have thoughts on that to send them to Jimmy Henning right now because he was collecting some information last week on what our thoughts were with respect to that. Ric knows they are talking to the Land Grant University Administrators about some of these ideas.

Susan commented on the website that Rick was talking about saying that if you included the Precision Ag on there, it would get lost, it would need to have an easier to use site not lumped in with all the other in order for it to work. Susan doesn't think that the people she works with would go to that site with it being as complicated as it is with as much information as is there. Maybe it could be the same software with maybe a link to it.

Also, on the invasive species, when she talks to people there is a little bit of so what. Like the calliry(?) pear trees when driving down the road, so what, they are pretty. Getting some sort of information to people as to why it matters. It could matter locally where you are planting these things. She thinks they have a hard time seeing why it matters. We need to emphasize why invasive species are important, especially when it comes to plants. The insects are clear, they can see the damage. If it is callary(?) pears and mimosa going down the road, and all these plants, it is less clear to people why it makes a difference or even can it be stopped. They do have an impact.

On the weather station she wonders about our data in Western Kentucky. A farmer asked her about it last night. It said we are 4 inches under on rainfall. She wonders if the weather station is recording all the data. Lloyd said the number of weather stations is going up with the Mesonet. We have a national weather station and a Mesonet here at the UKREC and we check them against each other and they seem to be doing okay. He hasn't checked to see if we are over or under but based on what we have seen they seem to be fairly accurate. The National Weather Service calibrates theirs once a year.

Win asked where he would address about the scouting in the nursery program. Would that be something to go to Jimmy about. Ric said that Patty is going to have a listening/ communications session about the next round of the IPM funding. They are going to get feedback from people. That's going to be in Memphis. That would be a great thing for Patty to bring forward so when we have the USDA big wigs that are there that are going to write the next RFP that we can indicate that is a real limitation with our programs. Not having "boots" on the ground. Is that something that other crops have the same need for summer students or something to be visiting farms. Over and above, there are crop advisors, etc. That would be something that the other working groups would need to answer. Is there a big need to have UK based scouts going out to some of these crops? On a small scale, there is one in soybeans

funded by the soybean board where we are going with a side by side comparison. That has been interesting information coming out. Win will send an e-mail to Patty specific to the nursery that it was something we had before and it was helpful and we would like to re-instate if possible. Ric indicated that not in this round, but in previous funding they had one in the vegetable IPM program and it was very helpful. In a separate program, they have done that in fruit. That has been very impactful in terms of changing what growers do. When they can actually see some things that are occurring on their farm and we made some big wholesale changes with commercial growers there. Win does use it as an educational tool. Scouts never go to the same nursery. The next year they go to a different nursery and so on each year. It's mostly as a training tool but we also gain the information for that season ourselves. In commercial agriculture, the big scale row crop agriculture, there's a lot of competition with private scouts that are out there already. In companies that do it as a service for some growers. That's just not available for other horticultural crops.

Any other comments?

Thanks for coming, thank you for the reports and you'll be hearing from Ric when we need to submit the reports this year for the second year.

Respectfully submitted,

Christi Forsythe