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School IPM – Inside and Out

Hello and welcome to the presentation Arizona School IPM – Inside and Out: Implementation of School Integrated Pest Management Programs in Arizona Schools. To ask questions about this presentation, join the presenter for a chat hour in the Networking Lounger.

I would now like to introduce our presenter, Shaku Nair, Assistant in Extension at the University of Arizona based in the Maricopa Agricultural Center.

All right. Thank you, Melissa, for the nice introduction. I would also like to appreciate the National (Inaudible) Association. The (inaudible) is very timely and important conference in this great format. I'm referring to the (inaudible) format, which makes it super convenient for everyone. So thank you for this venue and the opportunity to share my experiences.

I welcome everyone in the audience and thank you for your interest in this topic. (Inaudible).

To tell you a little bit about myself, I joined the University of Arizona in July 2013 at the Cooperative Extension for Community IPM. And since then I've been very actively involved in the Arizona School IPM program. So I'm very excited with this presentation. I hope to talk about the program itself, some of the issues that led to its formation and what (inaudible) are. What we've achieved, which I'm proud of, and also some of the challenges that we are facing.

And so moving right ahead. I'd like to (inaudible) the question, which is why should we care about school IPM? And the answer for this question is really quite simple. It's children. And we all know that children spend a major part of their day at school. A lot of children even after their regular class hours are still at school. And a lot of adults also spend a lot of their time in the school environment. If they work there, teachers, staff, also parents sometimes. So schools in general are very high priority in (inaudible) with respect to pest management.

And also many of children's activities, their play habits, their eating habits, and above everything, their developing bodies make them especially vulnerable to pests and pesticides, more so than adults. And because children are not like adults. They cannot detoxify pesticides as effectively as adults because their bodies are just not quite ready or capable (inaudible) doing so. Of course they are smaller in size, and so the same amount of pesticide can cause much more damage to a child than it can to an adult.

Another important reason to ensure a healthy environment in schools is that it's proven by research that better and healthier environments lead to better achievements and performance of everyone who live and work in that environment. So all in all, I think we have a pretty compelling argument for school IPM.

Schools are the places that face multiple significant (inaudible) management problems by way of pesticide applications and pest issues. Schools can serve as transition zones for pests of public health concern such as bedbugs and head lice. Large and poorly maintained school grounds can serve as breeding sites for vectors such as mosquitoes. And many schools conduct scheduled pesticide applications irrespective of whether pests are present or not. And this results in more harm than benefits by way of wasted resources, wasted time, money, labor, and products that do not reach their target. And finally it all results in ineffective pest control. And everyone is addicted to the United States version.

Many school personnel realize this. They are interested in making a difference through simple IPM practices, making small changes in the way that they do things. But they encompass (inaudible), and the main ones are lack of awareness and lack of training in IPM practices. And also the lack of knowledge of how to evaluate whether their pest control strategies are effective or not.

So the solution to this situation is simple. It's IPM. And IPM, or Integrated Pest Management, is the best way to manage and minimize pests in schools. IPM is a revolutionary concept in pest management, and I could go on for hours on IPM and never talk everything about it. But it will never – (inaudible) never, ever lose relevance in any situation. And IPM can be defined in so many different ways, but the important point that it is cost effective, it's low risk, and it's environmentally friendly.

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So with that introduction about IPM and school IPM, I'd like to move on to our program. Our actual program.

The Arizona School IPM Program has a history of (inaudible). And I will mostly concentrate in this presentation on our program in its present form, starting from the summer of 2013. But I will not move forward without mentioning it has taken years – years and years of dedicated effort by some of our (inaudible) and school partners to lay a strong foundation on which the program now rests and is moving forward.

And our kind of program is unique in its multidisciplinary approach. And it targets indoor and outdoor environments in schools. And this approach was specifically chosen because pesticide exposure can occur indoors as well as outdoors (inaudible). And it's not really sufficient to really just address the indoor environment.

The phrase School IPM-Indoor and Out was actually (inaudible) as the motto of our program. It covers our entire program and what we do. And it is the result of one specific grant effort (inaudible) our program, which I'll talk about, too.

The overall aim of the Arizona (inaudible) program is to reduce risks in schools due to pests and pesticides.

So our program currently includes activities under three grant-funded efforts, three distinct grant-funded efforts, from the USDA-NIFA, one from the EPA, and the third from the University of Arizona Cooperative Extension, and is called the State's Signature Program Initiative.

All of our activities are performed by a multidisciplinary team of experts. And listed here are the core team. Members of the core team are the Leadership Team as it is sometimes referred to. And as you can see, the team has expertise in a range of topics – subject – that are relevant to IPM. There's a Public Health and Urban (inaudible) IPM. Environmental Horticulture. Turf and Weed Control. We have experts in Pesticide Safety, Pollinator Health, and IPM Evaluation.

We have a very effective team. And we also have a very effective statewide network (inaudible) collaborate with all our activities. So we're very well equipped in that manner.

So moving on, I want to discuss each of the grant funded – the (inaudible) grant-funded efforts under our program one by one. This specific effort called School IPM-Inside Out is funded in part by the USDA and NIFA, Institution of (inaudible). And this part of the program is actually part of a larger (inaudible) program which addresses pest management issues (inaudible). And this includes housing, medical and child care facilities, parks (inaudible) and many other (inaudible).

But in our School IPM program, the path we have followed is to recruit dedicated schools into our program based on their abilities. And we have a commitment, the school and our team, we have a commitment, and we follow a plan of action (inaudible). And our team, the first step is that we visit the school as a team and conduct an initial indoor and outdoor audit. And this is combined with extensive interaction with different school staff members. And this helps us to better understand the pest issues, both perceived and actual, because many times basically the pests are perceived, they're not actually there. But many times there are very much there. And (inaudible) this school district or this school site goals and priorities and what challenges they face in reaching these goals.

And after we get the initial information, we provide prioritized recommendations to concerned staff, and then the progress toward attaining those recommendations is monitored. That's the path we generally follow when a program school joins our program.

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And this (inaudible) approach can be considered an expanded version of the Monroe Model which many people (inaudible) IPM have heard about (inaudible) a very successful approach. And that addressed mostly the indoor aspect of pest management in schools.

And here, the difference here is that the outdoor component is added. And outdoor as in landscape (inaudible), the plants, and the outdoor environment and that way. And the improvements in the IPM, School IPM and conditions are gradual over time. They are done over time and (inaudible) over time.

(Inaudible) is that usually safety and health issues in the school are considered first. But for some schools, the priority is just not a health or a safety issue. Sometimes it's just good looking turf. They want good looking turf. That is their priority at that point in time. Or it might be landscaping, want to address a certain part of the landscape. That is their priority. So essentially it's a case-by-case approach with each school, and each school is different. And we deal with them on a case-by-case basis.

So although we know (inaudible) that each school is different, we do ask that certain parameters be recorded. And (inaudible) all of our programs (inaudible) very cooperative in this regard where they're willing to provide the required information. Some of these parameters are pest incidents, pest sightings, pest awareness. Awareness about pests. Can the school staff identify the pests and what they do, what harm, (inaudible). We also ask about pesticide use. What kinds of pesticide they use on the school premises. Is legal (inaudible) followed? And many other (inaudible).

And after the initial visit, initial (inaudible), regular contact is maintained with the school. And this is the difficult part. This is a really labor-intensive part. And we often do multiple follow up visits throughout the year. And there's no fixed number. We just, again, it's need based. They need us to go there (inaudible) in the first year, we will go, and we will address those issues.

And we provide technical as well. And also based on their training needs, that's another thing that they communicate to us, we organize education events for the school staff.

And basically that's how the – through all of these (inaudible), they're progress is evaluated at the end of the 12-month period.

So that's how the year progresses after a school joins our program.

And for collecting the data, they use a certain method. One of them is this survey instrument. It's a questionnaire. A very detailed questionnaire, actually. It follows all aspects of indoor and outdoor pest management. And when a school joins the program, we have them – we talk at length about this questionnaire and why we're doing this. And all of our program schools, they fill out the questionnaire. And, again, at the end of the year, or the 12-month period – we have them revisit the questionnaire and decide what changes have been made. What has been done. Why something (inaudible) why something has not changed.

So it's a very interesting exercise. It gives us a lot of – it establishes (inaudible) with the school and gives us a lot of information. And much of this data in the questionnaire is quantitative, but that is also subject to questions.

The other way of collecting information, and this is the best part really which we most enjoy, is talking to the school person. And we do this on a personal, one-on-one level. Our different experts, we tackle different staff with different responsibilities in the school. (Inaudible) a lot of people are involved in school, it's just not one person or just (inaudible) coordinator.

So all of this information is very important. And it's very qualitative. And it needs to be processed. It needs to be modified. Many times it needs to be condensed to make it useful (inaudible).

And we also take a lot of pictures. Pictures are very helpful to (inaudible) before and after situations.

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So in general we have a lot of information about our program schools. And we're just interpreting some of it. But even so, we definitely have been able to draw a certain (inaudible) over the past couple of years, (inaudible). And that's what I would like to present in the coming slides.

One of the (inaudible) of the (inaudible) is that each school district, and even school campuses within the same district, have different priorities with respect to IPM even though much of the staff, staff are district level. They are responsible for the entire district. Even so, even school campuses have their own priorities. And they have their own challenges to implementing IPM practices in schools. And implementing certain IPM practices.

And some of the most common challenges are inadequate staffing, frequent personnel changes, and budget constraints. In one of our sites, for example, the landscape maintenance person changed three times within two years. So these kinds of situations pose additional challenges. And the (inaudible) up to speed. (Inaudible). All of these things keep happening.

And the other thing is that most of the existing staff are under such heavy workloads that they cannot leave and – they cannot take a day off to attend available training opportunities which they badly need. Even if they are held at a convenient place, they do not attend them.

So these are some of the challenges that our schools face. But in spite of the challenges, all of our program schools (inaudible) implement some basic IPM practices to the extent possible. (Inaudible). For example, in indoor environments, there is no scheduled spraying done. After their school has joined our program, (inaudible). And pest inspection and monitoring is done regularly. Pest sighting logs are used. Pesticide application records are (inaudible) maintained (inaudible) and a copy can be delivered to us upon request. Pest proofing are followed in vulnerable areas, for example kitchens. Better waste management practices are followed. For example, may replace open trash cans with trash cans that have lids. So simple things like that.

Another thing that we have been able to do is to ensure that at least some members of the staff in all of our program schools have been trained. They have received some form of training. They have been able to attend at least one of our training events. And there has also been improved communication among the staff. And the best part of (inaudible) each of our program schools are excellent in performing (inaudible) evaluation of their program, of their district programs. So that is a very important part of the success of their IPM.

Similarly, in outdoor environments some of the practices that are implemented that all sites have set (inaudible) mowing heights for their turf. (Inaudible) practices are followed. They have optimal irrigation. Proper (inaudible) of their plants, their turf and landscape plants.

They consider, even if it's not immediately possible, they're at least considering proper plant selection and replacement wherever possible.

And the last thing, the very judicious use of (inaudible) pesticides. (Inaudible) make them really happy.

However, some, I think, (inaudible) that we expect to see but (inaudible). There is no maintenance of pest monitoring records. Although pest monitoring is being done, there's no maintenance of pest monitoring records.

The other thing is that none of the schools have pest thresholds. They don't have set thresholds for (inaudible) pests. And also they don't have a formal school board-approved IPM (inaudible). Although we have provided training on how to build the IPM plan (inaudible). That is something that we have not been able to do.

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And one common factor among all our programs, and I believe this is true for all schools in general, is that they have minimal or no support (inaudible) administration and faculty. Faculty are admittedly the most difficult group to reach out to.

Okay. So this is something I really like to talk about, the accomplishments of pride. Despite all of the challenges, we have several points of pride. Our program school sites are the first things that we are really proud of, the cooperation and relations we have established with these schools. And all of the sites have truly excellent (inaudible). They're responsible for the success of their program.

And we organize seven training events every year, reaching out to an average of 1,500 school and related staff. And this is a huge number. And in these trainings, the staff are benefitted. They get up-to-date knowledge. (Inaudible.) A large percentage of the attendees are from our program schools. But there is also (inaudible) from outside, from other schools who are not in our program schools. But they come (inaudible). So it's an ever-expanding network, something which we are very happy and proud of.

Another point of pride is that over 75% of eligible school districts (inaudible) have eliminated high-risk pesticide products from their schools. And they have (inaudible) with "Warning" and "Danger." So that's a very good sign.

Pest incident reports have dropped by 85% in the schools that have been in IPM. That is a huge improvement.

And through our involvement with these program schools, approximately 1.5 million students are impacted directly because some of our program schools are the largest school districts in Arizona. And we do have a very, very large on these students' lives.

I would like to particularly mention this outstanding success in bed bug management. I want to particularly mention it because I thought it is very relevant in the context of this conference where we're talking about pests of public health importance and vectors.

So this particular school is a very large inner-city high school district, as you can see here. And they had serious bed bug problems. And their success is particularly because they had an IPM plan. With the help of the (inaudible) experts in our program, they identified the source of the infestation. In this case it was – they have a fashion design department, and in this case it was – the source of infestation was through fabric that the students used to transport from their class, that was used in their class, to their homes and back. That was one of the sources of infestation.

And the other source of infestation was the child care center, also an operation in the same school district.

So they developed their own bed bug IPM protocol. And now they know exactly what to do. It's not that they never face infestation problems. They do regularly face infestation problems, but they know exactly what to do in that situation. And they regularly train all of their staff. And they even help to organize events that educate other school district staff. So that is an example of a real champion IPM program.

And in order to have other champion IPM coordinators from different parts of the – from different fields. For example, here you can see some of our IPM Champions who are from the pest management industry. Many of them are from schools. We have representatives from the Department of Ag, the Office of Pest Management. We have tribal community that participate that are extremely devoted to spreading the message of IPM. And so we're going to do this recognition recognizing the IPM Champions as a very important part of our program and that's something that we're really proud to do.

Some more kinds of (inaudible) is that there is more than 75% decrease in annual bed bug reports in inner-city school districts in the Phoenix area, especially, after the bed bug IPM protocol came into place. So it's really effective and it's working. And schools are spreading the message amongst themselves, so

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that is also helping. Schools are seeing they can save a lot of money. And we have a school IPM newsletter, a school and home IPM newsletter, that comes out every month. This is one of the most widely distributed IPM newsletters on this topic, addressing this topic and it reaches over 5,000 stakeholders every month nationwide. And our program has been nationally recognized. This has given us additional funding, as well as expanded our network's reach. So in all, it's been a very successful program and I'm really happy to be a part of it and really looking forward to moving on and helping more schools, which is the IPM goal.

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So with that, I'd like to come to the second (inaudible) which is included in our (inaudible) Arizona school program. And this is the State Signature Program Initiative. And it is funded by the (inaudible) extension. And through this initiative, the aim was to expand the program beyond metropolitan school districts. And the purpose is to organize training events in rural counties with the involvement of local Extension agents. And topics selected for these events are based on the local interests and the needs expressed by the stakeholders there. And one thing we noticed was public health pest-related topics are consistently requested in all locations. Whenever we've done these trainings, they've always been interested and (inaudible). Always.

So this map shows the Arizona counties which have the State Signature Program Initiative. We've had a very good statewide presence, some very early, since very early stages of the program. The Signature Program Initiative started in 2011 and continues even today. And here you can see the counties marked with this tag, those are the counties that have our program (inaudible). And these are the counties that have actually the largest student population in the state. However, the remaining 30% are distributed toward the other counties and that is why we have initiated a plan to reach out to these schools. And the importance of reaching out to these schools is that rural schools often have very high pest tolerance levels, and their pest management standards are relatively poor. And they have compliance issues, serious compliance issues. So that was the driving force behind the program. And the initial intent was to -- when the initiative started -- was to provide materials and resources to local Extension agents so they are better equipped and enabled to respond to their local stakeholder with this. And we hope that this will facilitate connections with the local experts and the schools that are in these areas. And the increased awareness will also help other programs in rural areas, like public health programs from the Public Health Department, or any other programs.

However, that kind of -- the program does not have that kind of an enthusiasm. And the main problem for this is that extension faculty in remote stations have a very, very large geographical area to address. And they will see on (inaudible). And they have very vast subject matter also to cover. They have to be experts at everything. And so, they don't -- they just cannot devote a lot of time. That is the biggest problem we face. Many of these local extension faculty are experts there. We have -- they're excellent in (inaudible) all the time. And so that connection that we were hoping that the local schools, the rural schools, connection to the local experts, and hang on them for their solutions to their problems but this did not work out. As we have -- we had a (inaudible). And so, there's things that the experts didn't see (inaudible). And that it's time to respond.

But nevertheless, our workshops have been really successful. In many places we heard that it was the first workshop that they attended and we've got a lot of good feedback, which is always very encouraging. Our workshops attract many other stakeholder groups, not just school personnel. We have pest management technicians, we have master gardeners, homeowners, we have staff from the Public Health Department, we have city parks and recs staff, a lot of people. And many of the participants indicate, in their feedback, they indicate that their job performance is likely to increase or improve as a result of the training. And most importantly, their perspective about pest management in sensitive environments, like schools and homes, have changed. So that is what we want to hear. And we always hear that, so that is definitely a good thing. And just wanted to show how we get the feedback. And one of the methods, of course there's always negative feedback, but this one method that is very popular with our audience. It's the clickers, using clickers and Turning Point technology. So we love this method because it's anonymous feedback and also, it can be used before, during, or after a session, and participants are always very interested to see the results (inaudible) after the whole thing manifests and has stopped. It's a good way

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to engage the audience. We also like certificates of participation, and our new certificate of participation is up here. Because of all of the bugs on them, the audience just likes them. We also never fail to recognize our local extension agents because we could never do something like this without their support. So we always recognize them with beautiful certificates of appreciation.

So this has been a very interesting experience. Some conclusions that they've drawn from all of these experiences. There's two, basically, conclusions we've drawn. One is working intensively with school districts, with selected school districts in the Inside & Out Program, and a very extensive approach in targeting multiple school districts statewide. That's in the Signature Program approach. So basic (inaudible). But they basically concluded that working intensively with selected school districts does generate significant and sustained improvement over time, but in a smaller section of the population. And this is very labor intensive, of course. And it may have a limited impact, so it may require additional efforts, and hopefully a number of school districts and provided general other resources to support broader adoption. And also regarding the Signature Program kind of approach, we just do infrequent visits, once in a year, once or twice a year, to rural areas. That kind of approach is good to address the hard topics and sensitive topics, but again, those will not have a significant impact unless local champions get engaged.

So these conclusions were drawn from our experiences, and right now, I would say that we are sort of at the fork in the road. And we are planning ahead with a hybrid approach because we definitely want to expand our school/state network. (inaudible) And also we will gather support from state agencies, federal, and various organizations. And I assume that we are contemplating the expansion of the program to include adult community environments. That is also something that we are talking about.

So with that, I'd like to conclude that those two purposes, those two grant funded efforts, and move on to the third specific grant funded effort, which is a major activity under the program, as of now. And that is the EPA funded School IPM Grant efforts. And this program has a very long title as you can see, but we know it in short as the Stop School Pests Project. It's a very short and very appropriate name and that is our logo. (inaudible)

This project is -- it's not a project but rather it's a national collaborative effort. That's what we like to call it. It's a national collaborative effort and these are just some of the collaborating institutions. There are so many more. And the outcomes of this project are two-fold. One, we have videos, we have videos and additional materials to use specifically to advocate for school community members. And the second of them is that we will have -- when the project ends, we will have an IPM certificate and certification system in place, which does not exist I don't think. So (inaudible) are friends of the project -- shh! Our message in this project, too, is exactly the same as all of the other grant funded efforts. It's IPM. We always trust the common sense and the science-based and best risk-reduction aspects of IPM, and the fact that IPM is a team effort. That is very, very, very highly stressed in this project, and you'll see why shortly when I go through the rest of it. It's a team effort. It's not for one person or one group of persons. It's not something that just one group does.

So most IPM programs begin because of one incident of one or two people. The incident could be a fatality that occurred in a school site, or a home. Sometimes it could be because of the new legislation, there are so many reasons. But I feel programs can also begin by increasing awareness of the community, awareness of community members, improving the understanding about pests. That's also a reason we want to initiate IPM programs and that is what we are kind of targeting here.

The objectives of this project, the Stop School Pests Project, to increase adoption of IPM, to increase adoption of sustainable IPM in K-12 schools. And reduce complaints in pest management just out of that. But through comprehensive national education and the certificate and certification program. That is how we intend to go forward. So this, as I was mentioning, this certificate and certification system does not currently exist. So that is the unique nature of this program.

Outreach and education are the first steps in any IPM program. And a school IPM program is no exception. Education, it acts in so many ways, and in this project, it increases awareness, it improves

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knowledge and understanding. But in this project, what we're leveraging heavily on is the community involvement and the connections that are formed between subject experts and practitioners. That's what we are leveraging heavily upon. And this connection has been established right from the beginning of the project and this is what we are hoping with maximize the success of this project.

And what? -- The question, what? What are we learning? What are we trying to get across to people (inaudible) is that we are setting apart, setting up certain learning objectives. So a key role in school IPM's. And these learning objectives are weighted based on job responsibilities and so are the exams in the certificate and certification system. I'll explain about that more in the next slide. So here, you can see - here are our school IPM partners in Arizona. They are reviewing -- we organized this event specifically for them to review and weight the individual learning objectives. So we had representatives from different groups of -- different job responsibilities in a school system. For example, we have custodians, we have maintenance workers, we have food service staff, we have administrators, we even have (inaudible). But we had lots of feedback from teachers, we had school administrators, so we had -- we invited our audience from different sections of these school IPM groups and they are the ones who actually went through the individual learning for each level and then weighted them. And these weights are used in preparing the exams also, and the certification system.

So I've been talking about these roles, the key roles in the school IPM plan, or school IPM system. So we're all (inaudible). Here they are. These are the nine. These are nine roles, they're key roles that have been identified and these groups of people are critical to the success of the school IPM program. And these nine roles have been identified by a national school IPM implementation team, which consists of members from the core regional working groups, and they have identified these nine key roles. And there's also one group of materials that addresses -- that is applicable to all the roles, and that's an introduction, kind of introduction to IPM. That is the name of the model of that particular learning objective.

So here is an example of the learning objective, how they look like. The learning for the introduction module, or the introduction to IPM lesson is again, divided into four parts. And they're very, very straightforward and simple to understand. This section is called Introduction to School IPM, each role is different. It's distinct and has its own learning objective. Of course, there is a significant amount of overlap between some of these. For example, there's a significant amount of overlap between custodial role, the learning objectives for school custodians, and school maintenance workers. So there is an overlap. But even so, each role is very uniquely different. And this is how our modules look. This is just an example of some them. We have nine modules in all. Plus the ten introduction, which is applicable to all of the roles. And all of these are available online. They can be viewed online and I'll tell you how to view them and where you can download them also. They are in the same format. As you can see, they're very attractive and have great pictures and the steps and modules.

So before we created this model, we did a lot of groundwork. We did a lot of surveys, we talked to all these different groups of people who are critical to the success of the school IPM, and we heard from them directly about the need for this training and certificate system. And it was interesting to find out that they're almost always, there was a difference between the number of people within the role. For example, the teacher role, as you can see, there's always a difference between the number of people who want more durable IPM and the number who think the IPM education and certification is necessary. So that was pretty interesting. And it was different again when we actually fired up the models and we actually used the modules, the training modules in our training event, like an in-class situation. The online survey responses were obviously very different from what we see after a training event. And mostly we found that stakeholders think that they know what they need to do and develop it (inaudible). But when they actually work through one of our modules, their response is very different.

So it's very important. We found that if they work on the trials, the modules, they understand the relevance of certain parts and make specific changes for finalizing things. All participants have been through several rounds of this at various levels. So they've evolved to their current home. And here's an example of feedback we received when we piloted our school nurse module. And one of the nurses there, one of the nurses who attended the training had been a nurse for 25 years and she said she could not

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believe how much information she got in this one hour. So that kind of feedback was very encouraging for us. And just, we got a lot of other points too, that many things that they wanted to be seeing there in the modules but that were not there. So, a very interesting experience.

And again, just wanted to mention about the training materials, once again, as I mentioned, that they're available online. The online version, you can view them online but you're going to have to download them when they are available. They are self-guided so the viewer can guide himself through the PowerPoint to the very end, then get ready for the exam. There's also a downloadable version which can be downloaded and modified to suit the training for in-class situations. They are free of cost and they are available -- I'll tell you a site in a little bit. Regarding the certification system, the exams are going to be provided by the National Pest Management Association and the standards will be the same as PMP quality for pro schools standards that pest management professionals state. And advanced certification options will also be available for two of the particular key roles -- that is the IPM Technician and the Facility Manager. But all of the other roles will be able to learn a certificate when they complete their training, the training module, and pass a proficiency exam.

Now, coming to the sustainability and growth of this unique effort. So far, we have a very broad support base from a number of stakeholders and those offer a consensus on the content, everyone agrees on the content. And also because of the fact that the materials are modifiable by users for their own use. So we expect that this will be an adaptable end of the project and this will help us to gather further support from participants and sponsors. And this could be by providing incentives to school districts who enroll all of their staff. And also link these trainings and exams to continuing education credits. So hopefully the multiple benefits of the materials will help in the sustainability and growth. And all of the modules support and encourage train-the-trainer opportunities. For example, the teacher module shows how teachers and educators can actually incorporate IPM into school curriculum. So again, this is where we're hoping the multiple benefits of the materials will help in their sustainability and growth.

And regarding the outreach and marketing, it's being envisioned for a very wide network quickly, and we're working to recruit as many organizations and new users as possible to promote and spread the word about it. And this includes various parent/teacher associations and other school organizations, the collaboration at the NPMA for providing this certification for technicians. And I guess we have the whole National IPM Working Group. They have 225 members that are involved and it's up to us, through the outreach, to promote these great materials.

And these are just some of the national collaborations that I was talking just about. We have a lot of agencies involved, and together, we hope to get this -- we hope to push this system and present it in such a way that the stakeholders demand it and we don't have to push it, they demand it. That's the aim. And there is various materials that are available as I was currently just mentioning. Right now, they're available on the University of Arizona at the University Pest Management Center website, and that is the link. And I'll also put -- there's an alternative slide where I have the resources listed. And they also will be placed on the [ischoolPestManager](#) website with all of these resources for the school IPM that have been compiled for this project.

And I cannot conclude without acknowledging some groups of wonderful people without whom this school IPM program would not exist. And first of all, of course, is our Statewide Community IPM Team, who have collaborated at every step with us. And also, the National StopSchoolPests Team. And all of our partnering school districts who have championed IPM and I'll take a moment to thank them for all they have done and all they continue to do for IPM. And here's the slide with all of the resources that I'm talking about. You can visit these sites and read more about the Arizona School IPM Program, the Stop School Pests Project, and I've also provided a link to the EPA website on managing pests in schools.

And with that, I'd like to conclude. And here is my contact information. I'd be very glad to answer any questions that you have with regard to school IPM or the exam, or any IPM question in general. And I would also be glad to chat with you during the presenter chat hour that's provided in this conference, so I look forward to interacting with all of you. Once again, thank you very much for listening and I look forward to chatting again. Thank you.