# UK-IPM Annual Meeting of Advisory Committee

Video Conference – Elizabethtown, Lexington, Princeton
March 8, 2011

Those in attendance were: Doug Johnson, Susan Fox, Win Dunwell & Christi Forsythe (took minutes) at Princeton; Patty Lucas and Phillip Anderson at Elizabethtown; and, Janet Lensing, John Sedlacek, Rick Durham, Tim Cooling, John Obrycki, Chad Lee, Jen White and Paul Vincelli at Lexington. Ric Bessin called in to Princeton and was available for comments via cell phone.

**Announcements:**

Patty received her Southern Region Friends of IPM Implementer Award on Wednesday, March 2. The award was presented by Dr. Nancy Cox. Jim Van Kirk and Rosemary Hallbeg from the Southern IPM Center were also in attendance.

The 7th International Integrated Pest Management Symposium, "IPM on the World Stage: Solutions for Global Pest Challenges", will be held on March 27-29, 2012 at the Memphis Cook Convention Center in Memphis, Tennessee. This meeting is held every 4 years, the last one was held in Portland, Oregon.

**1. Update on current grant status:**

Each working group needs to understand when the grant obligations occur.

The 2009 "1st grant" or "one year IPM bridge grant" one year, we are in the last few months of the no cost extension which ends July 31, 2011, so that money needs to be spent.

The 2010 "2nd grant" or "Three year grant" – Year one ends August 31, 2011. We think we can roll unspent dollars from the 1st year into the 2nd year. Doug personally contacted the national grants coordinator and he told him that is what it is supposed to do. Our grants people aren't sure about this and are checking to see how the grant is written to make sure this is correct. We are still waiting to see if this is how things will happen. Sloane is helping Doug with this and hopefully we will find out before we get close and know what funds we have to operate. We need to remember that each year is funded with the federal grant funding year, so if the federal budget ever gets written and doesn't "X" us out completely, you will get your year two money. But, if they do not fund IPM in year 2, then there won't be any year two money. The same thing with year three, that's actually no different from the way this program has run since its inception, even when it was formula, it was annual funding. Now that it's competitive, it is also annual funding, but we have a 3-year budget that will work for that.

Does anyone have a question about this? Chad asked what does Viche the Director of the Agriculture think about this. Does he like IPM or does he want it to go into his own wish list

with formula funds and everything else? Doug will be going to a meeting in 2 weeks which will give him a little better view of that, but generally speaking, his darling is AFRE. I think he would like to have all the money for everything put into AFRE. They want to have as few budget lines as they can possibly have and their answer thus far has been that AFRE grants will contain both a research and outreach component and that's the only way you will be able to get one is if you have both. So, that's how IPM and any other program will be addressed. So far as Doug knows at this moment, those lines from which we draw our money right now have not been moved. But, we don't even know what the "11" budget is yet. Doug will be going to Puerto Rico in two weeks and the National Program Leader is supposed to be there and they are supposed to give us a better idea. But, if Congress continues to have a 2-week delay every 2 weeks, then that is the same information that I'm going to get when I get there. There are already lots of other lines of money that have already been zeroed out to be moved into what amounts to AFRE. One of those is the IPM Centers at this particular time. Which we have gotten grants in individual groups from them on a number of occasions. In fact, part of Patty's package has been on grants from them for a number of years now. But, they are zeroed out and to the best of Doug's knowledge neither side of the Congress or the President has put them back in. They have been told that they can compete within AFRE for Center money, but Doug thinks that would be a big challenge to get that kind of money in the face of high quality research funding.

The current call for IPM Support Grants deadline is March 29.

**2. Grant Report Requirements**

Dr. Obrycki has checked and found that Doug is in arrears for reports, but currently, there is no reporting mechanism in place yet. So, we don't really know where that leaves us, except to remind everyone that if you receive money at some point, we are going to have to write a report to someone. The only thing that he can tell you is it is going through the CREES system, but CREES is being written to a new system. Doug implored everyone to keep down information about numbers that they have had, success stories will always be useful, what your activities have been. He really doesn't have any idea exactly what they will ask for. Maybe someone who already writes a CREES report has a better idea, but right now all we know is that's the mechanism that they are going to use. All he can say at this time is that we are going to have a report, but just doesn't know what it is. Will follow up on this as soon as he knows what we need to do.

**3. Overview of Current Efforts**

Two of the working groups are currently represented in this meeting. Doug asked Chad and Rick to give an overview of activities within their groups in the past year.

Chad reported that in the fall they have been using some of the money to help with the Early Bird meetings where they are trying to get the information from the current year's research out very quickly to producers because they are some advantages that if they make

purchases for this coming growing season back in November-December. We are trying to give them the current year's research to help them make those decisions. The last couple of years that we have done that, we have a crowd representing 400,000 acres across those 3 meetings. We feel that's pretty good participation when you consider there are about 2.5 million acres of row crops.

We have also been running a grain crops academy which is a similar idea to master gardener and master cattleman. More in-depth sessions over 4 days, 8 hours each day. We did two of those this year, one in the Green River areas and the other in the Purchase area. Both of those were repeat locations with demand to redo it again in both of those areas. We are very pleased with the success we have had on that.

We have the All Commodity Field Day this year in Princeton this year, so our major field day activity will be wrapped into the All Commodity Field Day which will be easier for us.

We had a newsletter that we were offering that we switched over to a blog. We have had good feedback, particular from a few producers and industry folks really like it because it is easy to access with their Smartphone's. Those who were on the newsletter list whose e-mail addresses he kept get an e-mail letting them know that a blog has been posted. For now, he thinks they will probably stick with doing the blog and not a newsletter. Doug asked if he has looked into Twitter. Yes, but it made more sense for something like Hershman's Soybean Rust where he could say yes it was a concern, no, it's not. Then take a look at the website for more detail. For a newsletter for something really timely and short, Twitter might be okay, but the last several articles that have gone on the blog have been much longer than a Tweet would allow you to do.

Rick reported that they have been dealing with more Urban Horticulture and Master Gardeners. They actually are dovetailing off something that was just started with extension in their sustainable areas like greener offices and also greener lawns and landscapes. There was already a working group formed in extension that had some ideas so we also went with this proposal to try to get some funding. Our main thing is to develop a curriculum. We are calling it Greener Kentucky Lawns and Landscapes, very similar to Florida Lawns and Tennessee has a curriculum now. It's 10 chapters, various topics – right plant-right place, watering wisely, recycling yard waste, dealing with pest and so on. Our objective is to develop an on-line curriculum. It will be on the website and we also have on-line training using noodle. Will also do face to face training with county agents and master gardeners to get the whole process started. We also have a couple city type people on our planning committee. We are hoping that cities might take this to use as a certification type program for people in urban areas. Eventually it can be used at master gardeners to promote this out in the state. County agents will be doing some training to get them familiar with the programs and materials that will be available there. So, in a nutshell, that's what we are doing.

Win and Amy Fulcher have pushing the commercial nursery crops program. This has been a long standing program. The IPM program started funding Amy Fulcher when she was an agent working with youth (kids) gardening programs. When she came to UK to do an advanced degree and decided to go into Horticulture it now works out that it is a dual-state

program with the University of Tennessee. With this grant we have with her, we have a sub-contract with the University of Tennessee to bring both of these states into this program that Win and Amy have been working on.

Win reported that they have set up a blog for Nursery Crops. Carey Grable the Extension Associate for Nursery Crops under Kentucky Hort Council funding has built the blog and have an extensive wiki where we are working hard to pull every single thing that the university has that relates to nursery crops into that one place into a format appropriate to that wiki. That includes Amy Fulcher's IPM Calendar. It has been put in there on a month by month clickable thing – where it's April, what should I be doing now, May is coming, that type of thing. It's a very difficult thing to keep up with the appropriate pesticides as many of you know working on other publications. So far he has about 50 publications in there and making postings as they become available. We are doing some trapping ambrosia beetle, granular ambrosia beetle and other things here at the station. Not having someone in Central Kentucky is slowing us down a little bit. Amy's subcontract is to develop a shrub IPM manual similar to the one she created for deciduous tree production. She is working on that and will be hiring a student to put that together for us.

Also, we bought an "inexpensive" ($800) camera and windproof microphone to make available anything we do because we have less and less participation in meetings. They say the information is important and that attending the meetings is important and then they don't come. If we are serving an industry and that's what they want then we should do it. What we think they actually want is for us to do a program then have the program available so that they can look at it in their leisure. Being able to make it interactive with their cellphones is key. They want it where they can get it on their cellphone, check to see if it needs to be done now, if not, then look at it later (have we captured ambrosia beetles in west Kentucky, do we anticipate them, etc.). The other reason for installing the blog was we surveyed the nursery industry and with the loss of Amy Fulcher and the reduction in funding we've eliminated the scouting program. So they wanted a place where they could interact, so if we said we had ambrosia beetle, Ben Cecil in E'town could come on line and say anybody else got it, and we could start a conversation. Whether or not it will actually happen or not we don't know, but that was an industry driven issue that lead us to want to do the blog in the first place.

There are other ways of distributing via social media, we've pretty well saturated that with the UKREC HortGroup and other activities, so we are not sure yet. We do like facebook pages because they collect all the data and report it to you on a weekly basis so you know whether or not anything is going on, much like your website on Google diagnostics. We're hoping that the blog will be a good format, but so far pushing it out there has been a slow process. We still use our e-mail lists to tell them we put something on the blog.

Doug said that he knew that Win and his group had been very active in the social media and that everyone should keep that in mind as we work down through some of the other goals and objectives we might want to have a discussion about. Since Lloyd or Dottie aren't currently present, since Doug is the Entomologist on the Wheat Science group he will tell what is going on with that group.

That group has two big events in the year. One is the Annual Winter Wheat Workshop, this past year it was in Christian County, but it is generally in a different place every year. We have a very good participation. We have a lot of consultants who are becoming a very big clientele audience for field crops in general and certainly for wheat.

Also, in the spring we have a good size Wheat Field Day which has gained some notoriety over the years. Most of the time it is on the station at Princeton but has also been held in other research locations around the state. Some are very rural, nothing but wheat for miles and miles, nonetheless, we still have very good participation in that.

Also in the winter wheat workshop we are using electronic response devices to collect data. That's turning out to be a pretty good deal. This is another thing started by Patty. The IPM program has 100 of these devices in units of 25, you have to have a receiver for each set, but if somebody needs to use these, we can make available for loan but we need to get them back. You can use as few as you want up to 100 right now. That might be something that people want to take a look at either in another IPM grant or any other kind of grant you are looking at. The devices run about $28 a piece, but you may be able to get a price break because UK is a Gold customer. You can buy them by units, but you also have to have a receiver with each one of them. That might be something that people want to tuck into the back of their mind. Of course, no matter what technology you use, what Doug has learned about learning how to use these is the question. What takes all the time is designing the right question(s) to ask? That's difficult to do sometimes but after you do it a little bit, the devices are very very versatile, you can do a lot of things with them.

Now, we can move along unless anyone has anything they want to say about the working groups. This is the four that are active right now. Of course, as the grant is structured, another line is the coordinating function which is almost exclusively what Patty does. Which is coordinating all the grant stuff, maintaining our webpage, import portal page and all the other things that go along with trying to get stuff out to people in the right time, plus the trapping program. That's the groups that we are working with. The trapping program over the last couple of years has become a fairly useful tool for a lot of field crop consultants (probably not so much for producers though). Because they can look at that trapping data and essentially spend no time on it at all, thirty or forty seconds if it's not very meaningful once they learn how to interpret it. A little bit long if it does appear to be useful to them at that time period. We have had a number of people commenting about the availability. We have also been able to cooperate with a number of our colleagues out of state (TX, FL, NJ). There are a couple of opportunities that have presented themselves through that webpage and hopefully Doug will speak with the one in Florida next month about doing DNA work for us looking for the two feeding types of FAW that are migrating into Kentucky each year. There are some opportunities that have opened up there.

**4. Updating Goals and Objectives**

Most important to the people who work for UK & KSU, once the goals and objectives and the list of things is put into a form and put up on our website, that becomes a citable

reference for clientele input for grant preparation. For those dealing with grants, you know how important that can be. We want to make sure that you understand that that will be available and this is required for us to be done once every year. These things will be updated each year so you can cite what is going on in the program as a support for your grant application. From the standpoint of the people that we're serving, it's their opportunity to get some information in to us on what they want us to work on, what they consider to be important. People like Phillip Anderson who is an Agronomist in the western part of the state. This would also include our county agent representative, Susan who may have some ideas for us in terms of things that we may need to take a look at.

**What are the important questions, problems related to pest management that we need to be addressing (e.g. crop, pest, technique)?**

From a row crops standpoint, we are facing a really uphill battle against calendar sprays of fungicides and insecticides. It's a complete abandonment of IPM. Sprays over the top to give some sort of yield advantage. That's a big challenge for us, particularly now that the strobies have some resistance and frog-eye leafspot. To address that (Win), the problem we are running into is that we have a Southern Nursery IPM group and many of the southern states are abandoning their weather stations and for us building models off Dan Potters work, growing degree day models, it's really critical that we maintain a good weather system here in Kentucky which I think we do have but that we keep it. I don't know of any plans or any argument or anything about anyone saying anything about it. But, it would be nice to include it as something that's important.

What methods do we use to attack that? It's a good for everybody to have good weather data for us to run our programs off of. It ties into the calendar.

Paul wanted to add something else to be aware of. Southern corn rust is definitely regarded as a reemerging disease. We have had southern rust threats going back decades in the U.S. It is definitely growing in importance. The reason is as acreage grows dramatically, especially in areas such as southern Florida, it provides more overwintering and more opportunity for it to go northward. I think we are escaping it in Kentucky in terms of serious damage, but we recognize in this part of the country, not just in Kentucky, but it could really be a very serious problem sometime in the next 5 years. What we did last year working with some of the agents in western Kentucky was came up with a very informal system for them to monitor for it in fields that they select on their own and when they find what they think is potential pustules they bring it to the diagnostic lab and Paul Bachi works on it and we either confirm it or not. Then we keep a record where it's been found and in where it's not been found. This then goes up on the IPM pipe system. That was really useful for the people who paid attention to it in helping them decide yes I do maybe need to consider spraying or no I don't. We plan to repeat it again next year. It doesn't require any funding at this time but need willing agents. Something that might be relevant to this down the road is a desire to develop some kind of funding to support the IPM Pipe and not just rely on USDA funds.

Maybe there will be a point where we plug that into a grant or proposal for funds to support the IPM Pipe. But, for now we have a useful system for monitoring for southern corn rust. It could be grander if we got more agents involved, we currently have 6 or 12 in widely scattered counties. Right now I think we have a pretty decent system for monitoring southern corn rust, it's not costing anybody any money and everybody is doing it willingly.

Ric Bessin – One issue has been the long turn utility of Bt crops with grower complaints with terms of resistance. This remains an issue. With management, we are clearly below in grower compliance with using those Refuges that are mandated. We are in about 60% compliance in Kentucky with the two data sets that we have gotten largely from the "early bird series" two years apart. We have got a reasonable data set for that which we will keep doing. Chad said that Refuge in a bag is being advertised heavily. Not sold widely yet, but over the next couple years it looks like the companies are going to head that direction so they are going to be self-enforcing some of the compliance through that method. Do you have any idea what percent is going to go to Refuge in a bag? You will probably see it getting up to 50% of the seed would be pretty reasonable with that. The Refuge in a bag that is available right now is not really intended for the Kentucky market, it is only for corn rootworm. We are still waiting on EPA approval of Refuge in a bag that would be relevant for us in Kentucky. But, Ric would expect when the new regulations are approved (if they are) and do become available that Refuge in the bag may comprise 50% of the seed market or more. There is still a huge demand by growers for using as much Bt as they can. A lot of growers see the benefit in it. There may be a little push back from some growers not wanting to have the 10% Refuge seed in the bag or the 5% Refuge seed in the bag because they will perceive that they are going to get a yield loss because of that. The important thing in the short term for us is that with all this advertising that is going on that Ric and Doug essentially don't call is Refuge in a bag so much as they do a 1 bag solution. That 1 bag solution has not gotten to Kentucky yet because we are worried about corn borer. The true 1 bag solutions that are available are rootworm solutions and we take care of that with our rotations, but we are going to have to be dealing with that education wise and also experimentally until EPA rules on the ones that have already been submitted as to whether they are going to be labeled or not and at what percentage they are going to be labeled. Doug has been talking to a few seed inspector kinds of people. They are apparently in a fair uproar themselves. There is some interest as to whether or not these two seed, the one that contains the Bt and the one that doesn't are going to marked in some way. So that they can establish what the actual contents of the bag is to meet the seed law. There is a big educational component of that which is very confusing but will get more confusing as a bunch of companies release Refuge in a bag products.

Another issue is the glyphosate resistant palmer amaranth. Along the Ohio River bottoms it's going to be an issue for us for pest management and will also bring back a lot of tillage in those areas where it's a problem. This would be a double whammy for us because farmers have been relying too heavily on Roundup and then we also lose the no-tillage aspect of it. In the areas where it's a problem, that's going to be a big

problem. Horseweed as well. The horseweed has been around longer, so we have a little better idea of how to control it. The palmer amaranth (pigweed) is so prolific and one of the better methods to control it is tillage.

What about the green soybean syndrome and it being related to stinkbug damage on soybeans? Are we doing anything to look at that or is it just a theory at this point? What happens in that case is that the soybean plant goes ahead and matures and gets that nice tan or brown color but you have a few beans that stay green. Its more or a problem in the midsouth, down in Mississippi, parts of Arkansas and Louisiana. Most often it is associated with stinkbug damage in those areas. Other things can cause it, what happens is the plant thinks it's going to have a certain number of seeds and for whatever reason it doesn't have that number of seeds so it has an extra photosynthate essentially so it puts that extra photosynthate into the seeds that are existing and that gives you the green stem. Stinkbugs are a good way to cause that because they go in there and damage those pods and they effectively limit the number of seeds that the plant has. Other factors can cause that green stem as well. So, it's really the green stinkbug syndrome regardless of whatever the cause is? You notice it in the fields and Susan didn't know if it was something that really needed to be worked on or not, it might not be enough acreage to be a problem here.

What about the emerald ash borer? Obviously emerald ash borer is going to be big in the next few years if it continues to spread.

Phillip Anderson said that in a meeting they had about a month ago in Lexington, the water quality people were talking about they didn't have any technical service providers in the state. They said their people were not going to do it because they couldn't afford it and didn't have the time and probably realized how much trouble it is to develop a plan for the farmers. What was so surprising was that we have a few state residents in the state who were technical service providers and when they discontinued our registrations because we didn't renew every three years none of them ever knew about it. They have not found anybody who wants to continue being a TSP in Kentucky. So they are going to try and contract with out-of-state people to do those plans for people. Evidently the feds and EPA are putting more pressure on the state to get the ball rolling on water quality issues. Is this for farmers? This is for confined feeding operations, and anybody that has animals that are fed confined like 90 days a year are going to fall under this requirement. Is this a state requirement or federal? Phillip thinks it's a federal requirement but they are going to make the states start enforcing it and put some teeth into it. So the concern with this problem is that there is no one to aid in developing the plans. Is that the concern? Evidently it is going to apply to a lot of animal operations in the state whether they are chickens, cattle, and swine. The feds are really putting pressure on the state to get the ball rolling and we think Refuge in a bag is going to be a big deal with compliance and this water quality thing is going to be even as big.

Are there any other issues that might need to be dealt with over the coming years? If you are talking about multiple years, Ric thinks with the new stinkbugs moving in won't be a problem this year, but in 2012 and beyond they could be a real problem. We have a whole series of exotic stinkbugs that are right on our borders, in fact, we have been surveying for those for the past couple of years. But we also know that brown marmarated is already in Kentucky. That's going to be a substantive issue because it not only feeds on field crops; it feeds on 300 different plants, fruits and vegetables and on a number of ornamental crops. Stinkbugs, in general, and brown marmarated specifically are going to be something we are going to have to have some work done on in the pretty near future.

How do you perceive that invasive species issue tying into IPM? If influences us in nursery crops, we can't grow ash trees anymore. Soon we are not going to be able to grow maples because of long horn beetle (red maples). So this is impacting our industry and the stinkbug situation is going to be huge, it is already on parts of the west coast. There are several different ways to look at that. One is certainly just trying to prevent that movement. On some of these, it's almost impossible to do once they get introduced. But certainly the understanding of what is going on with all the invasive species, not just stinkbugs, in our state and surrounding states has some place and there is some educational effort that needs to go on with that. For instance, when Doug talks to master gardener classes about the issues that are linked to going out-of-state and buying your own plants and bringing them back in, all the way from bringing in a disease or insect in a plant that's problematic to the plant itself to insects like fire ants which just come in in the pots. So he thinks there is a big need for educational. For him, master gardeners are one of the very best ways to get that information out. He assumes that the commercial people already understand the importance of making sure that doesn't occur. But, the number of people who go out-of-state, in both directions, but particularly to the south to buy plants and bring them back and have no regard, no idea, no knowledge, of what the impact would be to bring back a 5 gallon bucket with a tree that is infested with one of the borers to this area can be. Certainly that's an educational kind of thing. Maybe we could do something with the entomologist office. Maybe there needs to be a stronger link with the forest service. At Gilbertsville, they are still raising ash trees and distributing them. Susan said she has been to forest meetings where they are recommending people plant ash trees. It just seems like they are totally ignoring the emerald ash borer coming. She doesn't understand that. She stopped their conservation district from buying ash trees this year and distributing them. She just doesn't understand why there is that gap in recommendations. For some of you people in Lexington who work with invasives, when you have something like that, do you quit recommending the species that are the host? They don't recommend the ash trees anymore because it's going to fail. The forest service is still raising them and distributing them with their seedling sales. So, what Doug understands by this, there is an educational opportunity here. Do we need to be talking to the forest service? Surely they are aware of it. With the homeowners, we need to be proactive and tell them what they can plant as opposed to ash, a replacement tree, provide

alternatives. They are trying to do this at different home shows when people ask what kind of tree should they plant instead. As far as the forest service recommending ash, that is surprising. When Janet started her job, a lot of the nurseries in Kentucky were not planting ash anymore or selling it. At this point, we are just identifying issues; we haven't gotten to the answer yet.

Ric responded to the question about how invasives would affect the IPM program. Another aspect that that is with the brown marmarated invasive. It's really upset IPM programs on the mid-Atlantic states in fruit and vegetable production because they are having to get away from a lot of the softer insecticides that we have moved to recently. They are going back to the very hard, more toxic compounds that we used in the 60's and 70's. It's really set back fruit IPM programs by 30 or more years. Doug said that in general, invasive species period are extremely upsetting, simply because of the situation they are in. We are no longer dealing with insects; it could be weeds, diseases or anything else that have some natural enemies. We are generally dealing with things that are very very disturbing to the environment. So, taking a look at the invasives in general might be one of the key areas that needs to be taken a look at. Plants as well as insects, for example, poison hemlock is along the highways, it's really thick in the summer time. Win said that in talking about this, we are each affecting each other. In the nursery industry, this issue of weeds that are resistant to glyphosate is killing them. Because now they are using 2,4-D products and more persistent materials like dicamba, banvel, hyvar, these types of materials that we were hoping we would never see oversprayed into nurseries ever again and now we are getting damage every year in almost every single nursery in the state due to spring spraying with 2,4-D for horseweed or marestail and resistance in fields to clean them up. So he is concerned about some of these other weeds that are also becoming resistant and some of the recommendations for them. This is a southeastern nursery crops group issue because it's normally cutting back on at least one year's growth, and that's money. So, we are having trouble with some of the things we are creating for ourselves. He is very interested in what was said about following the protocols appropriately, like the Bt, what the rotations are and different croppings and stuff like that.

Does anyone have anything else to add to the list?

**What methods do we employ to address these problems and then how do we distribute them?**

How do we address these problems? What methods do we use to distribute the answers if we get them. Doug was just at a soybean research meeting and it was obvious that those professors in attendance were looking at electronic social media being used widely (using electronic telemetry in insect traps to writing apps for Smartphone's). That was a big subject among a bunch of people who usually bore each other to death for two days talking about an individual insect that's eating on a soybean plant. So, do you have any specific ways to address any of these problems or other

problems that we have talked about. Or, methods you think would be good or useful in distributing the information if we are able to come up with it. Think of this not only in the functional sense of what we actually want to do, which is to get information to our clientele. Think of this in the sense of if I have an idea to do something to help my clientele where am I going to go to get some money to develop this idea. Part of the reason for doing this is to get things on this list so that we can look at whatever grants become available to us in the future and show this as a priority item. Does anyone have an opinion or anything to say about those things, techniques, and technologies for solving problems and/or for distributing information. If you have had experience with it and you like it or don't like it, please comment on that too.

Win said the Turf program in North Carolina has an Iphone app. It is generating $100,000 per month to the inventor and to the university. It is very well received. He will send the actual cite and name of the person who developed it to Doug. Apparently it is very well received by the Turf industry. It should be equally receptive to the grains people for that type of an application. Because they could be sitting on the tractors and all of a sudden something gets pushed on their phone. They are using some sort of a native language that allows it to be developed for multiple formats on multiple phone types (Android, Iphone, Blackberry, etc.). It pushes into your calendar, so if growing degree day reports say okay, we are now ready for whatever insect, disease, etc. it will tell you the growing degree days and the amount of humidity has reached this point, etc. So, apparently it is a very useful application and it is generating money for both the inventors and the university to support itself. As he understands it in the contract it says that all money will be fed back into the application until such a point that there is any excess profits. But, it might be something that's critical to some of the programs. There is also a Weed ID (Beta right now) from North Carolina State (Joe Neel) that we use for weed identification in container production. It's not yet field production because there are so many more potential weeds and it would cover everything that you would encounter in any field crop. Pretty interesting, a lot of potential but not all developed yet. Like take a picture with you Iphone and have it give you so many possibilities of what it might be.

Doug asked if developing an app that might be useful on some of these electronical devices might be something that would merit spending some time and effort on. What do you think from the county viewpoint. Susan, from a county agent viewpoint, said she thought it would be good. There is a lag with some farmers getting them to use the technology and she doesn't know how to do that. Sometimes it would be great if there was a set of Iphones that we could rent out or take out, but that's probably not feasible. Win said the basic attitude of Tom Bewick at Washington was that they are more likely to have an Iphone or an android phone than they are to have even a notebook computer. So developing an application that's phone oriented and outlook calendar oriented and possibly even pops up on some sort of a PowerPoint presentation on the protocol might be useful. Win knows that everybody is scrambling to try to do this kind of thing, but it turns out that it is very expensive to have a native software

manufactured for a very simple project, our local weather station at WPSD has one. They cost $20,000 per phone to develop the software. So then if you do the native its only $20,000, its not $20,000 a piece. So, there is a great development in, next week it could be a lot cheaper. Susan said what would be really cool is if along with that when they brought the insect up if you could put the crop and stage of growth and have it do the economics of spraying. This is the kind of thing that the younger people are probably thinking about. Also collecting automated data for very wide areas. But that's a research program, some fairly not a long time ready to go. Things they can use on the go because they are riding in the tractors, etc. So, basically we are talking about the same thing, just different devices and different needs.

Anyone else have anything to add to either of these? Phillip Anderson said he spends several hours per month looking on the "Chat and Chew Café" website looking at newsletters and circulate that information to the people he works with and his customers. It's an easy place to get around on where some of the others are not that easy to find things on. For him, this format works better because he doesn't have a lot of experience with computers and technology.

If you have ideas of goals and objectives, things that need to be listed on the website, you can send those to Patty and we can get those put up there. Then you can use that cite as a reference point.

Let's move on to the next item on the agenda.

**5. Future Operation of UK-IPM**

**Outlook on funding – Non-USDA Sources?**

Doug wants to remind everyone that there is IPM money in places other than USDA sources. One of those is EPA. Ric and Patty now have a grant they are working on trying to replace some insecticides that were used for codling moth control in apples with some softer insecticides. This may all be an interesting footnote when brown marmarated stinkbug shows up, but nonetheless, he thinks that the EPA was pretty happy to have something like that being done in the first place and in Kentucky specifically. Also, there is several southern region, not necessarily the center, but programs that will support sustainable type projects that you might want to take a look at and still have something to do with Integrated Pest Management.

As far as the other items on the agenda (leadership and structure, strengthening relationship of programs dealing with invasive species, furthering integration with resident instruction) those were just basically things he wanted to bring up to give you a little outline about. A couple of you are in resident instruction and weed science and the agronomy department has made pretty good use of IPM. If you look down through that list of things, other than the one you don't have on there, which is a time and a place (date) for our next meeting because there will have to be one next year. If you have any comment on when

that should be. If you have a comment on whether or not this type of meeting where we try to do it from a distance if worthwhile (Doug personally would rather have people in the room but realizes it's a long way for a lot of people to travel) and also the dealing with invasive species. He thinks that over the next couple of years that's going to really important with us. Does anybody have any comment on any of those.

Doug expressed his appreciation to everyone being available to speak with the group and share their ideas. We'll get the notes fixed up and send a copy. Again, thanks for helping out.

Respectfully submitted,

Christi Forsythe